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COMPONENT PART INSPECTION REPORT

Part Certification

Part Number (Delphi:35589655)	ECL (Delphi:01)	Date (Delphi:2023-03-22 00:00:00)	Part Name (Delphi:ASM TERM F APEX 2.8 AG)

Type of Tool

[X] PRODUCTION
[ ] PRE-PRODUCTION
[ ] PROTOTYPE

Part Wt. (1 pc)

With carrier (term) 0.0006 Kilograms

Loose 0.0006 Kilograms

[ ] NEW TOOL [ ] REVISED TOOL [ ] TRANSFER TOOL [X] OTHER

Purchased Part: [ ] Yes [X] No

Die Master Mold No. (Components) or Master Board No. (Harnesses) if applicable
00000471 MA A F00J

Tool No. 00000471 MA A F00J	No. of Tool Cavities(Components) N/A	Cav. # N/A

Tool/Part Supplier
DELPHI

Material METL C14530 H08 SELECTIVE SILVER W/ANTI-TARNISH	Material Spec M6666CN0	Max % Regrind N/A	Actual % Regrind N/A

Report Requested By
CUSTOMER

Type of Inspection

[X] Complete [ ] Partial

Type of Drawing

[X] Product Drawing [ ] Tool Drawing

Drawing is being changed by Product Engineering per ECN No. | Chg Level 85

Additional Eng. Changes

Dim No.	Ref Only	Drawing Dimension	Acceptance		Parts/Tool Cavities Checked								Discrep Col #	Product Eng. Notes	
			Lower	Upper	1	2	3	4	5	6	7	8		Fix Tool	Will change Dwg to
1		4.3			N/A										INFO FOR USER
2		0°			N/A										
3		TYPE 102			N/A										
4		TYPE 102			N/A										
5		TYPE 102			N/A										
6		TYPE 102			N/A										
7		TYPE 102			N/A										
8		TYPE 102			N/A										
9		TYPE 102			N/A										
10		TYPE 102			N/A										
11		TYPE 102			N/A										
12		NOTE			OK										STAMP I.D. "J"
13				0.3	0.04										CORE
13-2				0.3	0.10										INSULATION
14		1.45	1.35	1.55	1.47										
15		0.63	0.53	0.67	0.61										OF BLADE
16	X	19			19.13										
17		3.8	3.7	3.9	3.83										
16-2	X	19			19.11										
17-2		3.8	3.7	3.9	3.81										
18	X	7.5			7.63										
18-2	X	7.5			7.62										
19		NOTE			OK										STAMP I.D. 18AG
20		2	1.75	2.25	2.04										
20-2		2	1.75	2.25	2.02										
21		NOTE			OK										STAMP I.D. PED
22		4.25	4.20	4.30	4.25										
23		NOTE			OK										DATE CODE "16"
24		2.90	2.80	3.00	2.92										
24-2		2.90	2.80	3.00	2.93										
25		0	-.10	.10	.04										
26		NOTE			N/A										GREASE
27		3.35	3.20	3.50	3.38										
27-2		3.35	3.20	3.50	3.38										
28	X	3.9			3.94										
29		8.2	7.95	8.45	8.16										
29-2		8.2	7.95	8.45	8.20										
30		11.5	11.25	11.75	11.55										
30-2		11.5	11.25	11.75	11.58										

Dim No.	Ref Only	Drawing Dimension	Acceptance		Parts/Tool Cavities Checked								Discrep Col #	Product Eng. Notes	
			Lower	Upper	1	2	3	4	5	6	7	8		Fix Tool	Will change Dwg to
31	X	3.1			N/A										DOUBLE WIRE
32		3			N/A										DOUBLE WIRE
33		0.15	0.10	0.20	0.12										
33-2		0.15	0.10	0.20	0.10										
33-3		0.15	0.10	0.20	0.14										
33-4		0.15	0.10	0.20	0.16										
34	X	3.1			3.1										
34-2	X	3.1			3.08										
35		3	2.7	3.3	2.98										
36	X	3.3			3.25										
36-2	X	3.3			3.22										
37		3.8	3.5	4.1	3.68										
38	X	3.3			N/A										DOUBLE WIRE
39		3.8			N/A										DOUBLE WIRE
40		NOTE			N/A										GREASE
41		NOTE			N/A										INFO FOR USER
42		1.2			N/A										INFO FOR USER

NOTES

1	UNLESS OTHERWISE SPECIFIED AND/OR INDICATED: DIMENSIONS ARE TO FACE OF VIEW SHOWN AND AUTOMATICALLY ROUNDED BY COMPUTER FOR INSPECTION (SEE MATH MODEL FOR PRECISE DIMENSIONS).....
1..	FOR ALL OTHER DIMENSIONS NOT SHOWN BUT REQUIRED FOR TOOL BUILD, SEE MATH MODEL FOR PRECISE TOOL PATH DATA.
10	THIS TERMINAL IS SYMMETRICAL ABOUT CONTACT CENTERLINE AND 180° INSERTABLE. IT IS PREFERRED TO KEEP THE SAME ORIENTATION THE FIRST TERMINAL IS STARTED WITH FOR UNIFORMITY.
11	REFERENCE ONLY; FOR SPECIFIC CABLE SEAL APPLICATION, PLEASE SEE THE CONNECTION SYSTEM FOR VALIDATED SEALS.
12	SEE SHT 2 FOR LEGACY CRIMP INFORMATION. CONTACT APTIV REPRESENTATIVE FOR THE LATEST CRIMP INFORMATION.
2	RECOMMENDED MATING BLADE PER USCAR STANDARD EWCAP-001.
3	"PXX" INDICATES "P" PLUS LAST TWO DIGITS OF MAKE DIE SERIES NUMBER (P01, P02, P03, ETC.).
4	CORPORATE BRAND TO BE APPLIED TO PRODUCT DESIGN PER THE LATEST REVISION OF ESD S1085201.
5	AFTER MANUFACTURE, DO NOT PROBE, TEST, OR OTHERWISE CONTACT THE INTERIOR REGION (THE SPRING OR ANY MOVING PART) OF THIS TERMINAL. SEVERE DAMAGE CAN OCCUR, ...
5..	COMPROMISING THE PERFORMANCE OF THE ELECTRICAL INTERFACE.
6	PLATING TYPE: I. HOT DIP TIN 0.5 - 2.5 MICROMETERS THICK II. HOT DIP TIN 0.51 - 2.5 MICROMETERS THICK III. SILVER 2-3 MICROMETERS THICK OVER NICKEL UNDERPLATE 0.05 MIN MICROMETERS THICK .....
6..	IV. GOLD ALLOY 0.25 MICROMETERS THICK OVER PALLADIUM SILVER ALLOY UNDERPLATE 0.51 MICROMETERS THICK OVER NICKEL UNDERPLATE 20.3 - 27.4 MICROMETERS THICK V. NICKEL 1.27 - 2.54 MICROMETERS THICK .....
6...	VI. MATTE TIN 2.54 - 3.8 MICROMETERS THICK (FOR USE WITH SELECTIVE SILVER PLATING SPECIFICATION) VII. MATTE TIN 2.5 MIN MICROMETERS THICK (FOR USE WITH SELECTIVE GOLD PLATING SPECIFICATION) ....
6....	PLATING TYPE INFORMATION SHOWN ABOVE IS REFERENCE ONLY. PLATING REQUIREMENTS ARE CONTAINED IN APPLICABLE MATERIAL SPECIFICATION.
7	* DENOTES DIMENSIONS MADE AT CUT-OFF AND CRIMP DIE.
8	PLUS ANGLE IS WING BOTTOM SURFACE ROTATED COUNTERCLOCKWISE AGAINST THE BOX BOTTOM SURFACE.
9	TERMINAL SYMMETRICAL ABOUT CENTERLINE EXCEPT AS SHOWN.

Inspection Source Company Name Delphi Packard Electric Systems Plant MEXICO 84		
Inspected by CRUZ, RICARDO1	Title OPERADOR CALIFICADO EXPERTO	Inspection Report Date 20-Apr-2023
Inspector Supervisor CARDENAS, CARLOS E	Title SUPERVISOR DE CALIDAD	Date 20-Apr-2023
Approved by	Title	Date

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PROCESS FLOW DIAGRAM

Part Certification

Family name: 471 TOOL	Date (Orig.) 15-Jul-2019	Prepared by: CARBAJAL, ILIANA
Part Number: (Delphi:35589655)	Date (Rev.) 15-Jul-2019	Title: INDUSTRIAL ENGINEERING TECHNICIAN
Part Name: (Delphi:ASM TERM F APEX 2.8 AG)	Page 1	Phone Number +52 844 8663400 EXT 5441

Cross Functional team Members
RAMIREZ CABELLO, EDGAR +52 01844 8663400GARCES, GERARDO +52 844 8663400GUILLEN, RAFAEL +52 844 8663400VILLANUEVA, ARNULFO +52 844 8663400 EXT 5411NAJERA, OSVALDO R +52 844 8663400PADILLA, ELSA L +52 (844) 8663400 EXT.3458ALDAPE, ARMANDO LOPEZ +52 844 4389060NAJERA, OSVALDO R +52 844 8663400VILLARREAL, ANA +52 844 8663400AGUILAR, EFREN +52 (844) 4389060 EXT.2722ALARCON, OLIVIA 8958-5756PENA, JOSUE +52 844 8663400CARDENAS, CARLOS E (844) 8663400 ext 3442CARBAJAL, ILIANA +52 844 8663400 EXT 5441

Symbol Key:

◆ Manufacturing/Assembly
● Movement of Materials/Parts
▲ Storage of Materials/Parts
■ Inspection

Step #	Fab	Move	Store	Insp	Operation description	Item #	Special Characteristics
10		●			Receive and unloading raw material at receiving area		
20	◆			■	Pyment process		
30	◆				Identification of coils		
40	◆				Raw material register		
50				■	Correct orientation of selective raw material (If apply)		
60				■	Cut of sample for incomming inspection		
70	◆				Delivery of samples to inspection receipt		
80				■	Samples inspection of raw material in incoming inspection		
90		●			Move material to supermarket		
100		●			Move coils to stamping area		
110	◆				Print labels (if apply)		
120		●			Move labels to machine (if apply)		
130				■	Verify incoming material at machine		
140	◆				Set up verification of good conditions to run		
150	◆				Main dereeler		
160	◆				Straightener		
170	◆				Dereeler side feed		
180	◆				Die lube system		
190	◆				Main feed		
200	◆				Side feed		
210	◆				Press		
220	◆				Bolster		
230	◆				Chutes / blowoff		
240	◆				Central lube system		
250	◆				Blanking Details (tool)		
260	◆				Forming details (tool)		CS22 - FF2 Box Width 4.25+-.05mm FF1 Box Height 2.9+-.1mm QCI24-22 Box chamfer 0.2-0.15mm QCI30-25 Wings chamfer 0.125+-0.075mm QCI6-1 Closed box corners
270	◆				Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die		
280	◆				Clip Assembly (tool)		
290				■	Helm load system		
300				■	Vision system		
310	◆				Grease post aplication (if apply)		
320	◆				Automatic reject cut system by vision system		
330	◆				Automatic reeler		
340	◆				Unload reel		
350	◆				Print shipping label		
360	◆				Apply shipping label		
370				■	Process inspection by Mfg		
380				■	Annual Layout		
390	◆				Scan shipping label		
400				■	QC audit		
410				■	QC released		
420		●			Move parts to PPAP area (if apply)		
430		●			Move good reels to supermarket area (If apply)		
440		●			Move parts to quarentine area (if apply)		
450				■	Quarentine (If apply)		
460		●			Move part to EPS (If apply)		
470				■	EPS (If apply)		
480	◆				Push delivery is elaborated		
490		●			Shipping to distribution center		

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POTENTIAL FAILURE MODE AND EFFECTS ANALYSIS

[ ] Design FMEA [X] Process FMEA [ ] Delphi Confidential

Part Certification

	System		Subsystem	X	Component	Page 1	FMEA Number 00000471 TOOL (e-FMEA DOC ID 5270526)
Part Number (Delphi:35589655)			Design or Process Responsibility RAMIREZ CABELLO, EDGAR			Prepared by RAMIREZ CABELLO, EDGAR	Telephone # +52 01844 8663400
Model Year(s)/Vehicle(s) MULTIPLE			Key Date			Original FMEA Date 2019-07-02 00:00:00	FMEA Revision Date 2020-02-28 00:00:00
Core Team RAMIREZ CABELLO, EDGAR, SUPERVISOR DE ING DE PROCESOS +52 01844 8663400 VILLANUEVA, ARNULFO, TÉCNICO DE CONFIABILIDAD +52 844 8663400 EXT 5411 PADILLA, ELSA L, SUPERVISOR DE CALIDAD +52 (844) 8663400 EXT.3458 ALDAPE, ARMANDO LOPEZ, TÉCNICO DE CALIDAD +52 844 4389060 AGUILAR, EFREN, SUPERVISOR DE MANUFACTURA +52 (844) 4389060 EXT.2722 CARBAJAL, ILIANA, INDUSTRIAL ENGINEERING TECHNICIAN +52 844 8663400 EXT 5441 PENA, JOSUE, GERENTE DE MANTENIMIENTO +52 844 8663400 RAMIREZ, VERONICA 3, TÉCNICO DE MATERIALES +52 844 4389060 PEREZ, FERNANDO, JEFE DE GRUPO ESTAMPADO 844 4389060							Supervisor's Approval RAMIREZ CABELLO, EDGAR

											Action Results							
Item/Process Function Requirements	Potential Failure Mode	Potential Effect(s) of Failure	Sev	Class	Potential Cause(s)/ Mechanism(s) of Failure	Occ	Current Design/Process Controls	Det	RPN	Recommended Actions	Responsibility & Target Completion Date	Actions Taken	Sev	Occ	Det	RPN
10) Receive and unloading raw material at receiving area	Wrong material id	Wrong material in press	6		Incorrect identification from supplier	2	(D) -Inspection of material operator method IDT-001 and IDT-010	7	84	None						
10.01) Receive and unloading raw material at receiving area	Damaged material	Intermitence	6		Incorrect handling	2	(D) -Inspection of material operator method IDT-001 and IDT-010	7	84	None						
10.02) Receive and unloading raw material at receiving area	Missing identification	Resistance / Short circuit	5		Missing from supplier	2	(D) -Inspection of material operator method IDT-010	7	70	None						
10.03) Receive and unloading raw material at receiving area	Incorrect stack	Intermitence	5		There is not operator method in raw material warehouse	2	(D) - Operathor method IDT-001 - Operator certified	7	70	None						
10.04) Receive and unloading raw material at receiving area	Incorrect stack	Intermitence	5		Damage container from supplier	2	(D) -Operathor method IDT-001 -Operator certified -Operator method IDT-010	7	70	None						
10.05) Receive and unloading raw material at receiving area	Incorrect stack	Intermitence	5		Bad stack from supplier	2	(D) -Operator certified -Operator method IDT-010	7	70	None						
20) Pyment process	Material non verified with invoice	Discrepancy in inventory and payments	5		Operator does not follow the method	2	(D) -Operator method IDT-010	7	70	None						
20.01) Pyment process	Wrong tipping of part number and weigth	Discrepancy in inventory and payments	5		Operator does not follow the method	2	(D) -Operator method IDT-010	7	70	None						
20.02) Pyment process	Material not paymented	Discrepancy in inventory and payments	5		Incorrect invoice from supplier	2	(D) -Operator method IDT-010	7	70	None						
30) Identification of coils	Incorrect ID of coils	Resistance / Short circuit	6		Operator Does not follow the method	2	(D) -Operator method IDT-010	7	84	None						
30.01) Identification of coils	Missing of ID	Discrepancy in inventory and payments	5		Operator Does not follow the method	2	(D) -Operator method IDT-010 -Operator method IDT-007	7	70	None						
30.02) Identification of coils	Label FIFO different to internal labels	Resistance / Short circuit	5		Operator Does not follow the method	2	(D) -Operator method IDT-010 -Operator method IDT-007	7	70	None						
40) Raw material register	Material is not register	Discrepancy in inventory	6		Operator Does not follow the method	2	(D) -Operator method IDT-007	7	84	None						
40.01) Raw material register	Register of arrival of material missed	Discrepancy in inventory	6		Operator Does not follow the method	2	(D) -Operator method IDT-007	7	84	None						
40.02) Raw material register	Validation of tare and weight missed	Discrepancy in inventory	6		Operator Does not follow the method	2	(D) -Operator method IDT-007	7	84	None						
40.03) Raw material register	Material without ID	Discrepancy in inventory	6		Operator Does not follow the method	2	(D) -Operator method IDT-010 -Operator method IDT-007	7	84	None						
50) Correct orientation of selective raw material (If apply)	Incorrect orientation delivered to run	Resistance	7		Incorrect winding direction from supplier	2	(D) -Incoming Inspection DPNP-5.2-CS-OM-01.01 F01 -Visual ID	7	98	None						
60) Cut of sample for incomming inspection	Sample non cutted	Resistance / Short circuit	5		Operator Does not follow the method	2	(D) -Operator method IDT-007	7	70	None						
60.01) Cut of sample for incomming inspection	Sample without ID	Resistance / Short circuit	5		Operator Does not follow the method	2	(D) -Operator method IDT-007	7	70	None						
60.02) Cut of sample for incomming inspection	Sample without ID	Resistance / Short circuit	5		Label not printed	2	(D) -Operator method IDT-010 -Operator method IDT-007	7	70	None						
60.03) Cut of sample for incomming inspection	Incorrect cut of sample (size)	Resistance / Short circuit	5		Operator Does not follow the method	2	(D) -Operator method IDT-007	7	70	None						
70) Delivery of samples to inspection receipt	Samples missed	Resistance / Short circuit	5		Operator Does not follow the method	2	(P) -Operator method IDT-011 -Operator method IDT-007	7	70	None						
80) Samples inspection of raw material in incoming inspection	Incorrect width of raw material	Resistance / Short circuit	5		Operator Does not follow the method	2	(P) -Instruccion Incoming inspection, Registro de embarques e inspeccion de material DPNP-5.2-CS-OM-01.01 F07;	7	70	None						
80.01) Samples inspection of raw material in incoming inspection	Incorrect thickness of raw material	Resistance / Short circuit	5		Operator Does not follow the method	2	(P) -Instruccion Incoming inspection, Registro de embarques e inspeccion de material DPNP-5.2-CS-OM-01.01 F07;	7	70	None						
80.02) Samples inspection of raw material in incoming inspection	Incorrect orientation of raw material in coil	Resistance / Short circuit	5		Operator Does not follow the method	2	(P) -Instruccion Incoming inspection, Registro de embarques e inspeccion de material DPNP-5.2-CS-OM-01.01 F07; criterios de aceptacion y rechazo M6666CN0 DPNP-5.2-CS-OM-01.01 F07	7	70	None						
90) Move material to supermarket	Material damage.	Intermitence	7		Operator does not follow the method	2	(D) -Operator method IDT-007	7	98	None						
90.01) Move material to supermarket	Material damage.	Intermitence	7		Operator without certified	2	(D) -Certified in training dept	7	98	None						
90.02) Move material to supermarket	Incorrect location	Discrepancy in inventory	7		Operator does not follow the method	2	(D) -Operator method IDT-007	7	98	None						
100) Move coils to stamping area	Material not registered	Discrepancy in inventory	4		Operator does not follow the method	2	(P) -Operator method IDT-008 -Operator method IDT-004	7	56	None						
100.01) Move coils to stamping area	Miss id,	Process stoped	4		Incorrect Material handling	2	(P) -Operator method IDT-008 -Operator method IDT-004 -Operator metod PROC 023	7	56	None						
100.02) Move coils to stamping area	Damaged material	Intermitence	6		Wrong Material handling	2	(P) -Operator method IDT-008 -Operator method IDT-004	7	84	None						
110) Print labels (If apply)	Wrong label	Wrong parts shipped to customer	6		Operator does not follow the method	2	(D) -Operator method IDT-005 -Op. method PROC-023 -Process card - Check list of previous activities DPNW-5.3-MG-7-4-00.01	7	84	None						

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POTENTIAL FAILURE MODE AND EFFECTS ANALYSIS

[ ] Design FMEA [X] Process FMEA [ ] Delphi Confidential

Part Certification

	System		Subsystem	X	Component	Page 1	FMEA Number 00000471 TOOL (e-FMEA DOC ID 5270526)
Part Number (Delphi:35589655)		Design or Process Responsibility RAMIREZ CABELLO, EDGAR				Prepared by RAMIREZ CABELLO, EDGAR	Telephone # +52 01844 8663400
Model Year(s)/Vehicle(s) MULTIPLE		Key Date				Original FMEA Date 2019-07-02 00:00:00	FMEA Revision Date 2020-02-28 00:00:00
Core Team RAMIREZ CABELLO, EDGAR, SUPERVISOR DE ING DE PROCESOS +52 01844 8663400 VILLANUEVA, ARNULFO, TÉCNICO DE CONFIABILIDAD +52 844 8663400 EXT 5411 PADILLA, ELSA L, SUPERVISOR DE CALIDAD +52 (844) 8663400 EXT.3458 ALDAPE, ARMANDO LOPEZ, TÉCNICO DE CALIDAD +52 844 4389060 AGUILAR, EFREN, SUPERVISOR DE MANUFACTURA +52 (844) 4389060 EXT.2722 CARBAJAL, ILIANA, INDUSTRIAL ENGINEERING TECHNICIAN +52 844 8663400 EXT 5441 PENA, JOSUE, GERENTE DE MANTENIMIENTO +52 844 8663400 RAMIREZ, VERONICA 3, TÉCNICO DE MATERIALES +52 844 4389060 PEREZ, FERNANDO, JEFE DE GRUPO ESTAMPADO 844 4389060							Supervisor's Approval RAMIREZ CABELLO, EDGAR

												Action Results						
Item/Process Function Requirements	Potential Failure Mode	Potential Effect(s) of Failure	Sev	Class	Potential Cause(s)/ Mechanism(s) of Failure	Occ	Current Design/Process Controls	Det	RPN	Recommended Actions	Responsibility & Target Completion Date	Actions Taken	Sev	Occ	Det	RPN
110.01) Print labels (If apply)	Wrong label	Wrong parts shipped to customer	6		Incorrect KANBAN	2	(D) - KANBAN method HS881 -Check list of previous activities DPNW-5.3-MG-7-4-00.01	7	84	None						
120) Move labels to machine (If apply)	Wrong label	Wrong parts shipped to customer	6		Wrong Material handling	2	(D) - Process inspection - Final inspection - KANBAN method HS881	7	84	None						
120.01) Move labels to machine (If apply)	Mixed label	Wrong parts shipped to customer	6		Wrong Material handling	2	(D) - Process inspection - Final inspection - KANBAN method HS881	6	72	None						
130) Verify incoming material at machine	Wrong material delivered to press	Process stoped	6		Operator failed to verify material	2	(D) -Op. method PROC-023 and IDT-007 -Process card -Check list of previous activities DPNW-5.3-MG-7-4-00.01	7	84	None						
140) Set up verification of good conditions to run	Low pressure in hydraulic system	Intermitence	6		Pump fault	2	(P) -Process card -Method Proc 023 -Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Low limit pressure switch	5	60	None						
140.01) Set up verification of good conditions to run	Incorrect raw material	Resistance / Short circuit	6		Incorrect material supplied	2	(P) -Process card -Material id -Method Proc 023 -Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Check list Previous activities DPNW-5.3-MG-7-4-00.01 F01 -Check list set up DPNW-5.3-MG-7.4.00.02 F01	7	84	None						
140.02) Set up verification of good conditions to run	Incorrect raw material	Resistance / Short circuit	6		Miss id during process	2	(P) -Method Proc 023 -Operator method IDT 007 -Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Format ING-MATS-012 A01	7	84	None						
140.03) Set up verification of good conditions to run	Missing label	Process stopped	6		Operator does not follow the method	2	(P) -Process card -Material id -Method Proc 023 -Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Check list Previous activities DPNW-5.3-MG-7-4-00.01 F01 -Check list set up DPNW-5.3-MG-7.4.00.02 F01	7	84	None						
140.04) Set up verification of good conditions to run	Wrong label	Process stopped	6		Incorrect from the system	2	(D) -Operator method PROC 023 - KANBAN method HS881 -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	7	84	None						
140.05) Set up verification of good conditions to run	Missing process card	Process stopped	6		Operator does not follow the instruction	2	(P) -Method Proc 023 -Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Check list Previous activities DPNW-5.3-MG-7-4-00.01 F01 -Check list set up DPNW-5.3-MG-7.4.00.02 F01	7	84	None						
140.06) Set up verification of good conditions to run	Wrong process card	Process stopped	6		Incorrect from the system	2	(P) -Method Proc 023 -Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Check list -Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Check list set up DPNW-5.3-MG-7.4.00.02 F01	8	96	None						
140.07) Set up verification of good conditions to run	Missing tooling	Resistance / Short circuit	6		Wrong set-up	2	(P) -Verification of tooling DPNW-5.3-MG-7-4-05.02 F01 -IIO	7	84	None						
140.08) Set up verification of good conditions to run	Wrong tooling	Resistance / Short circuit	6		Wrong set-up	2	(P) -Verification of tooling DPNW-5.3-MG-7-4-05.02 F01 -IIO	7	84	None						
140.09) Set up verification of good conditions to run	Low air pressure	Resistance / Short circuit	6		Bad pressure from the main line	2	(P) -Process card -Method Proc 023 -Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Low limit pressure switch	5	60	None						
140.1) Set up verification of good conditions to run	Stock inverted in press	Resistance / Short circuit	7		Stock orientation not verified	2	(D) -Set up verification - Visual ID HS472 -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	7	98	Install vision system capable to detect the stock orientation	MARTINEZ, DAVID 2020-03-14 00:00:00	Vision installed and released for manufacturing	7	2	4	56
140.11) Set up verification of good conditions to run	Previous reels not removed from winder at changeover	Miss id, wrong parts send to the costumer	4		Flow not cleneed	2	(D) -PN change routine -MFG inspection -QC final audit -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	6	48	None						
140.12) Set up verification of good conditions to run	Good parts called bad parts by vision system when apply	Scrap	4		Disajust in camera	2	(D) -Vision system verification according to the method with destructive pieces -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	4	32	None						
140.13) Set up verification of good conditions to run	Good parts called bad parts by vision system when apply	Scrap	4		Light variation	2	(D) -Vision system verification according to the method with destructive pieces	4	32	None						
140.14) Set up verification of good conditions to run	Bad parts called good parts by vision system when apply	Intermitence / Short circuit	7		Disajust in camera	2	(D) -Vision system verification according to the method with destructive pieces	4	56	None						
140.15) Set up verification of good conditions to run	Burrs in the insulation wings of terminal	Wire isulation damage	6		Dimension of the wings are in the maximum	2	(D) -Manufacturing inspection -QC Final inspection -Set up release -tool book	7	84	None						
140.17) Set up verification of good conditions to run	Misaligment terminal	Not assembly in hte connector	7		Wrong adjust in the tool	2	(D) -Set up released -mfg inspection -QC final audit -Tool maker set up -Nest of vision system	6	84	None						
150) Main dereeler	Electronic control doesn't function properly	Dereeler doesn't work	2		Defective unit / stop the process	2	(D) -Swich detect the fault	4	16	None						
150.01) Main dereeler	Rollers not operating properly	Press will shut down	2		Bad Bearing	2	(D) -Diagnostic Fault Display	2	8	None						
150.02) Main dereeler	Speed control fail	Press will shut down	2		Bad wire	2	(D) -Diagnostic Fault Display -Switch stop the press	2	8	None						
150.03) Main dereeler	Speed control bad	Press will shut down	2		Bad electronic card	2	(D) -Diagnostic Fault Display -Switch stop the press	2	8	None						
150.04) Main dereeler	Table don't turn	Press will shut down	2		Belt are loose	2	(D) -Diagnostic Fault Display -Switch stop the press	2	8	None						
150.05) Main dereeler	Motor stop	Press will shut down	2		Bad electronic card	2	(D) -Diagnostic Fault Display -Switch stop the press	2	8	None						

• APTIV •

POTENTIAL FAILURE MODE AND EFFECTS ANALYSIS

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Part Certification

	System		Subsystem	X	Component	Page 1	FMEA Number 00000471 TOOL (e-FMEA DOC ID 5270526)
Part Number (Delphi:35589655)		Design or Process Responsibility RAMIREZ CABELLO, EDGAR				Prepared by RAMIREZ CABELLO, EDGAR	Telephone # +52 01844 8663400
Model Year(s)/Vehicle(s) MULTIPLE		Key Date				Original FMEA Date 2019-07-02 00:00:00	FMEA Revision Date 2020-02-28 00:00:00
Core Team RAMIREZ CABELLO, EDGAR, SUPERVISOR DE ING DE PROCESOS +52 01844 8663400 VILLANUEVA, ARNULFO, TÉCNICO DE CONFIABILIDAD +52 844 8663400 EXT 5411 PADILLA, ELSA L, SUPERVISOR DE CALIDAD +52 (844) 8663400 EXT.3458 ALDAPE, ARMANDO LOPEZ, TÉCNICO DE CALIDAD +52 844 4389060 AGUILAR, EFREN, SUPERVISOR DE MANUFACTURA +52 (844) 4389060 EXT.2722 CARBAJAL, ILIANA, INDUSTRIAL ENGINEERING TECHNICIAN +52 844 8663400 EXT 5441 PENA, JOSUE, GERENTE DE MANTENIMIENTO +52 844 8663400 RAMIREZ, VERONICA 3, TÉCNICO DE MATERIALES +52 844 4389060 PEREZ, FERNANDO, JEFE DE GRUPO ESTAMPADO 844 4389060							Supervisor's Approval RAMIREZ CABELLO, EDGAR

											Action Results							
Item/Process Function Requirements	Potential Failure Mode	Potential Effect(s) of Failure	Sev	Class	Potential Cause(s)/ Mechanism(s) of Failure	Occ	Current Design/Process Controls	Det	RPN	Recommended Actions	Responsibility & Target Completion Date	Actions Taken	Sev	Occ	Det	RPN
160) Straightener	Feed rollers not operating properly	Raw material wavy	2		Wrong adjust	2	(D) -First piece released -Operator method	6	24	None						
160.01) Straightener	Feed rollers not operating properly	Raw material loose in rollers	2		Wrong adjust	2	(D) -First piece released -Operator method	6	24	None						
170) Dereeler side feed	Ground sensor fail	stock buckle fault	2		Intermitent control	2	(D) Maintenance routine Operator method	5	20	None						
170.01) Dereeler side feed	Incomplete assembly	missing clip	7		Assembly malfunction	2	(D) Helm sensor Diagnostic fault in main display in the press	5	70	None						
180) Die lube system	Clogged Valve	Tool wear / Jams, Terminal Dimensional Variability	7		Contaminated	2	(D) -Diagnostic Fault Display -In process visual inspections	2	28	None						
180.01) Die lube system	Faulty Proximity Switch	Tool wear / Jams, Terminal Dimensional Variability	7		Loose sensor	2	(D) -Diagnostic Fault Display -In process visual inspections	2	28	None						
180.02) Die lube system	Faulty Proximity Switch	Tool wear / Jams, Terminal Dimensional Variability	7		Sensor location	2	(D) -Diagnostic Fault Display -In process visual inspections	2	28	None						
190) Main feed	Improper Position	Burr Terminals and/or Tool jams	6		Loose connection / broken wire	2	(D) -Automatic diagnostic Fault in feeed screen -Setup method	2	24	None						
190.01) Main feed	Improper Position	Burr Terminals and/or Tool jams	6		Incorrect set up	2	(D) -Automatic diagnostic Fault in feed screen -Setup method	2	24	None						
190.02) Main feed	Stock buckle	Miss clip	7		Raw material finished	2	(D) -Sensor in feed entrance	2	28	None						
190.03) Main feed	Improper Position	Burr Terminals and/or Tool jams	6		Pulley wear	2	(D) -Diagnostic Fault -Setup method -P- -Preventive maint routine	6	72	None						
190.04) Main feed	Improper Position	Damage terminal tool	6		Pulley wear	2	(D) -Tool Jam / damaged terminal detection device	6	72	None						
190.05) Main feed	Improper Position	Tool jams	2		Belt broken	2	(P) -The screen show the improper position and the press can't run -Preventive maintenance.	2	8	None						
190.06) Main feed	Incorrect Release Point	Tool jams	2		Wrong set up	2	(D) -Display in the feed signature analysis	2	8	None						
190.07) Main feed	Incorrect Release Point	Tool jams	2		Broken parts	2	(D) -Diagnostic fault Display in the feed Signature analysis	2	8	None						
190.08) Main feed	Incorrect Release Point	Tool jams	2		Air pressure	2	(D) -Diagnostic fault in the screen, pressure swich in the feed	2	8	None						
190.09) Main feed	Incorrect Release Point	Press will not start	2		Resolver wear	2	(D) -Diagnostic fault display in the feed screen	2	8	None						
190.1) Main feed	Improper Timing	Tool jams	2		Set Up	2	(D) -Diagnostic fault display in feed screen	2	8	None						
190.11) Main feed	Improper Timing	Tool jams	2		Bad belts condition	2	(D) -Preventive maintenance -DiAsgnostic fault in the feed screen signature analysis	6	24	None						
190.12) Main feed	Roller Air Pressure	Tool jams	2		Bad Gauge	2	(D) -Diagnostic fault display in the screen	2	8	None						
190.13) Main feed	Roller Air Pressure	Tool jams	2		Improper Adjustment	2	(D) -Diagnostic fault display in the screen	2	8	None						
190.14) Main feed	Resolver failure	Tool jams	2		Improper set Up	2	(D) -Diagnostic fault display in the screen, -Signature analysis	2	8	None						
190.15) Main feed	Resolver failure	Tool jams	2		Coupling failures	2	(D) -Diagnostic fault display in the screen, -Signature analysis	2	8	None						
190.16) Main feed	Resolver failure	Tool jams	2		Loose connections	2	(D) -Diagnostic fault display in the screen, -Signature analysis	2	8	None						
190.17) Main feed	Resolver failure	Tool jams	2		Bad electronic card	2	(D) -Diagnostic fault display in the screen.	2	8	None						
200) Side feed	Jam	Damage or missing clip	7		Improper set up	2	(D) -Sensor in the die -Operator method	2	28	None						
200.02) Side feed	Wrong feed length	Wrong Set up	7		Operator does not follow the method	2	(D) -Process card -Operator method -Sensor in the die	4	56	None						
210) Press	Loose Ram	Terminal dimensional variability	7		Non flat piston surface	2	(D) -Bearing drop inspection, -Vision system -P- -Preventive maint routine	2	28	None						
210.01) Press	Loose Ram	Terminal dimensional variability	7		Unclean Fasteners	2	(D) -Bearing drop inspection, -Vision system -P- -Preventive maint routine	2	28	None						
210.02) Press	Loose Ram	Terminal dimensional variability	7		Improperly torqued fasteners and set screws	2	(D) -Bearing drop inspection, -Vision system -P- -Preventive maint routine	2	28	None						
210.03) Press	Improper Hydraulic System Pressure	Press will shut down	2		Compensator failures	2	(D) -Diagnostic fault display in the press screen	2	8	None						
210.04) Press	Improper Hydraulic System Pressure	Press will shut down	2		Accumulator failures	2	(D) -Diagnostic fault display in the press screen -P- -Preventive mant routine	2	8	None						
210.05) Press	Improper Hydraulic System Pressure	Press will shut down	2		Hydraulic pump failure	2	(D) -Diagnostic fault display in the press screen -P- -Preventive mant routine	2	8	None						
210.06) Press	Hydraulic pump fault	Press will shut down	2		Bad Pump	3	(D) -Diagnostic fault display in the screen, pressure swich -P- -Preventive mant routine	2	12	None						
210.07) Press	Hydraulic pump fault	Press will shut down	2		Air in the system	3	(D) -Diagnostic fault display, level and pressure sensor -P- -Preventive mant routine	2	12	None						
210.08) Press	Hydraulic pump fault	Press will shut down	2		Plugged orifice	3	(D) -Preventive maintenance rout -P-	6	36	None						
210.09) Press	Excessive Stop Time	Terminal dimensional variability	7		Brake shoe lining	2	(D) -MFG inspection -Q.C inspection -Vision system -P- -Preventive maint routine	2	28	None						
210.1) Press	Excessive Stop Time	Terminal dimensional variability	7		Belview lining washers	2	(D) -MFG inspection -Q.C inspection -Vision system -P- Preventive maint routine	2	28	None						

APTIV

POTENTIAL FAILURE MODE AND EFFECTS ANALYSIS

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Part Certification

	System		Subsystem	X	Component	Page 1	FMEA Number 00000471 TOOL (e-FMEA DOC ID 5270526)
Part Number (Delphi:35589655)		Design or Process Responsibility RAMIREZ CABELLO, EDGAR				Prepared by RAMIREZ CABELLO, EDGAR	Telephone # +52 01844 8663400
Model Year(s)/Vehicle(s) MULTIPLE		Key Date				Original FMEA Date 2019-07-02 00:00:00	FMEA Revision Date 2020-02-28 00:00:00
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Item/Process Function Requirements	Potential Failure Mode	Potential Effect(s) of Failure	Sev	Class	Potential Cause(s)/ Mechanism(s) of Failure	Occ	Current Design/Process Controls	Det	RPN	Recommended Actions	Responsibility & Target Completion Date	Actions Taken	Sev	Occ	Det	RPN
210.11) Press	Press Run @ Inch Mode	Terminal dimensional variability	7		Improper operation	2	(P) -MFG inspection -Q.C inspection -P- -Preventive maint routine	6	84	None						
210.12) Press	Improper startup continues mode	Terminal dimensional variability	7		Damaged terminal	2	(P) -Operator method -D- -MFG inspection -Q.C inspection -first sample released	6	84	None						
210.13) Press	Resolver Failure	Tool jams	2		Bad resolver unit	2	(D) -Diagnostic fault displayin the screen -P- -Preventive maint routine	3	12	None						
210.14) Press	Flywheel bearing failures	Press will not start	6		Low pressure	2	(D) -Diagnostic Fault Display / Sealed bearing -Preventive maintenance	3	36	None						
210.15) Press	Damage terminal	Terminal tigth	6		Wind speed to high	2	(P) -Operator method -first sample released -mfg inspection -QC final audit	6	72	None						
220) Bolster	Out of Parallel	Terminal dimensional variability	6		Improper set up	2	(P) -Set up method -D- -released of set up for mfg first sample released -MFG inspection -Q.C final audit	6	72	None						
220.01) Bolster	Out of Parallel	Terminal dimensional variability	6		Damage die	2	(P) -Set up method -Preventive maint -D- -Released of set up for mfg first sample released -MFG inspection -Q.C final audit	6	72	None						
220.03) Bolster	Out of Parallel	Terminal dimensional variability	6		Loose bolt	2	(P) -Set up method -D- -Released of set up for mfg -Change card first sample released -MFG inspection -Q.C final audit	6	72	None						
220.04) Bolster	Out of Parallel	Terminal dimensional variability	6		Damage die	2	(P) -Set up method -D- -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit	6	72	None						
220.05) Bolster	Micro adjust in bad condition	Terminal dimensional variability	2		Sprocket bad condition	2	(P) -Preventive maint routine -D- -First sample released -MFG inspection -Q.C final audit	6	24	None						
220.06) Bolster	Micro adjust in bad condition	Terminal dimensional variability	2		Bad chain tension	2	(P) -Preventive maint routine -D- -First sample released -MFG inspection -Q.C final audit	6	24	None						
220.07) Bolster	Micro adjust in bad condition	Termianl dimensional variability	2		Adjusment nuts/interfenece	2	(P) -Preventive maint -D- 'First sample released -MFG inspection -Q.C final audit -Press shut down	6	24	None						
230) Chutes / blowoff	Jams	Terminal dimensional variability	7		Rail out of adjustment	2	(P) -Set up method -Preventive maint -D- -Set up released by manufacturing -Machine stop -Ffirst sample released -MFG insp -Q.C final audit	6	84	None						
230.01) Chutes / blowoff	Jams	Press will shut down	2		Bad pump unit	2	(D) -Diagnostic fault display -P- -Preventive maint routine	2	8	None						
240) Central lube system	Pump failure	Press will shut down	2		Leaking due a damaged seal	2	(D) -Diagnostic fault display -P- -Preventive maint routine	2	8	None						
240.02) Central lube system	Proximity sensor	Press will shut down	2		Improper location	2	(D) -Diagnostic fault display -P- -Preventive maint routinee	2	8	None						
240.03) Central lube system	Float switches	Press will shut down	2		Broken/loose wires	2	(D) -Diagnostic fault display -P- -Preventive maint routine	2	8	None						
240.04) Central lube system	Valve stuck	Press will shut down	2		Broken/loose wires	2	(D) -Diagnostic fault display -P- -Preventive maint	2	8	None						
240.05) Central lube system	Improper mix ratio	Tool wear Terminal dimension variability	7		Pump failure	2	(D) -Diagnostic fault display -P- -Preventive maint routtine	2	28	None						
250) Blanking Details (tool)	Excessive Wear	Terminal dimensional variability	7		Tooling wear	2	(D) -First sample released -MFG inspection -Q.C final audit -Preventive maint routine -P- -Tool maker set up using optical comparator	6	84	None						
250.01) Blanking Details (tool)	Excessive Wear	Terminal dimensional variability	7		Improper Cutting Clearance	2	(D) -First sample released -MFG inspection -Q.C final audit -Preventive maint routine -P- -Tool maker set up	6	84	None						
250.02) Blanking Details (tool)	Excessive Wear	Terminal dimensional variability	7		Detail Made Wrong	2	(D) -First sample released -MFG inspection -Q.C final audit -Preventive maint routine -P- -Tool maker set up	6	84	None						
250.03) Blanking Details (tool)	Die detail design	Terminal dimensional variabilty -damaged index tab	7		Die detail design not capable of producing parts in spec.	2	(D) -First sample released -MFG inspection -Q.C final audit -Preventive maint routine -P- -Tool maker set up	6	84	None						
250.04) Blanking Details (tool)	Die detail design	Terminal dimensional variability (damage term tang)	7		Wafer missing	2	(D) -First sample released -MFG inspection -Q.C final audit -Preventive maint routine -P- -Tool maker set up	6	84	None						
250.05) Blanking Details (tool)	Die detail design	Incomplete terminal (missing core wing notches)	7		Worn / Broken tooling	2	(D) -First sample released -MFG inspection -Q.C final audit -Preventive maint routine -P- -Tool maker set up	6	84	None						
250.06) Blanking Details (tool)	Breakage	Terminal dimensional variability	7		Tooling Misalignment	2	(D) -First sample released -MFG inspection -Q.C final audit -Preventive maint routine -P- -Tool maker set up	6	84	None						
250.07) Blanking Details (tool)	Breakage	Terminal dimensional variability	7		Improper Cutting Clearance	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -Tool maker set up	6	84	None						
250.08) Blanking Details (tool)	Breakage	Terminal dimensional variability	7		Detail Made Wrong	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -Tool maker set up	6	84	None						
250.09) Blanking Details (tool)	Breakage	Die jam	7		Detail Installed in wrong die	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -Tool maker set up	6	84	None						
250.1) Blanking Details (tool)	Chamber punch	Incorrect Terminal progression	7		Die Misalignment	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -Tool maker set up	6	84	None						
250.11) Blanking Details (tool)	Incorrect terminal Progression	Terminal dimensional variability	7		Punch hitting too hard	2	(P) -Process card -D- -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit	6	84	None						
250.12) Blanking Details (tool)	Broken Bolts	Terminal dimensional variability	7		Improper set up	1	(P) -Set up method -D- -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit	6	42	None						

APTIV

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250.13) Blanking Details (tool)	Coin out of specification	Burr on coin	7		Lack sharpening cutting die and punch cutting	2	(P) -Set up released by manufacturing -First sample released -MFG inspection -Q.C finalaudit -Tool maker setup	6	84	None						
260) Forming details (tool)	Excessive Wear	Terminal dimensional variability	7		Tooling wear	2	(P) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Tool maker set up	6	84	None						
260.01) Forming details (tool)	Bad tooling	Terminal dimensional variability	7		Detail made wrong	2	(P) -Preventive maintenance routine -Set up released for mfg -MFG inspection -QC final audit -Set up released -Tool maker set up	6	84	None						
260.02) Forming details (tool)	Bad tooling	Die jam	7		Detail made Wrong	2	(P) -Preventive maint. routine -D- -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Tool maker set up	6	84	None						
260.03) Forming details (tool)	Bad tooling	Die jam	7		Tooling misaligment	2	(P) -Preventive maint. routine -D- -set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Tool maker set up	6	84	None						
260.04) Forming details (tool)	Die detail design	Terminal dimensional variability -damaged index tab	7		Die detail design not capable of producing parts in spec.	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	6	84	None						
260.05) Forming details (tool)	Die detail design	Incomplete Terminal (missing core wing notches)	7		Worn/broken tooling	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- Tool maker set up -Preventive maint. routine	6	84	None						
260.06) Forming details (tool)	Die detail design	Incomplete Terminal (missing core wing notches)	7		Detail made wrong	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	6	84	None						
260.07) Forming details (tool)	Die detail design	Crack in transition area	7		Improper adjustment	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	6	84	None						
260.08) Forming details (tool)	Die detail design	Terminal dimensional variability	7		Improper adjustment	2	(D) -Released of set up for mfg -First sample released -MFG inspection -FF2 Inspected for vision system -FF1 QC inspection -P- -Tool maker set up	6	84	None						
260.081) Forming details (tool)	Die detail design	Terminal dimensional variability	7		Worn tool/Wrong Tooling Height Dimension/ Improper adjustment	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up -Preventive maintenance routine. -Tool maker Verification of Critical Stations according to format. (Box forming stations front & back)	6	84	None						
260.09) Forming details (tool)	Breakage	Terminal dimensional variability	7		Detail Made Wrong	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	6	84	None						
260.1) Forming details (tool)	Breakage	Die jam	7		Detail installed in wrong die	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	6	84	None						
260.11) Forming details (tool)	Breakage	Terminal dimensional variability	7		Detail fatigue	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	6	84	None						
260.12) Forming details (tool)	Over Driven Rocker Station	Wing extruded/Customer Process difficulty	7		Improper Adjustment	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	5	70	None						
260.13) Forming details (tool)	Excessive Wear	Terminal dimensional variability	7		Tooling wear	3	(P) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit	4	84	None						
260.14) Forming details (tool)	Chamfer of core wings out of spec	Incorrect crimping	7	QCI25 QCI30 Chamfer of core wings 0.125+-0.075mm	Tooling wear / Wrong adjust	2	(P) -Tool maker set up -D- -Set up released by manufacturing -First sample released -Q.C final audit -Q.C IIO inspection	6	84	None						
260.15) Forming details (tool)	Gap out of spec	Intermintence / high insertion force	7		Tooling wear / Wrong adjust	2	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp -Q.C final audit -Vision System	6	84	None						
260.16) Forming details (tool)	Corners open in the box of the terminal	Intermintence / high insertion force	7	QCI 1 QCI6 All corners must be closed	Tooling wear / Wrong adjust	2	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp -Q.C final audit -AVP inspection -IIO	7	98	None						
260.17) Forming details (tool)	Chamfer of box out of spec	Burr in seal or connector	7	QCI22 QCI24 Chamfer of box 0.2 +-0.15mm	Tooling wear / Wrong adjust	2	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp -Q.C final audit -AVP inspection -IIO	7	98	None						
260.18) Forming details (tool)	Heigth of box out of spec	High insertion force / terminal to loose in connector	7	FF1 Heigth of box 2.90+-0.1mm	Tooling wear / Wrong adjust	2	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp -Q.C final audit -AVP inspection -IIO	7	98	None						
260.19) Forming details (tool)	Width of box out of spec	High insertion force / terminal to loose in connector	7	FF2 CS22 Width of box 4.25 +-0.05mm	Tooling wear / Wrong adjust	2	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp -Q.C final audit -AVP inspection -IIO -Vision system	6	84	None						
260.2) Forming details (tool)	Crack in terminal	Intermitence / Ressistance	7		Tooling wear / Wrong adjust	2	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp -Q.C final audit -AVP inspection -IIO	7	98	None						
270) Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Not square or parallel (retainers, stripper plates)	Die Jam	2		Misalignment	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	6	24	None						

APTIV

POTENTIAL FAILURE MODE AND EFFECTS ANALYSIS

[ ] Design FMEA [X] Process FMEA [ ] Delphi Confidential

Part Certification

	System		Subsystem	X	Component	Page 1	FMEA Number 00000471 TOOL (e-FMEA DOC ID 5270526)
Part Number (Delphi:35589655)		Design or Process Responsibility RAMIREZ CABELLO, EDGAR				Prepared by RAMIREZ CABELLO, EDGAR	Telephone # +52 01844 8663400
Model Year(s)/Vehicle(s) MULTIPLE		Key Date				Original FMEA Date 2019-07-02 00:00:00	FMEA Revision Date 2020-02-28 00:00:00
Core Team RAMIREZ CABELLO, EDGAR, SUPERVISOR DE ING DE PROCESOS +52 01844 8663400 VILLANUEVA, ARNULFO, TÉCNICO DE CONFIABILIDAD +52 844 8663400 EXT 5411 PADILLA, ELSA L, SUPERVISOR DE CALIDAD +52 (844) 8663400 EXT.3458 ALDAPE, ARMANDO LOPEZ, TÉCNICO DE CALIDAD +52 844 4389060 AGUILAR, EFREN, SUPERVISOR DE MANUFACTURA +52 (844) 4389060 EXT.2722 CARBAJAL, ILIANA, INDUSTRIAL ENGINEERING TECHNICIAN +52 844 8663400 EXT 5441 PENA, JOSUE, GERENTE DE MANTENIMIENTO +52 844 8663400 RAMIREZ, VERONICA 3, TÉCNICO DE MATERIALES +52 844 4389060 PEREZ, FERNANDO, JEFE DE GRUPO ESTAMPADO 844 4389060							Supervisor's Approval RAMIREZ CABELLO, EDGAR

											Action Results						
Item/Process Function Requirements	Potential Failure Mode	Potential Effect(s) of Failure	Sev	Class	Potential Cause(s)/ Mechanism(s) of Failure	Occ	Current Design/Process Controls	Det	RPN	Recommended Actions	Responsibility & Target Completion Date	Actions Taken	Sev	Occ	Det	RPN
270.01) Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Not square or parallel (retainers, stripper plates)	Die Jam	2		Made Wrong(Dimensional or Material)	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	6	24	None						
270.02) Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Not square or parallel (retainers, stripper plates)	Die Jam	2		Installed in Die Wrong	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	6	24	None						
270.03) Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Not square or parallel (retainers, stripper plates)	Die Jam	2		Misalignment	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	6	24	None						
270.04) Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Not square or parallel (retainers, stripper plates)	Die Jam	2		Made Wrong(Dimensional or Material)	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	6	24	None						
270.05) Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Not square or parallel (retainers, stripper plates)	Die Jam	2		Installed in Die Wrong	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	6	24	None						
270.06) Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Spring not functioning properly	Terminal dimensional variability	7		Worn/broken spring	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	6	84	None						
270.07) Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Spring not functioning properly	Die jam	2		Worn/broken spring	2	(D) -Set up -Set up released by manufacturing -Preventive maint. -Machine stop -D- -First sample released -MFG insp -Q.C final audit	6	24	None						
270.08) Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Wrong Spring called out on print	Terminal dimensional variability	7		Spring not capable of producing parts in spec	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	6	84	None						
270.09) Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Wrong Spring called out on print	Die jam	2		Worn/broken spring	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	6	24	None						
270.1) Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Wrong Spring called out on print	Die jam	2		Spring not capable of producing parts in spec	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	6	24	None						
270.11) Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Wrong Spring called out on print	Die jam	2		Broken spring	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	6	24	None						
270.12) Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Insulation wings out of spec	Terminal out of spec	6		Disajust in tooling	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -Vision system -P- -Preventive maint. routine -Vision system	3	36	None						
270.13) Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Insulation wings out of spec	Terminal out of spec	6		Incorrect set up	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -Vision system -P- -Preventive maint. routine -Vision system	3	36	None						
270.14) Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Insulation wings out of spec	Terminal out of spec	6		Lack of lubricant	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -Vision system -P- -Preventive maint. routine -Vision system	3	36	None						
270.15) Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Core wings out of spec	Terminal out of spec	6		Disajust in tooling	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -Vision system -P- -Preventive maint. routine -Vision system	3	36	None						
270.16) Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Core wings out of spec	Terminal out of spec	6		Incorrect set up	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -Vision system -P- -Preventive maint. routine -Vision system	3	36	None						
270.17) Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Core wings out of spec	Terminal out of spec	6		Lack of lubricant	2	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -Vision system -P- -Preventive maint. routine -Vision system	3	36	None						
280) Clip Assembly (tool)	Breakage	Missing clip	7		Detail fatigue	2	(D) -Operator method -Helm load monitor -Vision system	4	56	None						
280.01) Clip Assembly (tool)	Wrong wings	Clip dimensional variability	7		Wrong tooling	2	(D) -Operator method -First sample release -Tool maker released -Helm load monitor	4	56	None						
280.02) Clip Assembly (tool)	Wings with burrs	Clip dimensional variability	7		Die detail desing	2	(D) -Operator method -First sample release	6	84	None						
280.03) Clip Assembly (tool)	Clip out of spec	Clip dimensional variability - camber	7		Die detail no made properly	2	(D) -Operator method -First sample release -Tool maker released -IIO -Tool adjustment instruction	6	84	None						
280.04) Clip Assembly (tool)	Incorrect assembly	Terminal dimensional variability	7		Tool wear / Wrong adjustment	2	(D) -Operator method -First sample release -QC inspection -Helm load system -Vision System	5	70	None						
280.05) Clip Assembly (tool)	Gap out of spec	Intermitence / High insertion force	7		Tool wear / Wrong adjustment	2	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Helm load system -Vision System	5	70	None						

APTIV

POTENTIAL FAILURE MODE AND EFFECTS ANALYSIS

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Part Certification

	System		Subsystem	X	Component	Page 1	FMEA Number 00000471 TOOL (e-FMEA DOC ID 5270526)
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Model Year(s)/Vehicle(s) MULTIPLE		Key Date				Original FMEA Date 2019-07-02 00:00:00	FMEA Revision Date 2020-02-28 00:00:00
Core Team RAMIREZ CABELLO, EDGAR, SUPERVISOR DE ING DE PROCESOS +52 01844 8663400 VILLANUEVA, ARNULFO, TÉCNICO DE CONFIABILIDAD +52 844 8663400 EXT 5411 PADILLA, ELSA L, SUPERVISOR DE CALIDAD +52 (844) 8663400 EXT.3458 ALDAPE, ARMANDO LOPEZ, TÉCNICO DE CALIDAD +52 844 4389060 AGUILAR, EFREN, SUPERVISOR DE MANUFACTURA +52 (844) 4389060 EXT.2722 CARBAJAL, ILIANA, INDUSTRIAL ENGINEERING TECHNICIAN +52 844 8663400 EXT 5441 PENA, JOSUE, GERENTE DE MANTENIMIENTO +52 844 8663400 RAMIREZ, VERONICA 3, TÉCNICO DE MATERIALES +52 844 4389060 PEREZ, FERNANDO, JEFE DE GRUPO ESTAMPADO 844 4389060						Supervisor's Approval RAMIREZ CABELLO, EDGAR	

											Action Results						
Item/Process Function Requirements	Potential Failure Mode	Potential Effect(s) of Failure	Sev	Class	Potential Cause(s)/ Mechanism(s) of Failure	Occ	Current Design/Process Controls	Det	RPN	Recommended Actions	Responsibility & Target Completion Date	Actions Taken	Sev	Occ	Det	RPN
290) Helm load system	Clip not inspectioned	High insertion force	7		Wire broken	2	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing -First sample released by Q -MFG insp -Q.C final audit -Vision system (GAP)	6	84	None						
290.01) Helm load system	Clip not inspectioned	Low insertion force	7		Wire broken	2	(P) -Preventive maint. routine -Tool maker set up -D- -set up released by manufacturing first sample released -MFG insp -Q.C final audit -Helm load system -Vision System (GAP) -Bad terminal cutted from te carrier	6	84	None						
290.02) Helm load system	Clip not inspectioned	Clip not assembly	7		Wire broken	2	(P) -Tool maker set up -D- -Set up released by manufacturing - first sample released -MFG insp -Q.C final audit -Vision System (GAP)	6	84	None						
290.03) Helm load system	Clip not inspectioned	Short circuit / resistance	7		Load cell damage	2	(P) -Tool maker set up -D- -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Vision System (GAP) -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	6	84	None						
290.04) Helm load system	Clip not inspectioned	Short circuit / resistance	7		Tooling of load cell damage	2	(D) -Tool maker set up -D- -Set up released by manufacturing - First sample released -MFG insp -Q.C final audit -Vision System (GAP) -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	6	84	None						
290.05) Helm load system	Terminal non cutted	Short circuit / resistance	7		Cutter missed	2	(D) -Tool maker set up -D- -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Vision System (GAP) -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	6	84	None						
290.06) Helm load system	Helm un trained	Clip not verified at 100%	7		Operator mistake	2	(D) -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Vision System (GAP) -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	6	84	None						
300) Vision system	Program in need of enhancement	Pass bad parts	7		Part movement through vision block creates shadow / cannot see part clearly with vision	2	(D) -In process inspection/ stabilized rails in vision block -MFG inspection -QC released	4	56	None						
300.01) Vision system	Vision off	Does not detect part variation	7		Vision disabled at the panel view	2	(D) -In process inspection/ trolling bit logic -MFG inspection -Q.C inspection	5	70	None						
300.02) Vision system	Vision system variation	Does not detect part variation	7		Improperly adjusted/ lens moved	2	(D) -Setup/In-process inspection -MFG inspection -Q.C Inspection	5	70	None						
300.03) Vision system	Nuisance Fault	Press will shut down	2		Oil / Water / Plating / Debris on part	2	(D) -Blow Offs -P- -Preventive maint. routine	3	12	None						
300.04) Vision system	Nuisance Fault	Press will shut down	2		Part Bounces in Vision Block	2	(D) -Lead in / Vision Block with support rails / subsequent operation	4	16	None						
300.05) Vision system	Vision Failed to Locate the Part	Press will shut down	2		Part Out Of View / Focus	2	(D) -Diagnostic Fault Display	2	8	None						
300.06) Vision system	Vision Failed to Locate the Part	Press will shut down	2		No Light / Strobe	2	(D) -Diagnostic Fault Display	2	8	None						
300.07) Vision system	Vision Failed to Locate the Part	Press will shut down	2		Vision Program execution Time Too Short	2	(D) -Diagnostic Fault Display -Machine stop	2	8	None						
300.08) Vision system	No Trigger or Intermittent Trigger	Press Shuts Down	2		Bad Trigger	2	(D) -Keyence Fiber Optic Trigger	4	16	None						
300.09) Vision system	No Trigger or Intermittent Trigger	Press Shuts Down	2		Low Sensitivity	2	(D) -Keyence Fiber Optic Trigger	4	16	None						
300.1) Vision system	No Trigger or Intermittent Trigger	Press Shuts Down	2		Oil / Dirt On trigger	2	(D) -Keyence Fiber Optic Trigger	4	16	None						
300.11) Vision system	No Trigger or Intermittent Trigger	Press Shuts Down	2		Bad Amplifier	2	(D) -Keyence Fiber Optic Trigger	2	8	None						
300.12) Vision system	No Trigger or Intermittent Trigger	Press Shuts Down	2		Fiber Optic Cables	2	(D) -Keyence Fiber Optic Trigger	4	16	None						
300.13) Vision system	No Trigger or Intermittent Trigger	Press Shuts Down	2		Triggers Not Lined up	2	(D) -Keyence Fiber Optic Trigger	4	16	None						
310) Grease post aplication (if apply)	Wrong grease	Terminal does not meet print	6		Improper set up	2	(D) -Process card -Operator method -MFG inspection -First piece released -QC inspection	5	60	None						
310.01) Grease post aplication (if apply)	Too much grease	Customer non conformance	6		Improper set up	2	(D) -Process card -Operator method	5	60	None						
310.02) Grease post aplication (if apply)	Missing grease	Customer non conformance	6		Grease container empty	2	(D) -Low level sensor in grease pump -UV sensor in nest of application -Operathor method	5	60	None						
310.03) Grease post aplication (if apply)	Missing grease	Customer non conformance	6		Hose clogged	2	(D) -UV sensor in application -Operathor method	5	60	None						
310.04) Grease post aplication (if apply)	Missing grease	Customer non conformance	6		Spring broken	2	(D) -UV sensor in application -Operathor method -Preventive maintenance	5	60	None						
310.05) Grease post aplication (if apply)	Missing grease	Customer non conformance	6		Orifice clogged	2	(D) -UV sensor in application -Operathor method -Filter in grease system	5	60	None						
310.06) Grease post aplication (if apply)	Missing grease	Customer non conformance	6		Broken needle	2	(D) -UV sensor in application -Operathor method -Preventive maintenance	6	72	None						

APTIV

POTENTIAL FAILURE MODE AND EFFECTS ANALYSIS

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	System		Subsystem	X	Component	Page 1	FMEA Number 00000471 TOOL (e-FMEA DOC ID 5270526)
Part Number (Delphi:35589655)		Design or Process Responsibility RAMIREZ CABELLO, EDGAR				Prepared by RAMIREZ CABELLO, EDGAR	Telephone # +52 01844 8663400
Model Year(s)/Vehicle(s) MULTIPLE		Key Date				Original FMEA Date 2019-07-02 00:00:00	FMEA Revision Date 2020-02-28 00:00:00
Core Team RAMIREZ CABELLO, EDGAR, SUPERVISOR DE ING DE PROCESOS +52 01844 8663400 VILLANUEVA, ARNULFO, TÉCNICO DE CONFIABILIDAD +52 844 8663400 EXT 5411 PADILLA, ELSA L, SUPERVISOR DE CALIDAD +52 (844) 8663400 EXT.3458 ALDAPE, ARMANDO LOPEZ, TÉCNICO DE CALIDAD +52 844 4389060 AGUILAR, EFREN, SUPERVISOR DE MANUFACTURA +52 (844) 4389060 EXT.2722 CARBAJAL, ILIANA, INDUSTRIAL ENGINEERING TECHNICIAN +52 844 8663400 EXT 5441 PENA, JOSUE, GERENTE DE MANTENIMIENTO +52 844 8663400 RAMIREZ, VERONICA 3, TÉCNICO DE MATERIALES +52 844 4389060 PEREZ, FERNANDO, JEFE DE GRUPO ESTAMPADO 844 4389060							Supervisor's Approval RAMIREZ CABELLO, EDGAR

											Action Results						
Item/Process Function Requirements	Potential Failure Mode	Potential Effect(s) of Failure	Sev	Class	Potential Cause(s)/ Mechanism(s) of Failure	Occ	Current Design/Process Controls	Det	RPN	Recommended Actions	Responsibility & Target Completion Date	Actions Taken	Sev	Occ	Det	RPN
310.07) Grease post aplication (if apply)	Missing grease	Customer non conformance	6		Seal broken	2	(D) -UV sensor in application -Operathor method -Preventive maintenance	6	72	None						
310.08) Grease post aplication (if apply)	Grease out of the terminal	Customer non conformance	6		Pressure out of range in grease pump	2	(D) -Process card -QC inspection -Switch stop the press	5	60	None						
310.09) Grease post aplication (if apply)	Not enough grease	Customer non conformance	6		Heat of grease out of range	2	(D) -Process card -First sample release -Automated sensor in the machine	5	60	None						
320) Automatic reject cut system by vision system	Bad part non cutted	Terminal non conformace packaging	7		Bad loop sensor	2	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press	4	56	None						
320.01) Automatic reject cut system by vision system	Bad part non cutted	Terminal non conformance packaging	7		Low air pressure in winder	2	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press	4	56	None						
320.02) Automatic reject cut system by vision system	Bad part non cutted	Terminal non conformance packaging	7		System without knives	2	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press -Preventive maintenance	6	84	None						
320.03) Automatic reject cut system by vision system	Bad part non cutted	Terminal non conformance packaging	7		Wrong feed length load in the winder	2	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control download the real length	6	84	None						
320.04) Automatic reject cut system by vision system	Bad part non cutted	Terminal non conformance packaging	7		Winder counter out of possition / damage	2	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press -MFG inspection	6	84	None						
320.05) Automatic reject cut system by vision system	Bad part non cutted	Terminal non conformance packaging	7		Vision signal lost	2	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press -MFG inspection -Preventive maintenance	6	84	None						
320.06) Automatic reject cut system by vision system	Bad part non cutted	Terminal non conformance packaging	7		Vision off	2	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press -MFG inspection -Preventive maintenance	6	84	None						
330) Automatic reeler	Loose wrap	Terminals hanging out side of the reel	6		Guide of terminal to high	2	(P) -Set up method -D- -First sample released -MFG inspection -QC final audit	6	72	None						
330.01) Automatic reeler	Loose wrap	Terminals hanging out side of reel	6		Wind sprindle speed too slow	2	(P) -Set up method -D- -First sample released -MFG insp -Q.C final audit	6	72	None						
330.02) Automatic reeler	Loose wrap	Terminals hanging out side of reel	6		Tower movement too slow	2	(P) -Set up method -D- -First sample released -MFG insp -Q.C final audit	6	72	None						
330.03) Automatic reeler	Incorrect winder direction	Wrong parameter in winder	6		Wrong set up	2	(D) -Set up method -D- -First sample released -MFG insp -Q.C final audit	6	72	None						
330.04) Automatic reeler	Incorrect splice	Jam in customer assembly equipment	6		Operator mistake	2	(D) -Operator method -MFG inspection -D-	6	72	None						
330.05) Automatic reeler	Terminal down side of reel	Wrong winding	6		High tension adjustment	2	(P) -Set up card -D- -First sample released -MFG insp -Q.C final audit	6	72	None						
330.06) Automatic reeler	Terminal down side of reel	Wrong winding	6		Wind spindle speed too fast	2	(P) -Set up card -D- -First sample released -MFG insp -Q.C final audit	6	72	None						
330.07) Automatic reeler	Terminal down side of reel	Wrong winding	6		Camber strip	2	(P) -Set up card -D- -First sample released -MFG insp -Q.C final audit	6	72	None						
330.08) Automatic reeler	Terminal down side of reel	Wrong winding	6		Twisted stock	2	(P) -Set up card -D- -First sample released -MFG insp -Q.C final audit	6	72	None						
330.09) Automatic reeler	Paper alignment out wrap of reel	Damaged tangle	6		Wrapped reel/insufficient terminal strip guidance	2	(P) -Set up -Operator method -D- -First sample released -MFG inspection -Q.C final audit	6	72	None						
330.1) Automatic reeler	Twisted pat hub of reel	Non conforming wrap	4		Paper twisted at reel	2	(P) -Set up -Operator method -D- -First sample released -MFG inspection -Q.C final audit	6	48	None						
330.11) Automatic reeler	No paper between terminals	Non conforming wrap	4		Paper break	2	(P) -Set up -Operator method -D- -First sample released -MFG inspection -Q.C final audit	6	48	None						
340) Unload reel	Miss handled material	Damaged terminal	6		Dropping reels into container	2	(P) -Operator method -D- -Q.C final inspection	7	84	None						
340.01) Unload reel	Reel out of flow	Miss id	6		Operator mistake	2	(P) -Operator method -D- -Q.C final inspection	7	84	None						
340.02) Unload reel	Incomplete reel	Customer insatisfaction	6		Broken die / raw material finish	2	(P) -Operator method -D- -Q.C final inspection -STM	6	72	None						
350) Print shipping label	Illegible label	Terminal not shipped	6		Label damage	2	(P) -QC scan shipping label -Q.C final inspection	5	60	None						
350.01) Print shipping label	Illegible label	Terminal not shipped	6		Ribbon finish	2	(P) -QC scan shipping label -Q.C final inspection -Pinter show a fault	5	60	None						
350.02) Print shipping label	Illegible label	Terminal not shipped	6		Ribbon damage	2	(P) -QC scan shipping label -Q.C final inspection	5	60	None						
360) Apply shipping label	Wrong part	Customer insatisfaction	5		Operator does not follow method	2	(D) -Label is scanned	3	30	None						
360.01) Apply shipping label	Mis I.D. in boxes	Customer insatisfaction	5		Operator error.	2	(P) -Label is scanned -D- -Q.C final audit	3	30	None						
360.02) Apply shipping label	Wrong quantity of pieces	Customer insatisfaction	5		Operator error.	2	(P) -Counting system in n machine	4	40	None						
370) Process inspection by Mfg	Part does not meet the specification	Out of spec part shipped to customer	7		Final part inspection was not performed by manufacturing	2	(D) -Final audit format -certificated material is stamping -Operator Inspection instruction	6	84	None						
380) Annual Layout	P/N not available	Inspection can not be performed	4		No requirements	2	(D) -Yearly inspection program	7	56	None						
380.01) Annual Layout	Dimensional discrepancy report against drawing	Not acceptable result	4		Obsolete drawing	2	(D) -Revision level available -History change available	7	56	None						
380.02) Annual Layout	Inspection out of time	Not acceptable result	4		No requirements	2	(D) -Yearly inspection program	7	56	None						
390) Scan shipping label	Missing label	Unpleased customer	4		Wrong Material handling	2	(D) -Container is not shipped	6	48	None						
390.01) Scan shipping label	Not scanned label	Unpleased customer	4		Operator does not follow the work instruction	2	(D) -Container is not shipped	6	48	None						

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POTENTIAL FAILURE MODE AND EFFECTS ANALYSIS

[ ] Design FMEA [X] Process FMEA [ ] Delphi Confidential

Part Certification

	System		Subsystem	X	Component	Page 1	FMEA Number 00000471 TOOL (e-FMEA DOC ID 5270526)
Part Number (Delphi:35589655)		Design or Process Responsibility RAMIREZ CABELLO, EDGAR				Prepared by RAMIREZ CABELLO, EDGAR	Telephone # +52 01844 8663400
Model Year(s)/Vehicle(s) MULTIPLE		Key Date				Original FMEA Date 2019-07-02 00:00:00	FMEA Revision Date 2020-02-28 00:00:00
Core Team RAMIREZ CABELLO, EDGAR, SUPERVISOR DE ING DE PROCESOS +52 01844 8663400 VILLANUEVA, ARNULFO, TÉCNICO DE CONFIABILIDAD +52 844 8663400 EXT 5411 PADILLA, ELSA L, SUPERVISOR DE CALIDAD +52 (844) 8663400 EXT.3458 ALDAPE, ARMANDO LOPEZ, TÉCNICO DE CALIDAD +52 844 4389060 AGUILAR, EFREN, SUPERVISOR DE MANUFACTURA +52 (844) 4389060 EXT.2722 CARBAJAL, ILIANA, INDUSTRIAL ENGINEERING TECHNICIAN +52 844 8663400 EXT 5441 PENA, JOSUE, GERENTE DE MANTENIMIENTO +52 844 8663400 RAMIREZ, VERONICA 3, TÉCNICO DE MATERIALES +52 844 4389060 PEREZ, FERNANDO, JEFE DE GRUPO ESTAMPADO 844 4389060							Supervisor's Approval RAMIREZ CABELLO, EDGAR

Item/Process Function Requirements	Potential Failure Mode	Potential Effect(s) of Failure	Sev	Class	Potential Cause(s)/ Mechanism(s) of Failure	Occ	Current Design/Process Controls	Det	RPN	Action Results: Recommended Actions	Responsibility & Target Completion Date	Actions Taken	Sev	Occ	Det	RPN
400) QC audit	Part does not meet the visual product aid	Out of spec part shipped to customer	6		Final part inspection was not performed	2	(D) -Inspection according VIG WI	6	72	None						
400.01) QC audit	Wrong terminal	Stop line and not functional part	7		Wrong terminal identification	2	(D) -Inspection according VIG	7	98	None						
410) QC released	label un scaned	Stop released process	6		Incorrect operator procedure	2	(D) -Operator method -Label scaned	6	72	None						
410.01) QC released	Wrong label released	Stop released process	6		Incorrect operator procedure	2	(D) -Operator method -Label scaned	6	72	None						
410.02) QC released	Ilegible label printed	Stop released process	6		Printer failed	2	(D) -Operator method -Label scaned -Manual print of label	6	72	None						
410.03) QC released	Loose label	Stop released process	6		Incorrect operator procedure	2	(D) -Operator method -Label scaned -Manual print of label	6	72	None						
410.04) QC released	Incorrect label in box	Suspicious material	6		Incorrect handling	2	(D) -Material retuned to quality area	7	84	None						
420) Move parts to PPAP area (If apply)	Pack Damage	Suspicious material	6		Incorrect handling	2	(D) -Material retuned to quality area	7	84	None						
430) Move good reels to supermarket area (If apply)	Material moved with out inspected	Terminal dimensional variability	7		Operator does not follow the method	2	(P) -Operator method -QC final inspection	3	42	None						
430.01) Move good reels to supermarket area (If apply)	Terminal damage	Transfer from press to shiping container	5		Operator does not follow the method	2	(D) -Operator method -MFG inspection	7	70	None						
430.02) Move good reels to supermarket area (If apply)	Terminal containers miss handled	Terminal damage	5		Material handling	2	(D) -Operator method	7	70	None						
430.04) Move good reels to supermarket area (If apply)	Terminal damage	Operator procedure	5		Operator does not follow the method	2	(D) -Operator method -MFG inspection -QC inspection	7	70	None						
440) Move parts to quarentine area (If apply)	Pack Damage	Suspicious material	5		Incorrect handling	2	(P) -Material is returned to quality area -Operator training	7	70	None						
450) Quarentine (If apply)	Miss ID	Wrong material shipped	5		Material mixed in area	2	(D) -Operator method -Viaual ID	7	70	None						
450.01) Quarentine (If apply)	Material mixed	Customer insatisfaction	5		Flow with more part number	2	(D) -Operator method -Viaual ID	7	70	None						
460) Move part to EPS (If apply)	Pack Damage	Suspicious material	5		Incorrect handling	2	(D) -Material is returned to quality area -Operator training	7	70	None						
470) EPS (If apply)	Miss ID	Wrong material shipped	5		Different material in area	2	(D) -Operator method work instruction -Scan	4	40	None						
480) Push delivery is elaborated	Missing push delivery	Customer	1		Bad operation	2	(D) -Operator method	6	12	None						
490) Shipping to distribution center	Damaged package	Suspicious material	4		Incorrect handling	2	(P) -Operator method -Operator certified	7	56	None						
490.01) Shipping to distribution center	Missing manifest for container	Customer insatisfaction	4		Operator doesn't follow the method	2	(D) -Container is scanned	4	32	None						
490.02) Shipping to distribution center	Wrong destiny	Customer insatisfaction	4		Operator doesn't follow the method	2	(D) -Container is scanned	5	40	None						

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CONTROL PLAN

Part Certification

Control Plan Category: Prototype [ ] Pre-Launch [X] Production [ ]	Key Contact Name: VILLANUEVA, ARNULFO	Date (Orig): 4-May-2016	Date (Rev): 25-Nov-2022	Page 1	
Control Plan Number: 00000471 TOOL ID#5661214	Key Contact Phone: +52 844 8663400 EXT 5411	Customer Engineering Approval (If Req'd)		Date (If Req'd)	
Part Number: (Delphi:35589655) / Ecl: (Delphi:01)	Supplier / Plant Approval / Date: VILLANUEVA, ARNULFO 11-Feb-2023	Customer Quality Approval (If Req'd)		Date (If Req'd)	
Part Name / Description: (Delphi:ASM TERM F APEX 2.8 AG)	Other supplier approval by (If Req'd)	Other Approval (If Req'd)		Date (If Req'd)	
Supplier / Plant: Delphi Packard Plant 84 MEXICO / Supplier Code: 814988309	Other Approval Date (If Req'd)				
Core team Members: VILLANUEVA, ARNULFO +52 844 8663400 EXT 5411 RAMIREZ CABELLO, EDGAR +52 01844 8663400 ALVARADO, JESUS +52 25903 8663400 CARBAJAL, ILIANA +52 844 8663400 EXT 5441 RAMIREZ, VERONICA 3 +52 844 4389060 PENA, JOSUE +52 844 8663400 AGUILAR, EFREN +52 (844) 4389060 EXT.2722 CARDENAS, CARLOS E +52 844 8663400 SIGALA, ARTURO +52 844 8663400					
Manufacturing plant maintains listing of all Gage Numbers					

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
10	Receive and unloading raw material at receiving area	None		Correct id material			Correct I.D. according n/p received	Visual	All material	Each raw material received	(D) -Inspection of material operator method IDT-001 and IDT-010	Notify to supervisor /Discrepancy is generated to the supplier,material is sent to incoming inspection
10.01	Receive and unloading raw material at receiving area	None		Material free of damaged			Materail not damaged	Visual	All material	Each raw material received	(D) -Inspection of material operator method IDT-001 and IDT-010	Notify to supervisor /Discrepancy is generated to the supplier,material is sent to incoming inspection.
10.02	Receive and unloading raw material at receiving area	None		Identification of material present			Material identified	Visual	All material	Each raw material received	(D) -Inspection of material operator method IDT-010	Notify to supervisor /Discrepancy is generated to the supplier,material is sent to incoming inspection
10.03	Receive and unloading raw material at receiving area	None		Correct stack(from warehouse)			Correct stack acording method	Visual	All pallet	Each raw material received	(D) - Operathor method IDT-001 - Operator certified	Notify to supervisor /Discrepancy is generated to the supplier,material is sent to incoming inspection
10.04	Receive and unloading raw material at receiving area	None		Correct stack (containers without damage)			Correct stack acording method	Visual	All pallet	Each raw material received	(D) - Operathor method IDT-001 - Operator certified - Operator method IDT-010	Notify to supervisor /Discrepancy is generated to the supplier,material is sent to incoming inspection
10.05	Receive and unloading raw material at receiving area	None		Correct stack from supplier			Correct stack acording method	Visual	All pallet	Each raw material received	(D) - Operator certified - Operator method IDT-010	Notify to supervisor /Discrepancy is generated to the supplier,material is sent to incoming inspection
20	Pyment process	None			Material verified with invoice		Material verified against invoice	Visual	All material	Each raw material received	(D) -Operator method IDT-010	Notify to supervisor, adjust process
20.01	Pyment process	None			correct register of part number and weigth		Correct register of p/n and weigth	Visual	All material	Each raw material received	(D) -Operator method IDT-010	Notify to supervisor and expedition / adjust process
20.02	Pyment process	None			Material paymented		Material Paymented	Visual / mannual	All material	Each raw material received	(D) -Operator method IDT-010	Notify to supervisor and expedition / adjust process, generate discrepancy
30	Identification of coils	None		Correct ID of coils			Material identified p/n correct	Visual	all coils	Each raw material received	(D) -Operator method IDT-010	Notify to supervisor; Adjust process (check and correctly identify the coils)
30.01	Identification of coils	None		ID of coils present			Material identified	Visual	all coils	Each raw material received	(D) -Operator method IDT-010 -Operator method IDT-007	Notify to supervisor; Adjust process (check and identify the coils)
30.02	Identification of coils	None		Label FIFO same to internal labels			Material identified (sames labels fifo and internal)	Visual / mannual	all coils	(D) -Operator method IDT-010 - Operator method IDT-007	(D) -Operator method IDT-010 -Operator method IDT-007	Notify to supervisor; Adjust process (check and correctly identify the coils)
40	Raw material register	None			Material register		Material register	Visual / mannual	all material	Each raw material received	(D) -Operator method IDT-007	Notify to supervisor; Adjust process (check and register material)
40.01	Raw material register	None			Register of arrival of material available		Register available	Visual	all material	Each raw material received	(D) -Operator method IDT-007	Notify to supervisor; Adjust process (check and register material)
40.02	Raw material register	None			Validation of tare and weight performed		Validation Material tara and weigth	Visual / scale	all material	Each raw material received	(D) -Operator method IDT-007	Notify to supervisor; Adjust process (check and validate material)
40.03	Raw material register	None		Material identified			Material identified	Visual	all material	Each raw material received	(D) -Operator method IDT-010 -Operator method IDT-007	Notify to supervisor; Adjust process (check and identify material) or send discrepancy

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
50	Correct orientation of selective raw material (If apply)	None		Correct orientation delivered to run			Correct orientation according visual aid	Visual	1 sample of a coil of the pallet	Each raw material received	(D) -Incoming Inspection DPNP-5.2-CS-OM-01.01 F01 - Visual ID	Notify to supervisor, adjust process(separate the material, place red label and generate discrepancy to the supplier)
60	Cut of sample for incomming inspection	shears of cutting			Sample cutted		Sample available	Visual	1 sample of a coil of the pallet	Each raw material received	(D) -Operator method IDT-007	Notify to supervisor, adjust process(cutted sample)
60.01	Cut of sample for incomming inspection	shears of cutting		Sample identified			Sample identified	Visual / mannual	1 sample of a coil of the pallet	Each raw material received	(D) -Operator method IDT-007	Notify to supervisor, adjust process(identified sample)
60.02	Cut of sample for incomming inspection	shears of cutting			Label Printed		Printed label	Visual / mannual	1 sample of a coil of the pallet	Each raw material received	(D) -Operator method IDT-010 -Operator method IDT-007	Notify to supervisor, adjust process(printed label)
60.03	Cut of sample for incomming inspection	shears of cutting		Correct dimention of sample			Correct dimention according method	Visual / mannual /metric rule	1 sample of a coil of the pallet	Each raw material received	(D) -Operator method IDT-007	Notify the supervisor, adjust the process (cut sample with the correct length)
70	Delivery of samples to inspection receipt	None			Available samples		Samples availables	Visual	1 sample of a coil of the pallet	Each raw material received	(P) -Operator method IDT-011 -Operator method IDT-007	Notify to supervisor, adjust process(deliver samples)
80	Samples inspection of raw material in incoming inspection	None		correct width of raw material			Correct dimention according MSpec nad drawing	Visual / electrodigital caliper	1 coil	Each pallet of raw material received	(P) -Instruccion Incoming inspection, Registro de embarques e inspeccion de material DPNP-5.2-CS-OM-01.01 F07;	Notify to supervisor, adjust process(separate the material, place red label and generate discrepancy to the supplier)
80.01	Samples inspection of raw material in incoming inspection	None		correct thickness of raw material			Correct dimention according MSpec nad drawing	Visual / electrodigital caliper / Micrometer	1 coil	Each pallet of raw material received	(P) -Instruccion Incoming inspection, Registro de embarques e inspeccion de material DPNP-5.2-CS-OM-01.01 F07;	Notify to supervisor, adjust process(separate the material, place red label and generate discrepancy to the supplier)
80.02	Samples inspection of raw material in incoming inspection	None		correct orientation of raw material in coil			Correct orientation according visual aid / Drawing / IIO	Visual	All coils/ 1.- QC (1 sample;)	Each pallet of raw material received / 1.-Set-up,	(P) -Instruccion Incoming inspection, Registro de embarques e inspeccion de material DPNP-5.2-CS-OM-01.01 F07; criterios de aceptacion y rechazo M6666CN0 DPNP-5.2-CS-OM-01.01 F07 / IIO	Notify to supervisor, adjust process(separate the material, place red label and generate discrepancy to the supplier)
80.021	Samples inspection of raw material in incoming inspection	None		correct orientation of raw material in coil			Correct orientation according visual aid / Drawing / IIO	Visual	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours.	(P) -Instruccion Incoming inspection, Registro de embarques e inspeccion de material DPNP-5.2-CS-OM-01.01 F07; criterios de aceptacion y rechazo M6666CN0 DPNP-5.2-CS-OM-01.01 F07 / IIO	Notify to supervisor, adjust process(separate the material, place red label and generate discrepancy to the supplier)
90	Move material to supermarket	Carrier car		Material not damage.			Material free of damaged	Visual	all material	Each raw material received	(D) -Operator method IDT-007	Notify to supervisor, adjust process(cut damaged material and generate discrepancy)
90.01	Move material to supermarket	Carrier car			Operator certified		certified operator with identification	Visual	all operators	during the shifth	(D) -Certified in training dept	Notify to supervisor, adjust process;certify the operator.
90.02	Move material to supermarket	Carrier car			Correct location		Correct location of material in rack	Visual	all material	during the shifth	(D) -Operator method IDT-007	Notify to supervisor, adjust process(relocate material)
100	Move coils to stamping area	Carrier car		Material registered			Registered material	Visual	all material	each material pallet moved to the press	(P) -Operator method IDT-008 -Operator method IDT-004	Notify Supervisor; register material
100.01	Move coils to stamping area	Carrier car		Material identified			Material identified	Visual	all material	each material pallet moved to the press	(P) -Operator method IDT-008 -Operator method IDT-004 - Operator metod PROC 023	Notify Supervisor; review and identify material
100.02	Move coils to stamping area	Carrier car		Material not damaged			Material without damage	Visual	all material	each material pallet moved to the press	(P) -Operator method IDT-008 -Operator method IDT-004	Notify Supervisor; remove and return the material, review and send incoming inspection
110	Print labels (if apply)	Printer		Correct label			Correct label according to the run	Manually - visual	All labels	required during the shift	(D) -Operator method IDT-005 -Op. method PROC-023 - Process card -Check list of previous activities DPNW-5.3-MG-7-4-00.01	Notify to supervisor; remove and print labels corrects
110.01	Print labels (if apply)	Printer			Correct KANBAN		Correct kanban according to the run	Manually - visual	All labels	required during the shift	(D) - KANBAN method HS881 - Check list of previous activities DPNW-5.3-MG-7-4-00.01	Notify to supervisor; remove and required correct kanban
120	Move labels to machine (if apply)	None		Correct label			Correct label according to np in the press o Kamban	Manually - Visual	All labels	Each movement of labels	(D) - Process inspection - Final inspection - KANBAN method HS881	Notify to supervisor and PCL; remove and print labels corrects

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
120.01	Move labels to machine (if apply)	None			Labels not mixed		No labels of different pn	Visual	All labels	Each movement of labels	(D) - Process inspection - Final inspection - KANBAN method HS881	Notify to supervisor and PCL; Remove the labels from the incorrect np and deliver them to PCL
130	Verify incoming material at machine	Carrier car		correct material delivered to press			Correct material according process card	Visual /	each coil of press	each Set up or material and material received in the press	(D) -Op. method PROC-023 and IDT-007 -Process card - Check list of previous activities DPNW-5.3-MG-7-4-00.01	Notify Supervisor and PCL, adjust process(remove material and supply the correct)
140	Set up verification of good conditions to run	None			Correct pressure in hydraulic system (not low)		Correct pressure according Process card	Visual / pressure gauge	1 time	each Set up	(P) -Process card -Method Proc 023 -Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Low limit pressure switch	Notify Supervisor and maintenance , adjust process
140.01	Set up verification of good conditions to run	None		Correct Raw material	Correct material of supplier		Correct raw material according drawing / IIO / Process card	Visual	Each coil	each Set up	(P) -Process card -Material id - Method Proc 023 -Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Check list Previous activities DPNW-5.3-MG-7-4-00.01 F01 -Check list set up DPNW-5.3-MG-7.4.00.02 F01	Notify Supervisor and PCL, adjust of process(change raw material)
140.02	Set up verification of good conditions to run	None		Correct Raw material	Material id during process		Correct raw material according drawing / IIO / Process card	Visual	Each coil	each Set up	(P) -Method Proc 023 - Operator method IDT 007 - Autonomus maintenance DPNP-5.3-ME-P84-02 F01 - Format ING-MATS-012 A01	Notify Supervisor and PCL, adjust of process(change raw material)
140.03	Set up verification of good conditions to run	None			Present label		Labels availables	Visual	Each run	each Set up	(P) -Process card -Material id - Method Proc 023 -Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Check list Previous activities DPNW-5.3-MG-7-4-00.01 F01 -Check list set up DPNW-5.3-MG-7.4.00.02 F01	Contact Supervisor and PCL; adjust of process(Require labels)
140.04	Set up verification of good conditions to run	None			Correct label		Correct part number on labels according run	Visual	All labels	each Set up	(D) -Operator method PROC 023 - KANBAN method HS881 -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	Notify Supervisor and PCL, adjust of process(return labels to PCL and print correct labels)
140.05	Set up verification of good conditions to run	None			Process card present		Process card available according run	Visual	Each run	each Set up	(P) -Method Proc 023 - Autonomus maintenance DPNP-5.3-ME-P84-02 F01 - Check list Previous activities DPNW-5.3-MG-7-4-00.01 F01 - Check list set up DPNW-5.3-MG-7.4.00.02 F01	Notify Supervisor and Ing Process; adjust of process(Require Process card)
140.06	Set up verification of good conditions to run	None			Correct process card		Correct process card of the run	Visual	Each run	each Set up	(P) -Method Proc 023 - Autonomus maintenance DPNP-5.3-ME-P84-02 F01 - Check list -Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Check list set up DPNW-5.3-MG-7.4.00.02 F01	Notify Supervisor and Ing Process; adjust of process(removing process card and require the n / p correct)
140.07	Set up verification of good conditions to run	None			Tooling is present		Present tooling according letter change	Visual	Each tool die	each Set up	(P) -Verification of tooling DPNW-5.3-MG-7-4-05.02 F01 - IIO	Notify Supervisor and tool maker, adjust of process(add tool)
140.08	Set up verification of good conditions to run	None			Correct tooling		Correct tooling according letter change	Visual	Each tool die	each Set up	(P) -Verification of tooling DPNW-5.3-MG-7-4-05.02 F01 - IIO	Notify Supervisor or tool maker, adjust of process(remove tools and place the correct)
140.09	Set up verification of good conditions to run	None			Correct air pressure (not Low)		Correct pressure according Process card	Visual / pressure gauge	1 time	each Set up	(P) -Process card -Method Proc 023 -Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Low limit pressure switch	Notify Supervisor and maintenance , adjust process
140.1	Set up verification of good conditions to run	None		Correct orientation of raw material in press.			Correct orientation of material in press according drawing or aid visual	Visual / Vision	Each coil / Vision: All material	each Set up / Vision: Continuos	(D) -Set up verification - Visual ID HS472 -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	Contact Supervisor or tool maker, adjust of process(correct orientation of the raw material)
140.11	Set up verification of good conditions to run	None			Previus reels is removed from winder at changeover		Correct reels according process card	Manually - Visual	all reels	each Set up	(D) -PN change routine -MFG inspection -QC final audit - Autonomus maintenance DPNP-5.3-ME-P84-02 F01	Contact Supervisor and PCL, Adjust process (remove reels and place corrects)
140.12	Set up verification of good conditions to run	None			Only goods parts is called for vision		Samples according dimentions and	Vision System	1 sample	each Set up	(D) -Vision system verification according to the method with destructive pieces -Autonomus	Contact Supervisor manufacturing, QC and maintenance, Adjust process(verify and recalibrate vision)

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
					system when apply (adjusted camera)		tolerances in Vision				maintenance DPNP-5.3-ME-P84-02 F01, Check list audit calest 07 F01	
140.14	Set up verification of good conditions to run	None			Bad parts are sent to scrap by vision system when apply		Samples according dimentions and tolerances in Vision	Vision System	1 sample	each Set up	(D) -Vision system verification according to the method with destructive pieces, Check list audit calest 07 F01	Contact Supervisor manufacturing, QC and maintenance, Adjust process(verify and recalibrate vision)
140.15	Set up verification of good conditions to run	None		Not burrs in the insulation wings of terminal			No burrs in Wings	visual	1 sample	each set-up	(D) -Manufacturing inspection -QC Final inspection -Set up release -tool book	Notify to supervisor and tool maker, adjust process
140.17	Set up verification of good conditions to run	None		Terminal not misalignment			Aligned terminal	visual	1 piece	each set-up	(D) -Set up released -mfg inspection -QC final audit -Tool maker set up -Nest of vision system	Notify to supervisor and tool maker, adjust process
140.18	Set up verification of good conditions to run	None		Terminal within specifications dimentions			According to product Drawing, IIO	According to IIO (keyence, optical comparator,OGP, laser)	1 piece	each set-up	Inspection visual According IIO, VIG	Process stop, Contact Supervisor Mfg, QC and Tool maker
150	Main dereeler	Dereeler			Control electronico functional propertly		Control electronico without failures	Visual / PLC system	100%	Continuos	(D) -Swich detect the fault	Notify to Supervisor or maintenance, adjust process
150.01	Main dereeler	Dereeler			Rollers function correctly		Rollers without failures	Visual / PLC system	100%	Continuos	(D) -Diagnostic Fault Display	Notify to Supervisor or maintenance, adjust process
150.02	Main dereeler	Dereeler			Speed control without fail		Speed control without failures	Visual / PLC system	100%	Continuos	(D) -Diagnostic Fault Display -Switch stop the press	Supervisor or maintenance, adjust process
150.03	Main dereeler	Dereeler			Speed control Functional		Speed control without damaged	Visual / PLC system	100%	Continuos	(D) -Diagnostic Fault Display -Switch stop the press	Supervisor or maintenance, adjust process
150.04	Main dereeler	Dereeler			funccional table (turn)		Table functional	Visual / PLC system	100%	Continuos	(D) -Diagnostic Fault Display -Switch stop the press	Supervisor or maintenance, adjust process
150.05	Main dereeler	Dereeler			functional motor		Motor functional without fails	Visual / PLC system	100%	Continuos	(D) -Diagnostic Fault Display -Switch stop the press	Supervisor or maintenance, adjust process
160	Straightener	Straightener			Feed rollers correct operating properly		Correct function of rollers	Visual /	100%	Continuos	(D) -First piece released -Operator method	Notify to Supervisor or maintenance, adjust process
170	Dereeler side feed	Dereeler			correct functionality ground sensor		Ground sensor without damaged	Visual /PLC system	100%	Continuos	(D) Maintenance routine Operator method	Notify to Supervisor or maintenance, adjust process
170.01	Dereeler side feed	Dereeler		complete assembly (clip present)			Clip present	Helm sensor / PLC system / vision	100%	Continuos	(D) Helm sensor Diagnostic fault in main display in the press	Notify to Supervisor or maintenance, adjust process
180	Die lube system	Lube Applicator			Valve free of obstructions		Valve without obstructions	Visual / PLC system	100%	Continuos	(D) -Diagnostic Fault Display -In process visual inspections	Notify to Supervisor or maintenance, adjust process
180.01	Die lube system	Lube Applicator			Functional Proximity Switch		Proximity Switch without daños	Visual / PLC system	100%	Continuos	(D) -Diagnostic Fault Display -In process visual inspections	Notify to Supervisor or maintenance, adjust process
190	Main feed	Feed			Proper Position of feed		Not failures of feed	Visual / Set up	100%	Each set up	(D) -Automatic diagnostic Fault in feeed screen -Setup method,(D) -Diagnostic Fault -Setup method -P- -Preventive maint routine	Notify to Supervisor or maintenance, adjust process
190.02	Main feed	Feed			Not Stock buckle		No problems with stock buckle	Visual / Set up	100%	each set up	(D) -Sensor in feed entrance	Notify to Supervisor or tool maker, adjust process
190.06	Main feed	Feed			Correctly release point		No problems with release point	Visual / set up	100%	each set up	(D) -Diagnostic fault Display in the feed Signature analysis,, pressure swich in the feed	Notify to Supervisor or tool maker, adjust process
190.1	Main feed	Feed			Proper timing		Correct timing	Visual / set up	100%	each set up	(D) -Diagnostic fault display in feed screen,(D) -Diagnostic fault Display in the feed Signature analysis	Notify to Supervisor or tool maker, adjust process
190.12	Main feed	Feed			Correct air presure of rollers		Correct Pressure	Visual / Setup / Pressure Gauge	100%	each set up	(D) -Diagnostic fault display in the screen	Notify to Supervisor or maintenance, adjust process
190.14	Main feed	Feed			Resolver function correctly		resolver without failures	Visual / set up	100%	each set up	Diagnostic Fault Display	Notify to Supervisor or maintenance, adjust process

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
200	Side feed	Feed			Not jam		Feed without failures	Visual / Sensor	100%	Continuous	(D) -Sensor in the die -Operator method	Notify to Supervisor or maintenance, adjust process
200.02	Side feed	Feed			Correct feed length		Length correct of feed	Visual / Sensor	100%	Continuous	(D) -Process card -Operator method -Sensor in the die	Notify to Supervisor or maintenance, adjust process
210	Press	Minster			Ram in correct adjusment		Correct adjust of ram	Visual / Manual/ setup tool maker	100%	each setup	(D) -Bearing drop inspection, -Vision system -P- -Preventive maint routine	Process stop , notify to tool maker, adjust process
210.03	Press	Minster			Proper Hydraulic System Pressure		Pump functional	Visual / Fault display in PLC program	100%	each setup	(D) -Diagnostic fault display in the press screen -P- -Preventive mant routine	Process stop , notify to supervisor ,maintenance, tool maker, adjust process
210.06	Press	Minster			Hydraulic pump functional		Pump functional	Visual / Fault display in PLC program	100%	each setup	(D) -Diagnostic fault display in the screen, pressure swich -P- -Preventive mant routine	Process stop , notify to supervisor ,maintenance, tool maker, adjust process
210.09	Press	Minster			Non-excessive stop times		Not excessive stop	Visual / Fault display in PLC program	100%	Continuos	(D) -MFG inspection -Q.C inspection -Vision system -P- -Preventive maint routine	Process stop , notify to supervisor ,maintenance, tool maker, adjust process
210.11	Press	Minster			Press not Run @ Inch Mode		Press running in correct mode	Visual / Mannual	100%	during the shifth	(P) -MFG inspection -Q.C inspection -P- -Preventive maint routine	Process stop , notify to supervisor ,maintenance, tool maker, adjust process
210.12	Press	Minster			Correct start in continuous mode		Press running in correct mode	Visual / Mannual	100%	during the shifth	(P) -Operator method -D- -MFG inspection -Q.C inspection -first sample released	Process stop , notify to supervisor ,maintenance, tool maker, adjust process
210.13	Press	Minster			Correct functionality the Resolver		Resolver without failures	Visual / Fault display in PLC program	100%	Continuos	(D) -Diagnostic fault displayin the screen -P- -Preventive maint routine	Process stop , notify to supervisor ,maintenance, tool maker, adjust process
210.14	Press	Minster			Not flywheel bearing failures		Flywheel bearing in optimus conditions	Visual / Fault display in PLC program	100%	each preventive maintenance	(D) -Diagnostic Fault Display / Sealed bearing -Preventive maintenance	Process stop , notify to supervisor ,maintenance, tool maker, adjust process
210.15	Press	Minster		Terminal not damaged			Terminal without damaged	Visual / Microscope	1 sample	each set up	(P) -Operator method -first sample released -mfg inspection -QC final audit	Process stop , notify to supervisor ,maintenance, tool maker, adjust process
220	Bolster	Minster			within parallelism		Correct Parallelism	Visual / measurement equipment	100%	each set up	(P) -Set up method -Preventive maint -D- -Released of set up for mfg first sample released -MFG inspection -Q.C final audit	Process stop , notify to supervisor, tool maker, adjust process
220.05	Bolster	Minster			Micro adjust in good condition		Correct Micro adjust	Visual / measurement equipment	100%	Each set up	(P) -Preventive maint routine -D- -First sample released -MFG inspection -Q.C final audit,Press shut down	Process stop , notify to supervisor, tool maker, adjust process
230	Chutes / blowoff	Chutes / blowoff			machine rails free of jams		Rail in correct adjustment / without jams	Visual , preventive maintenance routine	100%	Each set up	(P) -Set up method -Preventive maint -D- -Set up released by manufacturing -Machine stop -Ffirst sample released -MFG insp -Q.C final audit	Process stop , notify to supervisor, maintenance, adjust process.
240	Central lube system	System lube			Pump functional		Pump in correct operation	Visual / Fault display in PLC program	100%	Continuos	(D) -Diagnostic fault display -P- -Preventive maint routine	Process stop , notify to supervisor, maintenance, adjust process.
240.02	Central lube system	System lube			Proximity sensors Functional		Sensor in correct operation	Fault display in PLC program	100%	Continuos	(D) -Diagnostic fault display -P- -Preventive maint routine	Process stop , notify to supervisor, maintenance, adjust process.
240.03	Central lube system	System lube			Functional float switches		Correct operation of float	visual / Fault display in PLC program	100%	Continuos	(D) -Diagnostic fault display -P- -Preventive maint routine	Process stop , notify to supervisor, maintenance, adjust process.
240.04	Central lube system	System lube			Valve functional		Correct function of valve	Visual / Fault display in PLC program	100%	Continuos	(D) -Diagnostic fault display -P- -Preventive maint	Process stop , notify to supervisor, maintenance, adjust process.
240.05	Central lube system	System lube			Apropiate mix ratio		Pump in Correct function	Visual / Fault display in PLC program	100%	Continuos	(D) -Diagnostic fault display -P- -Preventive maint routine	Process stop , notify to supervisor, maintenance, adjust process.
250	Blanking Details (tool)	Details die			not Excessive Wear		Tooling in good condition	Visual / Preventive maintenance routine	100%	each setup / preventive maintenance	(D) -First sample released -MFG inspection -Q.C final audit -Preventive maint routine -P- -Tool maker set up using optical comparator	notify to supervisor, tool room, adjust process.
250.03	Blanking Details (tool)	Details die			Correct Die detail design		Parts inside spec according drawing	visual / Tool maker set-up	100%	each set up	(D) -First sample released -MFG inspection -Q.C final audit -Preventive maint routine -P- -Tool maker set up	notify to supervisor, tool room, adjust process.

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
250.06	Blanking Details (tool)	Details die			Details without breakage		Details in optimus conditios	Visual / Tool maker set-up	100%	each set up	(D) -First sample released -MFG inspection -Q.C final audit -Preventive maint routine -P- -Tool maker set up	notify to supervisor, tool room, adjust process.
250.1	Blanking Details (tool)	Details die			Chamber punch is functional		Parts inside spec	Visual / Tool maker set-up	100%	each set up	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -Tool maker set up	notify to supervisor, tool room, adjust process.
250.11	Blanking Details (tool)	Details die		correct terminal Progression			Progression according process card	Visual / tool maker set-up	1 sample	each set up	(P) -process card -D- -set up released by manufacturing first sample released -MFG insp -Q.C final audit	notify to supervisor, tool room, adjust process.
250.12	Blanking Details (tool)	Details die			Not broken bolts		Bolts not damaged	Visual / Tool maker set-up	100%	each set up	(P) -Set up method -D- -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit	notify to supervisor, tool room, adjust process.
250.13	Blanking Details (tool)	Details die		Coin within of specification			Within especification according iio / drawing	Visual / measurement equipment / Tool maker set-up	1 sample	each set up	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	notify to supervisor, tool room, adjust process.
250.14	Blanking Details (tool)	Details die		Stamping PED			Presence of the PED stamping on the body of the terminal. according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.141	Blanking Details (tool)	Details die		Stamping PED			Presence of the PED stamping on the body of the terminal. according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours.	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
250.15	Blanking Details (tool)	Details die		Die Serial Number Stamping			Presence of the stamping according to the tool as appropriate and must be below the transition area of the body according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.151	Blanking Details (tool)	Details die		Die Serial Number Stamping			Presence of the stamping according to the tool as appropriate and must be below the transition area of the body according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours.	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
250.16	Blanking Details (tool)	Details die		ID Cable			Presence of the ID Cable in the insulation wings according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.161	Blanking Details (tool)	Details die		ID Cable			Presence of the ID Cable in the insulation wings according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours.	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
250.17	Blanking Details (tool)	Details die		Code of the week			Presence of the week code in the body of the terminal. according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.171	Blanking Details (tool)	Details die		Code of the week			Presence of the week code in the body of the terminal. according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours.	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
250.18	Blanking Details (tool)	Details die		Hole in insulation wings (when apply)			Presence of the hole in the insulation wings according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.181	Blanking Details (tool)	Details die		Hole in insulation wings (when apply)			Presence of the hole in the insulation wings according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours.	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
250.19	Blanking Details (tool)	Details die		Ribs on the tongue.			Presence of two ribs on the tongue of the terminal according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.191	Blanking Details (tool)	Details die		Ribs on the tongue.			Presence of two ribs on the tongue of the terminal according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours.	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
250.2	Blanking Details (tool)	Details die		Inlays in the box			Presence of 2 inlays in the upper part of the box. according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.201	Blanking Details (tool)	Details die		Inlays in the box			Presence of 2 inlays in the upper part of the box. according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours.	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
250.21	Blanking Details (tool)	Details die		Blank Location of the Serrations(squares); serrations(stripes) or knurls; (. (As applicable).			Presence of serration(squares), serration(stripes) or knurls on core wings (as applicable) according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.22	Blanking Details (tool)	Details die		Blank Width of the core wings.			Within especification according IIO / Drawing	Visual / OGP, keyence	1.- QC (1 sample;)	1.-Set-up, Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.23	Blanking Details (tool)	Details die		Blank Width of the insulation wings.			Within especification according IIO / Drawing	Visual / OGP, keyence	1.- QC (1 sample;)	1.-Set-up, Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.231	Blanking Details (tool)	Details die		Blank width of the coin on the back of the box			Within especification according IIO / Drawing	Visual / OGP, keyence	1.- QC (1 sample;)	1.-Set-up, Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.24	Blanking Details (tool)	Details die		Serration(stripes) Depth (as applicable)			Within especification according IIO / Drawing	Visual / OGP, keyence	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.241	Blanking Details (tool)	Details die		Serration(squares) Depth (as applicable)			Within especification according IIO / Drawing	Visual / OGP, keyence	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.2411	Blanking Details (tool)	Details die		Depth of the tongue inlay.			Within especification according IIO / Drawing	Visual / OGP, keyence	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.2411	Blanking Details (tool)	Details die		Knurls Depth (as applicable)			Within especification according IIO / Drawing	Visual / OGP, keyence	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.3	Blanking Details (tool)	Details die		Serrations(squares); (As applicable).			Presence of serration(squares), on core wings (as	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
							applicable) according iio / drawing					
250.301	Blanking Details (tool)	Details die		Serrations(squares); (As applicable).			Presence of serration(squares), on core wings (as applicable) according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
250.31	Blanking Details (tool)	Details die		Serrations(stripes); (As applicable).			Presence of serration(stripes), on core wings (as applicable) according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.311	Blanking Details (tool)	Details die		Serrations(stripes); (As applicable).			Presence of serration(stripes), on core wings (as applicable) according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
250.32	Blanking Details (tool)	Details die		Knurls; (As applicable).			Presence of knurls on core wings (as applicable) according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.321	Blanking Details (tool)	Details die		Knurls; (As applicable).			Presence of knurls on core wings (as applicable) according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
250.33	Blanking Details (tool)	Details die		No burrs in coins areas.			Burrs are not allowed in coins areas according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.331	Blanking Details (tool)	Details die		No burrs in coins areas.			Burrs are not allowed in coins areas according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260	Forming details (tool)	Details die			Tool is free of Excessive Wear		Tool free wear	Visual	100%	each setup	(P) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Tool maker set up	Contact Supervisor, tool maker, adjust process
260.01	Forming details (tool)	Details die			Correct tool		Correct tool according drawing	Visual	100%	each setup	(P) -Preventive maintenance routine -Set up released for mfg -MFG inspection -QC final audit -Set up released -Tool maker set up	Contact Supervisor, tool maker, adjust process
260.04	Forming details (tool)	Details die			Correct design of the die details		Correct details according drawing	Visual	100%	each setup	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up,Tool maker Verification of Critical Stations according to format.	Contact Supervisor, tool maker, adjust process
260.09	Forming details (tool)	Details die			tool not Breakage		Tooling without breakage	Visual	100%	each setup	(P) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Tool maker set up	Contact Supervisor, tool maker, adjust process
260.12	Forming details (tool)	Details die			Not Over Driven Rocker Station		cero problems, proper adjustment	Visual, Preventive maintenance routine / Tool maker set-up	100%	each setup	(D) -released of set up for mfg -first sample released -MFG inspection -Q.C final audit -P- Tool maker set up	Contact Supervisor or maintenance and tool maker, adjust process
260.14	Forming details (tool)	Details die	25	Coins on the wings p/n: 33350989,33351002,33351008,		QCI 25	.125 +/- .075 mm Dimentions of coins the wings within especification	Visual / OGP, Optical comparator.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Tool maker set up -D- -Set up released by manufacturing -First sample released -Q.C final audit -Q.C IIO inspection	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
							according IIO / Drawing					
260.141	Forming details (tool)	Details die	30	Coins on the wings p/n:33350987,33350990,33350993,33350995,33350997,33350999		QCI 30	.125 +/- .075 mm Dimentions of coins the wings within especification according IIO / Drawing	Visual / OGP, Optical comparator.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Tool maker set up -D- -Set up released by manufacturing - First sample released -Q.C final audit -Q.C IIO inspection	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.15	Forming details (tool)	Details die		Correct gap within specification			.53 - .67 mm according product drawing / IIO	Visual / OGP, keyence, / 3.- Vision	1.- QC (1 sample;) 3.- 100%	1.-Set-up, Final audit, Process adjustment,Last run; 3.-continuos	(D) -Preventive maint. routine - Tool maker set up -D- -Set up released by manufacturing - First sample released -MFG insp -Q.C final audit -IIO - Vision system -Keyence.	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.16	Forming details (tool)	Details die	6	Corner seam on top, both side must be closed p/n:33350987,33350990,33350993,33350995,33350997,33350999		QCI 6	Corner Seam on top closed accordin drawing / IIO	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(D) -Preventive maint. routine - Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp - Q.C final audit -AVP inspection -IIO	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.161	Forming details (tool)	Details die	6	Corner seam on top, both side must be closed p/n:33350987,33350990,33350993,33350995,33350997,33350999		QCI 6	Corner Seam on top closed accordin drawing / IIO	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(D) -Preventive maint. routine - Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp - Q.C final audit -AVP inspection -IIO	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.162	Forming details (tool)	Details die	1	Corner seam on top, both side must be closed p/n:33350989,33351002,33351008		QCI 1	Corner Seam on top closed accordin drawing / IIO	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(D) -Preventive maint. routine - Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp - Q.C final audit -AVP inspection -IIO	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.1621	Forming details (tool)	Details die	1	Corner seam on top, both side must be closed p/n:33350989,33351002,33351008		QCI 1	Corner Seam on top closed accordin drawing / IIO	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(D) -Preventive maint. routine - Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp - Q.C final audit -AVP inspection -IIO	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.17	Forming details (tool)	Details die	24	Coin at the top rear of the box p/n: 33350997,33350990,33350993,33350995,33350997,33350999		QCI 24	.125 +/- .075 mm Dimentions of coins the wings within especification according IIO / Drawing	Visual / OGP, Optical comparator.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Tool maker set up -D- -Set up released by manufacturing - First sample released -Q.C final audit -Q.C IIO inspection	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.171	Forming details (tool)	Details die	22	Coin at the top rear of the box p/n: 33350989,33351002,33351008		QCI 22	.125 +/- .075 mm Dimentions of coins the wings within especification according IIO / Drawing	Visual / OGP, Optical comparator.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Tool maker set up -D- -Set up released by manufacturing - First sample released -Q.C final audit -Q.C IIO inspection	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.18	Forming details (tool)	Details die	1	Heigth of box p/n: 33350987,33350989,33350990,33350993,33350995,33350997,33350999,33351002,33351008		FF1	2.9 +/- .1 mm within especification according IIO / Drawing	Visual / Keyence / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(D) -Preventive maint. routine - Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp - Q.C final audit -AVP inspection -IIO	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.19	Forming details (tool)	Details die	2	Width of box p/n:33350987,33350989,33350990,33350993,33350995,33350997,33350999,33351002,33351008		FF2	4.25 +/- .05 mm within especification according IIO / Drawing	Visual / OGP, keyence, / 3.- Vision	1.- QC (1 sample;) 3.- 100%	1.-Set-up, Final audit, Process adjustment,Last run; 3.-continuos	(D) -Preventive maint. routine - Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp - Q.C final audit -AVP inspection -IIO -Vision system	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.191	Forming details (tool)	Details die	22	Width of box p/n:10757690-7691,10762770,10762772,10762803,13627267,1		CS 22	4.25 +/- .05 mm within especification according IIO / Drawing	Visual / OGP, keyence, / 3.- Vision	1.- QC (1 sample;) 3.- 100%	1.-Set-up, Final audit, Process adjustment,Last run; 3.-continuos	(D) -Preventive maint. routine - Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp -	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
				3681975,13948955,13979933,15470590,15509075,15512657,15543466-3468,33123734,33153107,33350987,33512053,335120583351206 2-2063,							Q.C final audit -AVP inspection -IIO -Vision system	
260.1911	Forming details (tool)	Details die	22	Width of box p/n:35229817, 35294097,35294098, 33370369,35270378, 35589655		CS 22	4.25 +/- .05 mm within especification according IIO / Drawing	Visual / OGP, keyence, / 3.- Vision	1.- QC (1 sample;) 3.- 100%	1.-Set-up, Final audit, Process adjustment,Last run; 3.-continuos	(D) -Preventive maint. routine - Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp - Q.C final audit -AVP inspection -IIO -Vision system	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.192	Forming details (tool)	Details die		Insulation wing height difference.			Within especification according IIO / Drawing	Visual / OGP, keyence.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(D) -Preventive maint. routine - Tool maker set up -D- -Set up released by manufacturing first sample released --Q.C final audit -IIO.	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.193	Forming details (tool)	Details die		Core wing height difference.			Within especification according IIO / Drawing	Visual / OGP, keyence.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(D) -Preventive maint. routine - Tool maker set up -D- -Set up released by manufacturing first sample released --Q.C final audit -IIO.	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.193	Forming details (tool)	Details die		Insulation wing angle.			Within especification according IIO / Drawing	Visual / OGP, keyence.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(D) -Preventive maint. routine - Tool maker set up -D- -Set up released by manufacturing first sample released --Q.C final audit -IIO.	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.194	Forming details (tool)	Details die		Step between insulation wings and conductor wings.			Within especification according IIO / Drawing	Visual / OGP, keyence.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(D) -Preventive maint. routine - Tool maker set up -D- -Set up released by manufacturing first sample released --Q.C final audit -IIO.	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.195	Forming details (tool)	Details die		Distance from the front of the box to the lower window.			Within especification according IIO / Drawing	Visual / OGP, keyence.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(D) -Preventive maint. routine - Tool maker set up -D- -Set up released by manufacturing first sample released --Q.C final audit -IIO.	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.196	Forming details (tool)	Details die		Width of the core wings.			Within especification according IIO / Drawing	Visual / OGP, keyence, / 3.- Vision	1.- QC (1 sample;) 3.- 100%	1.-Set-up, Final audit, Process adjustment,Last run; 3.-continuos	(D) -Preventive maint. routine - Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp - Q.C final audit -AVP inspection -IIO -Vision system	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.197	Forming details (tool)	Details die		Width of the insulation wings.			Within especification according IIO / Drawing	Visual / OGP, keyence, / 3.- Vision	1.- QC (1 sample;) 3.- 100%	1.-Set-up, Final audit, Process adjustment,Last run; 3.-continuos	(D) -Preventive maint. routine - Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp - Q.C final audit -AVP inspection -IIO -Vision system	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.2	Forming details (tool)	Details die		Not Fractures, bumps and fissures			No Fractures, bumps and fissures are not allowed in the entire terminal, especially in the transition areas. according IIO / Drawing	Visual / Microscope / OGP.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(D) -Preventive maint. routine - Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp - Q.C final audit -AVP inspection -IIO	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.21	Forming details (tool)	Details die		Not Fractures, bumps and fissures			No Fractures, bumps and fissures are not allowed in the entire terminal, especially in the transition areas. according IIO / Drawing	Visual / Microscope / OGP.	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(D) -Preventive maint. routine - Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp - Q.C final audit -AVP inspection -IIO	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.34	Forming details (tool)	Details die		Insulation wings Curls (as applicable)			Insulation wing curls should be inward	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
							according iio / drawing					
260.341	Forming details (tool)	Details die		Insulation wings Curls (as applicable)			Insulation wing curls should be inward according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.35	Forming details (tool)	Details die		Back of the box.			Back of box is properly shaped according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.351	Forming details (tool)	Details die		Back of the box.			Back of box is properly shaped according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.36	Forming details (tool)	Details die		Internal clip.			Open the terminal body, take out the clip and make sure the clip has no die marks, burrs or excess material according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.361	Forming details (tool)	Details die		Internal clip.			Open the terminal body, take out the clip and make sure the clip has no die marks, burrs or excess material according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.37	Forming details (tool)	Details die		Clip position.			The tip of the clip must be on the back (rear) of the front folds of the box. according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.371	Forming details (tool)	Details die		Clip position.			The tip of the clip must be on the back (rear) of the front folds of the box. according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.38	Forming details (tool)	Details die		Coins on core wings			Presence coins on core wings according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.381	Forming details (tool)	Details die		Coins on core wings			Presence coins on core wings according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.39	Forming details (tool)	Details die		Coins on insulation wings(as applicable)			Presence coins on insulation wings according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.391	Forming details (tool)	Details die		Coins on insulation wings(as applicable)			Presence coins on insulation wings according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.4	Forming details (tool)	Details die		Coins in the box and transition area.			Coins are present at the back of the box and in the transition area between the body and the box according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
260.401	Forming details (tool)	Details die		Coins in the box and transition area.			Coins are present at the back of the box and in the transition area between the body and the box according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.41	Forming details (tool)	Details die		Clip ears.			The ears of the clip are seated correctly in the side windows of the terminal box according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.411	Forming details (tool)	Details die		Clip ears.			The ears of the clip are seated correctly in the side windows of the terminal box according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.42	Forming details (tool)	Details die		Side windows of the terminal body (Top and bottom).			Presence of the upper and lower side windows in the body of the terminal and that they are properly formed according drawing / IIO	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.421	Forming details (tool)	Details die		Side windows of the terminal body (Top and bottom).			Presence of the upper and lower side windows in the body of the terminal and that they are properly formed according drawing / IIO	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.43	Forming details (tool)	Details die		Arc camber			Within especification according IIO / Drawing	Visual / manual / G-9396	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.44	Forming details (tool)	Details die		Burr in other areas			Within especification according IIO / Drawing	Visual / OGP / Optical comparator	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.45	Forming details (tool)	Details die		Assembly test.			Within especification according IIO / Drawing	Visual / Manual / G-F009 / Force tester	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.46	Forming details (tool)	Details die		Clip Height			Within especification according IIO / Drawing	Visual / OGP / Optical comparator	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.47	Forming details (tool)	Details die		Clip Length			Within especification according IIO / Drawing	Visual / OGP / Optical comparator	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.5	Forming details (tool)	Details die		Length wings excluding the driver coin.			Within especification according IIO / Drawing	Visual / OGP / Optical comparator	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.51	Forming details (tool)	Details die		Length wings insulation.			Within especification according IIO / Drawing	Visual / OGP / Optical comparator	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.52	Forming details (tool)	Details die		Length of the front of the wings of the core to the rear wing of the insulation.			Within especification according IIO / Drawing	Visual / OGP / Optical comparator	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
260.53	Forming details (tool)	Details die		Length of the front to the back of the box.			Within especification according IIO / Drawing	Visual / OGP / Optical comparator	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.54	Forming details (tool)	Details die		Length of the front of the box to the front of the wings of the core			Within especification according IIO / Drawing	Visual / OGP / Optical comparator	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.55	Forming details (tool)	Details die		Plating orientation in the terminal.(as applicable)			Correct orientation of the plating according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
270	Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Tools details die			Retainers, stripper plates, square or parallel		Tool alignment/Correctly adjustment	Preventive maintenance routine / Tool maker set-up	100%	each set up	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	notify to supervisor, tool maker, adjust process
270.06	Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Tools details die			Spring functional properly		No problems with worn / broken spring	Visual / Preventive maintenance routine / Tool maker set-up	100%	each set up	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	notify to supervisor, tool maker, adjust process
270.08	Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Tools details die			Correct spring in die		Correct Spring according drawing	Visual / Preventive maintenance routine / Tool maker set-up	100%	each set up	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	notify to supervisor, tool maker, adjust process
270.12	Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Tools details die		Insulation wings within of spec			Dimention of wings withing especification according IIO / Drawing	visual / OGP / digital caliper/ Keyence	1 sample	each setup	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -Vision system -P- -Preventive maint. routine	notify to supervisor, tool maker, adjust process
270.15	Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Tools details die		Core wings within of spec			Dimention of wings withing especification according IIO / Drawing	visual / OGP / digital caliper / Keyence	1 sample	each setup	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -Vision system -P- -Preventive maint. routine	notify to supervisor, tool maker, adjust process
280	Clip Assembly (tool)	Die		Clip present	Tool not breakage		Clip present according product drawing	Visual	1 sample	each setup	(D) -Operator method -Helm load monitor -Vision system	Contact Supervisor and tool maker , adjust and revalidate the process.
280.01	Clip Assembly (tool)	Die		Correct form wings the clip	Correct tool		correct wings according drawing	Visual/ Ogp/Keyence	1 sample	each setup	(D) -Operator method -First sample release -Tool maker released -Helm load monitor	Contact Supervisor and tool maker , adjust and revalidate the process.
280.02	Clip Assembly (tool)	Die		Wings of clip without burrs	Correct desing of detail		Wings without burrs	Visual	1 sample	each setup	(D) -Operator method -First sample release	Contact Supervisor and tool maker , adjust and revalidate the process.
280.03	Clip Assembly (tool)	Die		Dimention of clip within especification	Die detail made properly		Parts inside spec according drawing	Ogp/Keyence	1 sample	each setup	(D) -Operator method -First sample release -Tool maker released -IIO -Tool adjustment instruction	Contact Supervisor and tool maker , adjust and revalidate the process.
280.04	Clip Assembly (tool)	Die		Correct assembly of clip	Tool without wear / correct adjust		Correct assembly of clip in terminal according product drawing	Visual	1 sample	each setup	(D) -Operator method -First sample release -QC inspection -Helm load system -Vision System	Contact Supervisor and tool maker , adjust and revalidate the process.
280.05	Clip Assembly (tool)	Die		Gap of terminal within of specification	Tool without wear / correct adjust		.53 - .67 mm according drawin / IIO	Keyence / Ogp according IIO	1 sample	each setup	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Helm load system -Vision System	Contact Supervisor and tool maker , adjust and revalidate the process.
290	Helm load system	Helm		Clip present within terminal	Wire not broken		Clip present	Visual / vision	100%	continuos	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing -First sample released by Q -MFG insp -Q.C final audit -Vision system (GAP)	Contact Supervisor, tool maker or maintenance, adjust and revalidate the process.
290.01	Helm load system	Helm		Clip present within terminal	Wire not broken		Clip present	Visual / vision	100%	continuos	(P)-Prev maint. routine -Tool maker set up -D- -set up released by Mfg first sample released -MFG insp -Q.C final audit -Helm load system -	Contact Supervisor, tool maker or maintenance, adjust and revalidate the process.

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
											Vision System (GAP) -Bad terminal cutted from te carrier	
290.02	Helm load system	Helm		Clip present within terminal	Wire not broken		Clip present	Visual / vision	100%	continuos	(P) -Tool maker set up -D- -Set up released by manufacturing -first sample released -MFG insp -Q.C final audit -Vision System (GAP)	Contact Supervisor, tool maker or maintenance, adjust and revalidate the process.
290.03	Helm load system	Helm		Clip present within terminal	Load cell not damaged		Clip present	Visual / vision	100%	continuos	(P) -Tool maker set up -D- -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Vision System (GAP) -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	Contact Supervisor, tool maker or maintenance, adjust and revalidate the process.
290.04	Helm load system	Helm		Clip present within terminal	Tooling of Load cell not damaged		Clip present	Visual / vision	100%	continuos	(D) -Tool maker set up -D- -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Vision System (GAP) -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	Contact Supervisor, tool maker or maintenance, adjust and revalidate the process.
290.05	Helm load system	Helm		Terminal without clip cut	Cutter present		terminals without clip cut	Visual / vision	100%	continuos	(D) -Tool maker set up -D- -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Vision System (GAP) -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	Contact Supervisor, tool maker or maintenance, adjust and revalidate the process.
290.06	Helm load system	Helm		Clip present within terminal	Helm trained		Clip present	Visual / vision	100%	continuos	(D) -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Vision System (GAP) -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	Contact Supervisor, tool maker or maintenance, adjust and revalidate the process.
300	Vision system	Vision System			Program in correct condition for operation		Correct adjusment in vision system	Fault display in PLC program	100%	Continuous	(D) -In process inspection/ stabilized rails in vision block -MFG inspection -QC released	Stop process, Contact Supervisor or maintenance, adjust process
300.01	Vision system	Vision System			" Vision on "		Vision on	Fault display in PLC program	100%	Continuous	(D) -In process inspection/ trolling bit logic -MFG inspection -Q.C inspection	Stop process, Contact Supervisor or maintenance, adjust process
300.02	Vision system	Vision System			Vision system free of variation		Correct adjusment in vision system	Fault display in PLC program	100%	Continuous	(D) -Setup/In-process inspection -MFG inspection -Q.C Inspection	Stop process, Contact Supervisor or maintenance, adjust process
300.03	Vision system	Vision System			Vision free of nuisance fault		vision worked correctly	Fault display in PLC program	100%	Continuous	(D) -Blow Offs -P- -Preventive maint. routine-Lead in / Vision Block with support rails / subsequent operation.	Stop process, Contact Supervisor or maintenance, adjust process
300.05	Vision system	Vision System			Vision free of failed to locate part		vision worked correctly	Fault display in PLC program	100%	Continuous	(D) -Diagnostic Fault Display -Machine stop	Stop process, Contact Supervisor or maintenance, adjust process
300.08	Vision system	Vision System			Trigger precent and functional		vision worked correctly	Sensor of trigger	100%	Continuous	(D) -Keyence Fiber Optic Trigger	Stop process, Contact Supervisor or maintenance, adjust process
300.14	Vision system	Vision System		Dimentions within specifications(width of the box (front, back and middle of terminal)			4.20 - 4.30 mm according Product drawing / IIO	Vision	100%	Continuous	Set-up released, First sample released, Inspection QC, -Automatic cutting of rejected samples	Stop process, Contact Supervisor, maintenance, tool maker, verify and recalibrate,
300.15	Vision system	Vision System		Dimentions within specifications(gap lefth / rigth of terminal)			.53 -.67 mm according Product drawing / IIO	Vision	100%	Continuous	Set-up released, First sample released, Inspection QC, -Automatic cutting of rejected samples	Stop process, Contact Supervisor, maintenance, tool maker, verify and recalibrate,
300.16	Vision system	Vision System		Dimentions within specifications(wide core wings and insulation of terminal) according each p/n			within especification according product drawing / IIO	Vision	100%	Continuous	Set-up released, First sample released, Inspection QC, -Automatic cutting of rejected samples	Stop process, Contact Supervisor, maintenance, tool maker, verify and recalibrate,

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
310	Grease post aplication (if apply)	Aplicator of grease		Correct grase			Correct grease according IIO / Drawing	Visual	on time	each setup	(D) -Process card -Operator method -MFG inspection -First piece released -QC inspection	noify Supervisor or QC , Maintenance, adjust of process
310.01	Grease post aplication (if apply)	Aplicator of grease		Correct application (no Too much grease or enough grease)			Correct application according drawing	Visual / applicator	100%	continuos	(D) -Process card -Operator method	Notify Supervisor or QC , Maintenance, adjust of process
310.02	Grease post aplication (if apply)	Aplicator of grease		Grease present			Grease present	Visual / Microscope / OGP 4.-sensor	1.- QC (1 sample;) 4.- 100%	1.-Set-up, Final audit, Process adjustment,Last run; 4.- Continuos	(D) -Low level sensor in grease pump -UV sensor in nest of application -Operathor method / IIO	Notify Supervisor or QC , Maintenance, Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
310.021	Grease post aplication (if apply)	Aplicator of grease		Grease present			Grease present	Visual / Microscope	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours.	(D) -Low level sensor in grease pump -UV sensor in nest of application -Operathor method / IIO	Notify Supervisor or QC , Maintenance,Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
310.08	Grease post aplication (if apply)	Aplicator of grease		Grease within of the terminal			correct application	Visual / applicator	100%	continuos	(D) -Process card -QC inspection	Notify Supervisor or QC , Maintenance, adjust of process
310.09	Grease post aplication (if apply)	Aplicator of grease		Enough grease			correct application	Visual / applicator	100%	continuos	(D) -Process card -First sample release -Automated sensor in the machine	Notify Supervisor or QC , Maintenance, adjust of process
320	Automatic reject cut system by vision system	Automatic reeler		Bad part cutted	Functional loop sensor		Parts bad cutted	Visual / Cut Automatic / Sensor	100%	Continuous	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press	Notify to Supervisor or QC , Maintenance, verified and adjust process
320.01	Automatic reject cut system by vision system	Automatic reeler		Bad part cutted	correct presion of winder		Parts bad cutted	Visual / Cut Automatic / Sensor	100%	Continuous	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press	Notify to Supervisor or QC , Maintenance, verified and adjust process
320.02	Automatic reject cut system by vision system	Automatic reeler		Bad part cutted	System with knives		Parts bad cutted	Visual / Cut Automatic / Sensor	100%	Continuous	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press -Preventive maintenance	Notify to Supervisor or QC , Maintenance, verified and adjust process
320.03	Automatic reject cut system by vision system	Automatic reeler		Bad part cutted	Correct feed length load in the winder		Parts bad cutted	Visual / Cut Automatic / Sensor	100%	Continuous	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press	Notify to Supervisor or QC , Maintenance, verified and adjust process
320.04	Automatic reject cut system by vision system	Automatic reeler		Bad part cutted	Winder counter in possition / not damage		Parts bad cutted	Visual / Cut Automatic / Sensor	100%	Continuous	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press -MFG inspection	Notify to Supervisor or QC , Maintenance, verified and adjust process
320.05	Automatic reject cut system by vision system	Automatic reeler		Bad part cutted	Correct vision signal		Parts bad cutted	Visual / Cut Automatic / Sensor	100%	Continuous	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press -MFG inspection -Preventive maintenance	Notify to Supervisor or QC , Maintenance, verified and adjust process
320.06	Automatic reject cut system by vision system	Automatic reeler		Bad part cutted	Vision On		Parts bad cutted	Visual / Cut Automatic / Sensor	100%	Continuous	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press -MFG inspection -Preventive maintenance	Notify to Supervisor or QC , Maintenance, verified and adjust process
320.07	Automatic reject cut system by vision system	Automatic reeler		Bad part cutted	Winding in automatic mode		Parts bad cutted	Visual / Cut Automatic / Sensor	100%	Continuous	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control cut the terminal detected in continue and manual mode -MFG inspection -Preventive maintenance	Notify to Supervisor or QC , Maintenance, verified and adjust process
330	Automatic reeler	Automatic reeler		Wrap in correct aplication			Correct wrap	Visual / manual	100%	Continuous	(P) -Set up method -D- -First sample released -MFG inspection -QC final audit	Notify to Supervisor or QC , Maintenance, verified and adjust process
330.03	Automatic reeler	Automatic reeler		correct winder direction			Direction correct according method	Visual	100%	Each reel	(D) -Set up method -D- -First sample released -MFG insp -Q.C final audit	Notify to Supervisor or QC , Maintenance, verified and adjust process
330.04	Automatic reeler	Automatic reeler		Proper splice			Correct splice	Visual / manual	100%	Each reel	(D) -Operator method -MFG inspection	Notify to Supervisor or QC , Maintenance, verified and adjust process
330.05	Automatic reeler	Automatic reeler		Terminal in correct position of reel			correct position accordin drawing	Visual / manual	100%	Each reel	(P) -Set up card -D- -First sample released -MFG insp -Q.C final audit	Notify to Supervisor or QC , Maintenance, verified and adjust process

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
330.09	Automatic reeler	Automatic reeler		correct alignment of paper not out wrap of reel			Correct alignament of paper in the reel	Visual / manual	100%	Each reel	(P) -Set up -Operator method -D- -First sample released -MFG inspection -Q.C final audit	Notify to Supervisor or QC , Maintenance, verified and adjust process
330.1	Automatic reeler	Automatic reeler		not Twisted at hub of reel			Paper not twisted	Visual / manually	100%	Each reel	(P) -Set up -Operator method -D- -First sample released -MFG inspection -Q.C final audit	Notify to Supervisor or QC , Maintenance, verified and adjust process
330.12	Automatic reeler	Automatic reeler		No paper between terminals			Correct application of paper	Visual / manually	100%	Each reel	(P) -Set up -Operator method -D- -First sample released -MFG inspection -Q.C final audit	Notify to Supervisor or QC , Maintenance, verified and adjust process
340	Unload reel	None		Proper handling of material			Material not damaged	Visual	100%	Each reel	(P) -Operator method -D- -Q.C final inspection	Notify to Supervisor or QC , verified and adjust process
340.01	Unload reel	None			Flow correct of material		Material correct	Visual	100%	Each reel	(P) -Operator method -D- -Q.C final inspection	Notify to Supervisor or QC , verified and adjust process
350	Print shipping label	None		Correct part			Correct P/N according to run	Scanner / visual aid	100%	Each container / label	(D) -Label is scanned	Notify to supervisor or QC, adjust process
350.01	Print shipping label	None		Correct ID in boxes			correct identified according method	Scanner / visual aid	100%	Each container / label	(P) -Label is scanned -D- -Q.C final audit	Notify to supervisor or QC, adjust process
350.02	Print shipping label	None		Correctly quantity of pieces			correct quantity according label	Counting system in machine	100%	Each reel	(P) -Counting system in n machine	Notify to supervisor or QC, adjust process
360	Apply shipping label	None		Correct part			P/N correct according run	Scanner / visual	100%	Each container / label	(D) -Label is scaned	Notify to supervisor, adjust process
360.01	Apply shipping label	None		Correct ID in boxes			Boxes identified correctly	visual	100%	Each container / label	(D) -Label scaned -QC final audit	Notify to supervisor, adjust process
360.02	Apply shipping label	None		Correctly quantity of pieces			quantity correct according label	Visual / Counter machine	100%	Each reel	(D) -Mfg inspection -QC inspection -Operator packing method	Notify to supervisor, adjust process
370	Process inspection by Mfg	None		Part does meet the specification			Parts good according IIO / Drawing	Visual / Microscope / Gages applicables according IIO	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(D) -Final audit by QC -Certificated material is stamping -Operator Inspection instruction	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
380	Annual Layout	None		P/N available			Sample available for each p/n	visual	1 pc	Initial ppap	(D) -Yearly inspection program	Notify to supervisor, adjust process, require piece to have available
380.01	Annual Layout	None		Dimentiosn according drawing			dimensions within specification according to the drawing	Measurement equipment OGP ,Optical comparator, digital caliper,keyence,laser, Gages applicables according IIO	1 pc	Initial ppap, as req'd by Cust., each year	(D) -Revision level available -History change available	Notify to supervisor, adjust process
380.02	Annual Layout	None			Inspection on time		Inspection within calendar according to the GSD	Visual / manual	1 pc	Initial ppap, as req'd by Cust, or each year.	(D) -Yearly inspection program	Notify to supervisor, adjust process, Perform sample inspection
390	Scan shipping label	Scanner		shipping label present			Present label	Visual / Scanner	100%	Each container	(D) -Container is not shipped	Notify to supervisor, adjust process,
390.01	Scan shipping label	Scanner			Scanned label		Label scanned	Visual / Scanner	100%	Each label	(D) -Container is not shipped	Notify to supervisor, adjust process,
400	QC audit	None		Verify attributes			According to VIG/Productg drawing / IIO	Visual/Gages applicables according IIO	1 pc	Minimum every 2 hours	D) -Inspection according IIO / VIG	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
400.01	QC audit	None		correct terminal			According to Product drawing and IIO	Visual	1 pc	Minimum every 2 hours	D) -Inspection according IIO / VIG	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
400.02	QC audit	None		Verify dimensions			According to Product drawing and IIO	Optical comparator, digital caliper, ogp,keyence, laser,according IIO	1 pc	Minimum every 2 hours	D) -Inspection according IIO / VIG	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
410	QC released	None		Label scanned			Label scanned	Visual / Scanner	All label	during the shifth	(D) -Operator method -Label scaned	Notify to supervisor, adjust process
410.01	QC released	None		Correct label released			Correct label released	Visual / Scanner	All label	during the shifth	(D) -Operator method -Label scaned	Notify to supervisor, adjust process
410.02	QC released	None		legible label printed			Label legible	Visual / Scanner	All label	during the shifth	(D) -Operator method -Label scanned -Manual print of label in materials	Notify to supervisor, adjust process
410.03	QC released	None		label present			Label available	Visual	All label	during the shifth	(D) -Operator method -Label scanned -Manual print of label in materials	Notify to supervisor, adjust process

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
410.04	QC released	None		correct label in box			Label correct in the box	Visual / Scanner	All label	during the shifth	(D) -Material retuned to quality area	Notify to supervisor, adjust process
420	Move parts to PPAP area (If apply)	None		Pack not Damage			Pack without damage	Visual	all containers	During the shift	(D) -Material retuned to quality area	Notify to supervisor, adjust process, change pack
430	Move good reels to supermarket area (If apply)	Carrier car			Correct handling of containers, Material moved inspected.		Material inspected	visual	100%	Each Container	(P) -Operator method -QC final inspection	Verified and return material of area the mfg.
430.01	Move good reels to supermarket area (If apply)	Carrier car		Terminal not damaged			Not damaged terminals	visual	100%	Each Container	(D) -Operator method -MFG inspection	Verified and return material of area the mfg.
430.02	Move good reels to supermarket area (If apply)	Carrier car			Correct handling of containers, free of damaged		Packing without damage	visual	100%	Each Container	(D) -Operator method	Notify to supervisor, adjust process, scan container
430.04	Move good reels to supermarket area (If apply)	Carrier car		Terminal not damaged			Not damaged terminals	visual	100%	Each Container	(D) -Operator method -MFG inspection -QC inspection	Notify to supervisor, adjust process, scan container
440	Move parts to quarentine area (if apply)	Carrier car		Pack not damaged			Pack without damage	Each Movement	all container		(P) -Material is returned to quality area -Operator training	Notify to supervisor, Verified and change Pack
450	Quarentine (If apply)	None		Material identified			Identified present	Visual	All material	each container	(D) -Operator method -Visual ID	Notify to supervisor, Verified material and identified or scrap
450.01	Quarentine (If apply)	None		Material not mixed			Material correct on box	Visual	All material	each container	(D) -Operator method -Visual ID	Notify to supervisor, Verified material and identified or scrap
450.02	Quarentine (If apply)	None		Correct attributes			Attributes corrects according IIO / Vig / product drawing	Visual / magnifying glass 10x / Microscope	All material	Each reel or box	(D) -Operator method -Visual ID, VIG	Notify to supervisor, Verified material, separate rejected pieces for scrap.
460	Move part to EPS (If apply)	Carrier car		Pack not damaged			Pack without damage	visual	All material	each container	(D) -Material is returned to quality area -Operator training	Notify to supervisor, Verified and change Pack
470	EPS (If apply)	EPS		Material identified			Identified present	Visual / Bar read	All material	each container	(D) -Operator method work instruction -Scan	Notify to supervisor, Verified material and re-identified or scrap
480	Push delivery is elaborated	System			Push delivery elaborated		Push delivery present	Visual	100%	Each shipping	(D) Operator method	notify to supervisor, adjust process, make delivery
490	Shipping to distribution center	Carrier car			package not damaged		Pack free of damaged	Visual	each container	Each shipping	(P) Operator method -Operator certified	notify to supervisor, adjust process, separate the damaged packaging
490.01	Shipping to distribution center	Carrier car			container manifest		manifest containers	Visual/scanner	each container	Each shipping	(D) -Container is scanned	notify to supervisor, adjust process, manifest the container
490.02	Shipping to distribution center	Carrier car			correct destiny		Correct shipments according to destination	Visual/scanner	each container	Each shipping	(D) -Container is scanned	notify to supervisor, adjust process, correct the destination

• APTIV •

CONTROL PLAN

Part Certification

Control Plan Category [ ] Prototype [ ] Pre-Launch [X] Production	Key Contact Name VILLANUEVA, ARNULFO	Date (Orig) 4-May-2016	Date (Rev) 25-Nov-2022	Page 1	
Control Plan Number: 00000471 TOOL ID#5661216	Key Contact Phone +52 844 8663400 EXT 5411	Customer Engineering Approval (If Req'd)		Date (If Req'd)	
Part Number: (Delphi:35589655) / Ecl (Delphi:01)	Supplier / Plant Approval / Date VILLANUEVA, ARNULFO 11-Feb-2023	Customer Quality Approval (If Req'd)		Date (If Req'd)	
Part Name / Description (Delphi:ASM TERM F APEX 2.8 AG)	Other supplier approval by (If Req'd)	Other Approval (If Req'd)		Date (If Req'd)	
Supplier / Plant Delphi Packard Plant 84 MEXICO / Supplier Code 814988309	Other Approval Date (If Req'd)				
Core team Members VILLANUEVA, ARNULFO +52 844 8663400 EXT 5411 RAMIREZ CABELLO, EDGAR +52 01844 8663400 ALVARADO, JESUS +52 25903 8663400 CARBAJAL, ILIANA +52 844 8663400 EXT 5441 RAMIREZ, VERONICA 3 +52 844 4389060 PENA, JOSUE +52 844 8663400 AGUILAR, EFREN +52 (844) 4389060 EXT.2722 CARDENAS, CARLOS E +52 844 8663400 SIGALA, ARTURO +52 844 8663400					
Manufacturing plant maintains listing of all Gage Numbers					

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
10	Receive and unloading raw material at receiving area	None		Correct id material			Correct I.D. according n/p received	Visual	All material	Each raw material received	(D) -Inspection of material operator method IDT-001 and IDT-010	Notify to supervisor /Discrepancy is generated to the supplier,material is sent to incoming inspection
10.01	Receive and unloading raw material at receiving area	None		Material free of damaged			Materail not damaged	Visual	All material	Each raw material received	(D) -Inspection of material operator method IDT-001 and IDT-010	Notify to supervisor /Discrepancy is generated to the supplier,material is sent to incoming inspection.
10.02	Receive and unloading raw material at receiving area	None		Identification of material present			Material identified	Visual	All material	Each raw material received	(D) -Inspection of material operator method IDT-010	Notify to supervisor /Discrepancy is generated to the supplier,material is sent to incoming inspection
10.03	Receive and unloading raw material at receiving area	None		Correct stack(from warehouse)			Correct stack acording method	Visual	All pallet	Each raw material received	(D) - Operathor method IDT-001 - Operator certified	Notify to supervisor /Discrepancy is generated to the supplier,material is sent to incoming inspection
10.04	Receive and unloading raw material at receiving area	None		Correct stack (containers without damage)			Correct stack acording method	Visual	All pallet	Each raw material received	(D) - Operathor method IDT-001 - Operator certified -Operator method IDT-010	Notify to supervisor /Discrepancy is generated to the supplier,material is sent to incoming inspection
10.05	Receive and unloading raw material at receiving area	None		Correct stack from supplier			Correct stack acording method	Visual	All pallet	Each raw material received	(D) - Operator certified - Operator method IDT-010	Notify to supervisor /Discrepancy is generated to the supplier,material is sent to incoming inspection
20	Pyment process	None			Material verified with invoice		Material verified against invoice	Visual	All material	Each raw material received	(D) -Operator method IDT-010	Notify to supervisor, adjust process
20.01	Pyment process	None			correct register of part number and weigth		Correct register of p/n and weigth	Visual	All material	Each raw material received	(D) -Operator method IDT-010	Notify to supervisor and expedition / adjust process
20.02	Pyment process	None			Material paymented		Material Paymented	Visual / mannual	All material	Each raw material received	(D) -Operator method IDT-010	Notify to supervisor and expedition / adjust process, generate discrepancy
30	Identification of coils	None		Correct ID of coils			Material identified p/n correct	Visual	all coils	Each raw material received	(D) -Operator method IDT-010	Notify to supervisor; Adjust process (check and correctly identify the coils)
30.01	Identification of coils	None		ID of coils present			Material identified	Visual	all coils	Each raw material received	(D) -Operator method IDT-010 -Operator method IDT-007	Notify to supervisor; Adjust process (check and identify the coils)
30.02	Identification of coils	None		Label FIFO same to internal labels			Material identified (sames labels fifo and internal)	Visual / mannual	all coils	(D) -Operator method IDT-010 -Operator method IDT-007	(D) -Operator method IDT-010 -Operator method IDT-007	Notify to supervisor; Adjust process (check and correctly identify the coils)
40	Raw material register	None			Material register		Material register	Visual / mannual	all material	Each raw material received	(D) -Operator method IDT-007	Notify to supervisor; Adjust process (check and register material)
40.01	Raw material register	None			Register of arrival of material available		Register available	Visual	all material	Each raw material received	(D) -Operator method IDT-007	Notify to supervisor; Adjust process (check and register material)
40.02	Raw material register	None			Validation of tare and weight performed		Validation Material tara and weigth	Visual / scale	all material	Each raw material received	(D) -Operator method IDT-007	Notify to supervisor; Adjust process (check and validate material)
40.03	Raw material register	None		Material identified			Material identified	Visual	all material	Each raw material received	(D) -Operator method IDT-010 -Operator method IDT-007	Notify to supervisor; Adjust process (check and identify material) or send discrepancy
50	Correct orientation of selective raw material (If apply)	None		Correct orientation delivered to run			Correct orientation according visual aid	Visual	1 sample of a coil of the pallet	Each raw material received	(D) -Incoming Inspection DPNP-5.2-CS-OM-01.01 F01 -Visual ID	Notify to supervisor, adjust process(separate the material, place red label and generate discrepancy to the supplier)

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
60	Cut of sample for incomming inspection	shears of cutting			Sample cutted		Sample available	Visual	1 sample of a coil of the pallet	Each raw material received	(D) -Operator method IDT-007	Notify to supervisor, adjust process(cutted sample)
60.01	Cut of sample for incomming inspection	shears of cutting		Sample identified			Sample identified	Visual / mannual	1 sample of a coil of the pallet	Each raw material received	(D) -Operator method IDT-007	Notify to supervisor, adjust process(identified sample)
60.02	Cut of sample for incomming inspection	shears of cutting			Label Printed		Printed label	Visual / mannual	1 sample of a coil of the pallet	Each raw material received	(D) -Operator method IDT-010 -Operator method IDT-007	Notify to supervisor, adjust process(printed label)
60.03	Cut of sample for incomming inspection	shears of cutting		Correct dimention of sample			Correct dimention according method	Visual / mannual /metric rule	1 sample of a coil of the pallet	Each raw material received	(D) -Operator method IDT-007	Notify the supervisor, adjust the process (cut sample with the correct length)
70	Delivery of samples to inspection receipt	None			Available samples		Samples availables	Visual	1 sample of a coil of the pallet	Each raw material received	(P) -Operator method IDT-011 -Operator method IDT-007	Notify to supervisor, adjust process(deliver samples)
80	Samples inspection of raw material in incoming inspection	None		correct width of raw material			Correct dimention according MSpec nad drawing	Visual / electrodigital caliper	1 coil	Each pallet of raw material received	(P) -Instruccion Incoming inspection, Registro de embarques e inspeccion de material DPNP-5.2-CS-OM-01.01 F07;	Notify to supervisor, adjust process(separate the material, place red label and generate discrepancy to the supplier)
80.01	Samples inspection of raw material in incoming inspection	None		correct thickness of raw material			Correct dimention according MSpec nad drawing	Visual / electrodigital caliper / Micrometer	1 coil	Each pallet of raw material received	(P) -Instruccion Incoming inspection, Registro de embarques e inspeccion de material DPNP-5.2-CS-OM-01.01 F07;	Notify to supervisor, adjust process(separate the material, place red label and generate discrepancy to the supplier)
80.02	Samples inspection of raw material in incoming inspection	None		correct orientation of raw material in coil			Correct orientation according visual aid / Drawing / IIO	Visual	All coils/ 1.- QC (1 sample;)	Each pallet of raw material received / 1.- Set-up,	(P) -Instruccion Incoming inspection, Registro de embarques e inspeccion de material DPNP-5.2-CS-OM-01.01 F07; criterios de aceptacion y rechazo M6666CN0 DPNP-5.2-CS-OM-01.01 F07 / IIO	Notify to supervisor, adjust process(separate the material, place red label and generate discrepancy to the supplier)
80.021	Samples inspection of raw material in incoming inspection	None		correct orientation of raw material in coil			Correct orientation according visual aid / Drawing / IIO	Visual	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours.	(P) -Instruccion Incoming inspection, Registro de embarques e inspeccion de material DPNP-5.2-CS-OM-01.01 F07; criterios de aceptacion y rechazo M6666CN0 DPNP-5.2-CS-OM-01.01 F07 / IIO	Notify to supervisor, adjust process(separate the material, place red label and generate discrepancy to the supplier)
90	Move material to supermarket	Carrier car		Material not damage.			Material free of damaged	Visual	all material	Each raw material received	(D) -Operator method IDT-007	Notify to supervisor, adjust process(cut damaged material and generate discrepancy)
90.01	Move material to supermarket	Carrier car			Operator certified		certified operator with identification	Visual	all operators	during the shifth	(D) -Certified in training dept	Notify to supervisor, adjust process;certify the operator.
90.02	Move material to supermarket	Carrier car			Correct location		Correct location of material in rack	Visual	all material	during the shifth	(D) -Operator method IDT-007	Notify to supervisor, adjust process(relocate material)
100	Move coils to stamping area	Carrier car		Material registered			Registered material	Visual	all material	each material pallet moved to the press	(P) -Operator method IDT-008 -Operator method IDT-004	Notify Supervisor; register material
100.01	Move coils to stamping area	Carrier car		Material identified			Material identified	Visual	all material	each material pallet moved to the press	(P) -Operator method IDT-008 -Operator method IDT-004 -Operator metod PROC 023	Notify Supervisor; review and identify material
100.02	Move coils to stamping area	Carrier car		Material not damaged			Material without damage	Visual	all material	each material pallet moved to the press	(P) -Operator method IDT-008 -Operator method IDT-004	Notify Supervisor; remove and return the material, review and send incoming inspection
110	Print labels (if apply)	Printer		Correct label			Correct label according to the run	Manually - visual	All labels	required during the shift	(D) -Operator method IDT-005 -Op. method PROC-023 -Process card -Check list of previous activities DPNW-5.3-MG-7-4-00.01	Notify to supervisor; remove and print labels corrects
110.01	Print labels (if apply)	Printer			Correct KANBAN		Correct kanban according to the run	Manually - visual	All labels	required during the shift	(D) - KANBAN method HS881 -Check list of previous activities DPNW-5.3-MG-7-4-00.01	Notify to supervisor; remove and required correct kanban
120	Move labels to machine (if apply)	None		Correct label			Correct label according to np in the press o Kamban	Manually - Visual	All labels	Each movement of labels	(D) - Process inspection - Final inspection - KANBAN method HS881	Notify to supervisor and PCL; remove and print labels corrects
120.01	Move labels to machine (if apply)	None			Labels not mixed		No labels of different pn	Visual	All labels	Each movement of labels	(D) - Process inspection - Final inspection - KANBAN method HS881	Notify to supervisor and PCL; Remove the labels from the incorrect np and deliver them to PCL

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
130	Verify incoming material at machine	Carrier car		correct material delivered to press			Correct material according process card	Visual /	each coil of press	each Set up or material and material received in the press	(D) -Op. method PROC-023 and IDT-007 -Process card -Check list of previous activities DPNW-5.3-MG-7-4-00.01	Notify Supervisor and PCL, adjust process(remove material and supply the correct)
140	Set up verification of good conditions to run	None			Correct pressure in hydraulic system (not low)		Correct pressure according Process card	Visual / pressure gauge	1 time	each Set up	(P) -Process card -Method Proc 023 -Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Low limit pressure switch	Notify Supervisor and maintenance , adjust process
140.01	Set up verification of good conditions to run	None		Correct Raw material	Correct material of supplier		Correct raw material according drawing / IIO / Process card	Visual	Each coil	each Set up	(P) -Process card -Material id -Method Proc 023 -Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Check list Previous activities DPNW-5.3-MG-7-4-00.01 F01 -Check list set up DPNW-5.3-MG-7.4.00.02 F01	Notify Supervisor and PCL, adjust of process(change raw material)
140.02	Set up verification of good conditions to run	None		Correct Raw material	Material id during process		Correct raw material according drawing / IIO / Process card	Visual	Each coil	each Set up	(P) -Method Proc 023 - Operator method IDT 007 - Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Format ING-MATS-012 A01	Notify Supervisor and PCL, adjust of process(change raw material)
140.03	Set up verification of good conditions to run	None			Present label		Labels availables	Visual	Each run	each Set up	(P) -Process card -Material id -Method Proc 023 - Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Check list Previous activities DPNW-5.3-MG-7-4-00.01 F01 -Check list set up DPNW-5.3-MG-7.4.00.02 F01	Contact Supervisor and PCL; adjust of process(Require labels)
140.04	Set up verification of good conditions to run	None			Correct label		Correct part number on labels according run	Visual	All labels	each Set up	(D) -Operator method PROC 023 - KANBAN method HS881 -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	Notify Supervisor and PCL, adjust of process(return labels to PCL and print correct labels)
140.05	Set up verification of good conditions to run	None			Process card present		Process card available according run	Visual	Each run	each Set up	(P) -Method Proc 023 - Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Check list Previous activities DPNW-5.3-MG-7-4-00.01 F01 -Check list set up DPNW-5.3-MG-7.4.00.02 F01	Notify Supervisor and Ing Process; adjust of process(Require Process card)
140.06	Set up verification of good conditions to run	None			Correct process card		Correct process card of the run	Visual	Each run	each Set up	(P) -Method Proc 023 - Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Check list -Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Check list set up DPNW-5.3-MG-7.4.00.02 F01	Notify Supervisor and Ing Process; adjust of process(removing process card and require the n / p correct)
140.07	Set up verification of good conditions to run	None			Tooling is present		Present tooling according letter change	Visual	Each tool die	each Set up	(P) -Verification of tooling DPNW-5.3-MG-7-4-05.02 F01 -IIO	Notify Supervisor and tool maker, adjust of process(add tool)
140.08	Set up verification of good conditions to run	None			Correct tooling		Correct tooling according letter change	Visual	Each tool die	each Set up	(P) -Verification of tooling DPNW-5.3-MG-7-4-05.02 F01 -IIO	Notify Supervisor or tool maker, adjust of process(remove tools and place the correct)
140.09	Set up verification of good conditions to run	None			Correct air pressure (not Low)		Correct pressure according Process card	Visual / pressure gauge	1 time	each Set up	(P) -Process card -Method Proc 023 -Autonomus maintenance DPNP-5.3-ME-P84-02 F01 -Low limit pressure switch	Notify Supervisor and maintenance , adjust process
140.1	Set up verification of good conditions to run	None		Correct orientation of raw material in press.			Correct orientation of material in press according drawing or aid visual	Visual / Vision	Each coil / Vision: All material	each Set up / Vision: Continuos	(D) -Set up verification - Visual ID HS472 - Autonomus maintenance DPNP-5.3-ME-P84-02 F01	Contact Supervisor or tool maker, adjust of process(correct orientation of the raw material)
140.11	Set up verification of good conditions to run	None			Previus reels is removed from winder at changeover		Correct reels according process card	Manually - Visual	all reels	each Set up	(D) -PN change routine - MFG inspection -QC final audit -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	Contact Supervisor and PCL, Adjust process (remove reels and place corrects)

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
140.12	Set up verification of good conditions to run	None			Only goods parts is called for vision system when apply (adjusted camera)		Samples according dimentions and tolerances in Vision	Vision System	1 sample	each Set up	(D) -Vision system verification according to the method with destructive pieces -Autonomus maintenance DPNP-5.3-ME-P84-02 F01, Check list audit calest 07 F01	Contact Supervisor manufacturing, QC and maintenance, Adjust process(verify and recalibrate vision)
140.14	Set up verification of good conditions to run	None			Bad parts are sent to scrap by vision system when apply		Samples according dimentions and tolerances in Vision	Vision System	1 sample	each Set up	(D) -Vision system verification according to the method with destructive pieces, Check list audit calest 07 F01	Contact Supervisor manufacturing, QC and maintenance, Adjust process(verify and recalibrate vision)
140.15	Set up verification of good conditions to run	None		Not burrs in the insulation wings of terminal			No burrs in Wings	visual	1 sample	each set-up	(D) -Manufacturing inspection -QC Final inspection -Set up release -tool book	Notify to supervisor and tool maker, adjust process
140.17	Set up verification of good conditions to run	None		Terminal not misalignment			Aligned terminal	visual	1 piece	each set-up	(D) -Set up released -mfg inspection -QC final audit -Tool maker set up -Nest of vision system	Notify to supervisor and tool maker, adjust process
140.18	Set up verification of good conditions to run	None		Terminal within specifications dimentions			According to product Drawing, IIO	According to IIO (keyence, optical comparator,OGP, laser)	1 piece	each set-up	Inspection visual According IIO, VIG	Process stop, Contact Supervisor Mfg, QC and Tool maker
150	Main dereeler	Dereeler			Control electronico functional propertly		Control electronico without failures	Visual / PLC system	100%	Continuos	(D) -Swich detect the fault	Notify to Supervisor or maintenance, adjust process
150.01	Main dereeler	Dereeler			Rollers function correctly		Rollers without failures	Visual / PLC system	100%	Continuos	(D) -Diagnostic Fault Display	Notify to Supervisor or maintenance, adjust process
150.02	Main dereeler	Dereeler			Speed control without fail		Speed control without failures	Visual / PLC system	100%	Continuos	(D) -Diagnostic Fault Display -Switch stop the press	Supervisor or maintenance, adjust process
150.03	Main dereeler	Dereeler			Speed control Functional		Speed control without damaged	Visual / PLC system	100%	Continuos	(D) -Diagnostic Fault Display -Switch stop the press	Supervisor or maintenance, adjust process
150.04	Main dereeler	Dereeler			funccional table (turn)		Table functional	Visual / PLC system	100%	Continuos	(D) -Diagnostic Fault Display -Switch stop the press	Supervisor or maintenance, adjust process
150.05	Main dereeler	Dereeler			functional motor		Motor functional without fails	Visual / PLC system	100%	Continuos	(D) -Diagnostic Fault Display -Switch stop the press	Supervisor or maintenance, adjust process
160	Straightener	Straightener			Feed rollers correct operating properly		Correct function of rollers	Visual /	100%	Continuos	(D) -First piece released -Operator method	Notify to Supervisor or maintenance, adjust process
170	Dereeler side feed	Dereeler			correct functionality ground sensor		Ground sensor without damaged	Visual /PLC system	100%	Continuos	(D) Maintenance routine Operator method	Notify to Supervisor or maintenance, adjust process
170.01	Dereeler side feed	Dereeler		complete assembly (clip present)			Clip present	Helm sensor / PLC system / vision	100%	Continuos	(D) Helm sensor Diagnostic fault in main display in the press	Notify to Supervisor or maintenance, adjust process
180	Die lube system	Lube Applicator			Valve free of obstructions		Valve without obstructions	Visual / PLC system	100%	Continuos	(D) -Diagnostic Fault Display -In process visual inspections	Notify to Supervisor or maintenance, adjust process
180.01	Die lube system	Lube Applicator			Functional Proximity Switch		Proximity Switch without daños	Visual / PLC system	100%	Continuos	(D) -Diagnostic Fault Display -In process visual inspections	Notify to Supervisor or maintenance, adjust process
190	Main feed	Feed			Proper Position of feed		Not failures of feed	Visual / Set up	100%	Each set up	(D) -Automatic diagnostic Fault in feeed screen -Setup method,(D) -Diagnostic Fault -Setup method -P- -Preventive maint routine	Notify to Supervisor or maintenance, adjust process
190.02	Main feed	Feed			Not Stock buckle		No problems with stock buckle	Visual / Set up	100%	each set up	(D) -Sensor in feed entrance	Notify to Supervisor or tool maker, adjust process
190.06	Main feed	Feed			Correctly release point		No problems with release point	Visual / set up	100%	each set up	(D) -Diagnostic fault Display in the feed Signature analysis,, pressure swich in the feed	Notify to Supervisor or tool maker, adjust process
190.1	Main feed	Feed			Proper timing		Correct timing	Visual / set up	100%	each set up	(D) -Diagnostic fault display in feed screen,(D) -Diagnostic fault Display in the feed Signature analysis	Notify to Supervisor or tool maker, adjust process
190.12	Main feed	Feed			Correct air presure of rollers		Correct Pressure	Visual / Setup / Pressure Gauge	100%	each set up	(D) -Diagnostic fault display in the screen	Notify to Supervisor or maintenance, adjust process
190.14	Main feed	Feed			Resolver function correctly		resolver without failures	Visual / set up	100%	each set up	Diagnostic Fault Display	Notify to Supervisor or maintenance, adjust process

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
200	Side feed	Feed			Not jam		Feed without failures	Visual / Sensor	100%	Continuous	(D) -Sensor in the die -Operator method	Notify to Supervisor or maintenance, adjust process
200.02	Side feed	Feed			Correct feed length		Length correct of feed	Visual / Sensor	100%	Continuous	(D) -Process card -Operator method -Sensor in the die	Notify to Supervisor or maintenance, adjust process
210	Press	Minster			Ram in correct adjusment		Correct adjust of ram	Visual / Manual/ setup tool maker	100%	each setup	(D) -Bearing drop inspection, -Vision system -P- -Preventive maint routine	Process stop , notify to tool maker, adjust process
210.03	Press	Minster			Proper Hydraulic System Pressure		Pump functional	Visual / Fault display in PLC program	100%	each setup	(D) -Diagnostic fault display in the press screen -P- -Preventive mant routine	Process stop , notify to supervisor ,maintenance, tool maker, adjust process
210.06	Press	Minster			Hydraulic pump functional		Pump functional	Visual / Fault display in PLC program	100%	each setup	(D) -Diagnostic fault display in the screen, pressure swich -P- -Preventive mant routine	Process stop , notify to supervisor ,maintenance, tool maker, adjust process
210.09	Press	Minster			Non-excessive stop times		Not excessive stop	Visual / Fault display in PLC program	100%	Continuos	(D) -MFG inspection -Q.C inspection -Vision system -P- -Preventive maint routine	Process stop , notify to supervisor ,maintenance, tool maker, adjust process
210.11	Press	Minster			Press not Run @ Inch Mode		Press running in correct mode	Visual / Mannual	100%	during the shifth	(P) -MFG inspection -Q.C inspection -P- -Preventive maint routine	Process stop , notify to supervisor ,maintenance, tool maker, adjust process
210.12	Press	Minster			Correct start in continuous mode		Press running in correct mode	Visual / Mannual	100%	during the shifth	(P) -Operator method -D- -MFG inspection -Q.C inspection -first sample released	Process stop , notify to supervisor ,maintenance, tool maker, adjust process
210.13	Press	Minster			Correct functionality the Resolver		Resolver without failures	Visual / Fault display in PLC program	100%	Continuos	(D) -Diagnostic fault displayin the screen -P- -Preventive maint routine	Process stop , notify to supervisor ,maintenance, tool maker, adjust process
210.14	Press	Minster			Not flywheel bearing failures		Flywheel bearing in optimus conditions	Visual / Fault display in PLC program	100%	each preventive maintenance	(D) -Diagnostic Fault Display / Sealed bearing -Preventive maintenance	Process stop , notify to supervisor ,maintenance, tool maker, adjust process
210.15	Press	Minster		Terminal not damaged			Terminal without damaged	Visual / Microscope	1 sample	each set up	(P) -Operator method -first sample released -mfg inspection -QC final audit	Process stop , notify to supervisor ,maintenance, tool maker, adjust process
220	Bolster	Minster			within parallelism		Correct Parallelism	Visual / measurement equipment	100%	each set up	(P) -Set up method -Preventive maint -D- -Released of set up for mfg first sample released -MFG inspection -Q.C final audit	Process stop , notify to supervisor, tool maker, adjust process
220.05	Bolster	Minster			Micro adjust in good condition		Correct Micro adjust	Visual / measurement equipment	100%	Each set up	(P) -Preventive maint routine -D- -First sample released -MFG inspection -Q.C final audit,Press shut down	Process stop , notify to supervisor, tool maker, adjust process
230	Chutes / blowoff	Chutes / blowoff			machine rails free of jams		Rail in correct adjustment / without jams	Visual , preventive maintenance routine	100%	Each set up	(P) -Set up method -Preventive maint -D- -Set up released by manufacturing -Machine stop -Ffirst sample released -MFG insp -Q.C final audit	Process stop , notify to supervisor, maintenance, adjust process.
240	Central lube system	System lube			Pump functional		Pump in correct operation	Visual / Fault display in PLC program	100%	Continuos	(D) -Diagnostic fault display -P- -Preventive maint routine	Process stop , notify to supervisor, maintenance, adjust process.
240.02	Central lube system	System lube			Proximity sensors Functional		Sensor in correct operation	Fault display in PLC program	100%	Continuos	(D) -Diagnostic fault display -P- -Preventive maint routine	Process stop , notify to supervisor, maintenance, adjust process.
240.03	Central lube system	System lube			Functional float switches		Correct operation of float	visual / Fault display in PLC program	100%	Continuos	(D) -Diagnostic fault display -P- -Preventive maint routine	Process stop , notify to supervisor, maintenance, adjust process.
240.04	Central lube system	System lube			Valve functional		Correct function of valve	Visual / Fault display in PLC program	100%	Continuos	(D) -Diagnostic fault display -P- -Preventive maint	Process stop , notify to supervisor, maintenance, adjust process.
240.05	Central lube system	System lube			Apropiate mix ratio		Pump in Correct function	Visual / Fault display in PLC program	100%	Continuos	(D) -Diagnostic fault display -P- -Preventive maint routine	Process stop , notify to supervisor, maintenance, adjust process.
250	Blanking Details (tool)	Details die			not Excessive Wear		Tooling in good condition	Visual / Preventive maintenance routine	100%	each setup / preventive maintenance	(D) -First sample released -MFG inspection -Q.C final audit -Preventive maint routine -P- -Tool maker set up using optical comparator	notify to supervisor, tool room, adjust process.
250.03	Blanking Details (tool)	Details die			Correct Die detail design		Parts inside spec according drawing	visual / Tool maker set-up	100%	each set up	(D) -First sample released -MFG inspection -Q.C final audit -Preventive maint routine -P- -Tool maker set up	notify to supervisor, tool room, adjust process.

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
250.06	Blanking Details (tool)	Details die			Details without breakage		Details in optimus conditios	Visual / Tool maker set-up	100%	each set up	(D) -First sample released -MFG inspection -Q.C final audit -Preventive maint routine -P- -Tool maker set up	notify to supervisor, tool room, adjust process.
250.1	Blanking Details (tool)	Details die			Chamber punch is functional		Parts inside spec	Visual / Tool maker set-up	100%	each set up	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -Tool maker set up	notify to supervisor, tool room, adjust process.
250.11	Blanking Details (tool)	Details die		correct terminal Progression			Progression according process card	Visual / tool maker set-up	1 sample	each set up	(P) -process card -D- -set up released by manufacturing first sample released -MFG insp -Q.C final audit	notify to supervisor, tool room, adjust process.
250.12	Blanking Details (tool)	Details die			Not broken bolts		Bolts not damaged	Visual / Tool maker set-up	100%	each set up	(P) -Set up method -D- -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit	notify to supervisor, tool room, adjust process.
250.13	Blanking Details (tool)	Details die		Coin within of specification			Within especification according iio / drawing	Visual / measurement equipment / Tool maker set-up	1 sample	each set up	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	notify to supervisor, tool room, adjust process.
250.14	Blanking Details (tool)	Details die		Stamping PED			Presence of the PED stamping on the body of the terminal. according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.141	Blanking Details (tool)	Details die		Stamping PED			Presence of the PED stamping on the body of the terminal. according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours.	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
250.15	Blanking Details (tool)	Details die		Die Serial Number Stamping			Presence of the stamping according to the tool as appropriate and must be below the transition area of the body according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.151	Blanking Details (tool)	Details die		Die Serial Number Stamping			Presence of the stamping according to the tool as appropriate and must be below the transition area of the body according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours.	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
250.16	Blanking Details (tool)	Details die		ID Cable			Presence of the ID Cable in the insulation wings according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.161	Blanking Details (tool)	Details die		ID Cable			Presence of the ID Cable in the insulation wings according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours.	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
250.17	Blanking Details (tool)	Details die		Code of the week			Presence of the week code in the body of the terminal. according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.171	Blanking Details (tool)	Details die		Code of the week			Presence of the week code in the body of the terminal. according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours.	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
250.18	Blanking Details (tool)	Details die		Hole in insulation wings (when apply)			Presence of the hole in the insulation wings according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.181	Blanking Details (tool)	Details die		Hole in insulation wings (when apply)			Presence of the hole in the insulation wings according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours.	(P) -Set up released by manufacturing -first sample released -MFG inspection -	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
											Q.C finalaudit -Tool maker setup	of red labels; correct and revalidate the process.
250.19	Blanking Details (tool)	Details die		Ribs on the tongue.			Presence of two ribs on the tongue of the terminal according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.191	Blanking Details (tool)	Details die		Ribs on the tongue.			Presence of two ribs on the tongue of the terminal according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours.	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
250.2	Blanking Details (tool)	Details die		Inlays in the box			Presence of 2 inlays in the upper part of the box. according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.201	Blanking Details (tool)	Details die		Inlays in the box			Presence of 2 inlays in the upper part of the box. according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours.	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
250.21	Blanking Details (tool)	Details die		Blank Location of the Serrations(squares); serrations(stripes) or knurls; (. (As applicable).			Presence of serration(squares), serration(stripes) or knurls on core wings (as applicable) according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.22	Blanking Details (tool)	Details die		Blank Width of the core wings.			Within especification according IIO / Drawing	Visual / OGP, keyence	1.- QC (1 sample;)	1.-Set-up, Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.23	Blanking Details (tool)	Details die		Blank Width of the insulation wings.			Within especification according IIO / Drawing	Visual / OGP, keyence	1.- QC (1 sample;)	1.-Set-up, Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.231	Blanking Details (tool)	Details die		Blank width of the coin on the back of the box			Within especification according IIO / Drawing	Visual / OGP, keyence	1.- QC (1 sample;)	1.-Set-up, Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.24	Blanking Details (tool)	Details die		Serration(stripes) Depth (as applicable)			Within especification according IIO / Drawing	Visual / OGP, keyence	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.241	Blanking Details (tool)	Details die		Serration(squares) Depth (as applicable)			Within especification according IIO / Drawing	Visual / OGP, keyence	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.2411	Blanking Details (tool)	Details die		Depth of the tongue inlay.			Within especification according IIO / Drawing	Visual / OGP, keyence	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.2411	Blanking Details (tool)	Details die		Knurls Depth (as applicable)			Within especification according IIO / Drawing	Visual / OGP, keyence	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.3	Blanking Details (tool)	Details die		Serrations(squares); (As applicable).			Presence of serration(squares), on core wings (as applicable) according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.301	Blanking Details (tool)	Details die		Serrations(squares); (As applicable).			Presence of serration(squares), on core wings (as applicable) according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
250.31	Blanking Details (tool)	Details die		Serrations(stripes); (As applicable).			Presence of serration(stripes), on core wings (as applicable) according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.311	Blanking Details (tool)	Details die		Serrations(stripes); (As applicable).			Presence of serration(stripes), on core wings (as applicable) according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
250.32	Blanking Details (tool)	Details die		Knurls; (As applicable).			Presence of knurls on core wings (as applicable) according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.321	Blanking Details (tool)	Details die		Knurls; (As applicable).			Presence of knurls on core wings (as applicable) according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
250.33	Blanking Details (tool)	Details die		No burrs in coins areas.			Burrs are not allowed in coins areas according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
250.331	Blanking Details (tool)	Details die		No burrs in coins areas.			Burrs are not allowed in coins areas according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260	Forming details (tool)	Details die			Tool is free of Excessive Wear		Tool free wear	Visual	100%	each setup	(P) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Tool maker set up	Contact Supervisor, tool maker, adjust process
260.01	Forming details (tool)	Details die			Correct tool		Correct tool according drawing	Visual	100%	each setup	(P) -Preventive maintenance routine -Set up released for mfg -MFG inspection -QC final audit -Set up released -Tool maker set up	Contact Supervisor, tool maker, adjust process
260.04	Forming details (tool)	Details die			Correct design of the die details		Correct details according drawing	Visual	100%	each setup	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up,Tool maker Verification of Critical Stations according to format.	Contact Supervisor, tool maker, adjust process
260.09	Forming details (tool)	Details die			tool not Breakage		Tooling without breakage	Visual	100%	each setup	(P) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Tool maker set up	Contact Supervisor, tool maker, adjust process
260.12	Forming details (tool)	Details die			Not Over Driven Rocker Station		cero problems, proper adjustment	Visual, Preventive maintenance routine / Tool maker set-up	100%	each setup	(D) -released of set up for mfg -first sample released -MFG inspection -Q.C final audit -P- Tool maker set up	Contact Supervisor or maintenance and tool maker, adjust process
260.14	Forming details (tool)	Details die	25	Coins on the wings p/n: 33350989,33351002,33351008,		QCI 25	.125 +/- .075 mm Dimentions of coins the wings within especification according IIO / Drawing	Visual / OGP, Optical comparator.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Tool maker set up -D- -Set up released by manufacturing -First sample released -Q.C final audit -Q.C IIO inspection	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.141	Forming details (tool)	Details die	30	Coins on the wings p/n:33350987,33350990, 33350993,33350995,33350997,33350999		QCI 30	.125 +/- .075 mm Dimentions of coins the wings within especification according IIO / Drawing	Visual / OGP, Optical comparator.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Tool maker set up -D- -Set up released by manufacturing -First sample released -Q.C final audit -Q.C IIO inspection	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.15	Forming details (tool)	Details die		Correct gap within specification			.53 - .67 mm according product drawing / IIO	Visual / OGP, keyence, / 3.- Vision	1.- QC (1 sample;) 3.- 100%	1.-Set-up, Final audit, Process	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto,

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
										adjustment,Last run; 3.-continuos	manufacturing -First sample released -MFG insp -Q.C final audit -IIO -Vision system -Keyence.	tool maker and manufacturing; adjust and revalidate.
260.16	Forming details (tool)	Details die	6	Corner seam on top, both side must be closed p/n:33350987,33350990, 33350993,33350995,333 50997,33350999		QCI 6	Corner Seam on top closed accordin drawing / IIO	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp -Q.C final audit -AVP inspection -IIO	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.161	Forming details (tool)	Details die	6	Corner seam on top, both side must be closed p/n:33350987,33350990, 33350993,33350995,333 50997,33350999		QCI 6	Corner Seam on top closed accordin drawing / IIO	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp -Q.C final audit -AVP inspection -IIO	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.162	Forming details (tool)	Details die	1	Corner seam on top, both side must be closed p/n:33350989,33351002, 33351008		QCI 1	Corner Seam on top closed accordin drawing / IIO	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp -Q.C final audit -AVP inspection -IIO	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.1621	Forming details (tool)	Details die	1	Corner seam on top, both side must be closed p/n:33350989,33351002, 33351008		QCI 1	Corner Seam on top closed accordin drawing / IIO	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp -Q.C final audit -AVP inspection -IIO	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.17	Forming details (tool)	Details die	24	Coin at the top rear of the box p/n: 33350997,33350990,333 50993,33350995,333509 97,33350999		QCI 24	.125 +/- .075 mm Dimentions of coins the wings within especification according IIO / Drawing	Visual / OGP, Optical comparator.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Tool maker set up -D- -Set up released by manufacturing -First sample released -Q.C final audit -Q.C IIO inspection	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.171	Forming details (tool)	Details die	22	Coin at the top rear of the box p/n: 33350989,33351002,333 51008		QCI 22	.125 +/- .075 mm Dimentions of coins the wings within especification according IIO / Drawing	Visual / OGP, Optical comparator.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Tool maker set up -D- -Set up released by manufacturing -First sample released -Q.C final audit -Q.C IIO inspection	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.18	Forming details (tool)	Details die	1	Heigth of box p/n: 33350987,33350989,333 50990,33350993,333509 95,33350997,33350999,3 3351002,33351008		FF1	2.9 +/- .1 mm within especification according IIO / Drawing	Visual / Keyence / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp -Q.C final audit -AVP inspection -IIO	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.19	Forming details (tool)	Details die	2	Width of box p/n:33350987,33350989, 33350990,33350993,333 50995,33350997,333509 99,33351002,33351008		FF2	4.25 +/- .05 mm within especification according IIO / Drawing	Visual / OGP, keyence, / 3.- Vision	1.- QC (1 sample;) 3.- 100%	1.-Set-up, Final audit, Process adjustment,Last run; 3.-continuos	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp -Q.C final audit -AVP inspection -IIO -Vision system	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.191	Forming details (tool)	Details die	22	Width of box p/n:10757690-7691,10762770,1076277 2,10762803,13627267,13 681975,13948955,13979 933,15470590,15509075, 15512657,15543466-3468,33123734,3315310 7,33350987,33512053,33 51205833512062-2063,		CS 22	4.25 +/- .05 mm within especification according IIO / Drawing	Visual / OGP, keyence, / 3.- Vision	1.- QC (1 sample;) 3.- 100%	1.-Set-up, Final audit, Process adjustment,Last run; 3.-continuos	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp -Q.C final audit -AVP inspection -IIO -Vision system	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.1911	Forming details (tool)	Details die	22	Width of box p/n:35229817, 35294097,35294098, 33370369,35270378, 35589655		CS 22	4.25 +/- .05 mm within especification according IIO / Drawing	Visual / OGP, keyence, / 3.- Vision	1.- QC (1 sample;) 3.- 100%	1.-Set-up, Final audit, Process adjustment,Last run; 3.-continuos	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp -Q.C final audit -AVP inspection -IIO -Vision system	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
260.192	Forming details (tool)	Details die		Insulation wing height difference.			Within especification according IIO / Drawing	Visual / OGP, keyence.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released --Q.C final audit -IIO.	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.193	Forming details (tool)	Details die		Core wing height difference.			Within especification according IIO / Drawing	Visual / OGP, keyence.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released --Q.C final audit -IIO.	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.193	Forming details (tool)	Details die		Insulation wing angle.			Within especification according IIO / Drawing	Visual / OGP, keyence.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released --Q.C final audit -IIO.	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.194	Forming details (tool)	Details die		Step between insulation wings and conductor wings.			Within especification according IIO / Drawing	Visual / OGP, keyence.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released --Q.C final audit -IIO.	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.195	Forming details (tool)	Details die		Distance from the front of the box to the lower window.			Within especification according IIO / Drawing	Visual / OGP, keyence.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released --Q.C final audit -IIO.	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.196	Forming details (tool)	Details die		Width of the core wings.			Within especification according IIO / Drawing	Visual / OGP, keyence, / 3.- Vision	1.- QC (1 sample;) 3.- 100%	1.-Set-up, Final audit, Process adjustment,Last run; 3.-continuos	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp -Q.C final audit -AVP inspection -IIO -Vision system	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.197	Forming details (tool)	Details die		Width of the insulation wings.			Within especification according IIO / Drawing	Visual / OGP, keyence, / 3.- Vision	1.- QC (1 sample;) 3.- 100%	1.-Set-up, Final audit, Process adjustment,Last run; 3.-continuos	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp -Q.C final audit -AVP inspection -IIO -Vision system	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.2	Forming details (tool)	Details die		Not Fractures, bumps and fissures			No Fractures, bumps and fissures are not allowed in the entire terminal, especially in the transition areas. according IIO / Drawing	Visual / Microscope / OGP.	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp -Q.C final audit -AVP inspection -IIO	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.21	Forming details (tool)	Details die		Not Fractures, bumps and fissures			No Fractures, bumps and fissures are not allowed in the entire terminal, especially in the transition areas. according IIO / Drawing	Visual / Microscope / OGP.	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing first sample released -MFG insp -Q.C final audit -AVP inspection -IIO	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.34	Forming details (tool)	Details die		Insulation wings Curls (as applicable)			Insulation wing curls should be inward according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.341	Forming details (tool)	Details die		Insulation wings Curls (as applicable)			Insulation wing curls should be inward according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.35	Forming details (tool)	Details die		Back of the box.			Back of box is properly shaped according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.351	Forming details (tool)	Details die		Back of the box.			Back of box is properly shaped according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an	(P) -Set up released by manufacturing -first sample released -MFG inspection -	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
										inspection every two hours	Q.C finalaudit -Tool maker setup	of red labels; correct and revalidate the process.
260.36	Forming details (tool)	Details die		Internal clip.			Open the terminal body, take out the clip and make sure the clip has no die marks, burrs or excess material according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.361	Forming details (tool)	Details die		Internal clip.			Open the terminal body, take out the clip and make sure the clip has no die marks, burrs or excess material according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.37	Forming details (tool)	Details die		Clip position.			The tip of the clip must be on the back (rear) of the front folds of the box. according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.371	Forming details (tool)	Details die		Clip position.			The tip of the clip must be on the back (rear) of the front folds of the box. according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.38	Forming details (tool)	Details die		Coins on core wings			Presence coins on core wings according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.381	Forming details (tool)	Details die		Coins on core wings			Presence coins on core wings according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.39	Forming details (tool)	Details die		Coins on insulation wings(as applicable)			Presence coins on insulation wings according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.391	Forming details (tool)	Details die		Coins on insulation wings(as applicable)			Presence coins on insulation wings according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.4	Forming details (tool)	Details die		Coins in the box and transition area.			Coins are present at the back of the box and in the transition area between the body and the box according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.401	Forming details (tool)	Details die		Coins in the box and transition area.			Coins are present at the back of the box and in the transition area between the body and the box according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.41	Forming details (tool)	Details die		Clip ears.			The ears of the clip are seated correctly in the side windows of the terminal box according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.411	Forming details (tool)	Details die		Clip ears.			The ears of the clip are seated correctly in the side windows of the terminal box according iio / drawing	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.42	Forming details (tool)	Details die		Side windows of the terminal body (Top and bottom).			Presence of the upper and lower side windows in the body of the terminal and that they are properly formed according drawing / IIO	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
260.421	Forming details (tool)	Details die		Side windows of the terminal body (Top and bottom).			Presence of the upper and lower side windows in the body of the terminal and that they are properly formed according drawing / IIO	Visual / Microscope / OGP	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
260.43	Forming details (tool)	Details die		Arc camber			Within especification according IIO / Drawing	Visual / manual / G-9396	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.44	Forming details (tool)	Details die		Burr in other areas			Within especification according IIO / Drawing	Visual / OGP / Optical comparator	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.45	Forming details (tool)	Details die		Assembly test.			Within especification according IIO / Drawing	Visual / Manual / G-F009 / Force tester	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.46	Forming details (tool)	Details die		Clip Height			Within especification according IIO / Drawing	Visual / OGP / Optical comparator	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.47	Forming details (tool)	Details die		Clip Length			Within especification according IIO / Drawing	Visual / OGP / Optical comparator	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.5	Forming details (tool)	Details die		Length wings excluding the driver coin.			Within especification according IIO / Drawing	Visual / OGP / Optical comparator	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.51	Forming details (tool)	Details die		Length wings insulation.			Within especification according IIO / Drawing	Visual / OGP / Optical comparator	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.52	Forming details (tool)	Details die		Length of the front of the wings of the core to the rear wing of the insulation.			Within especification according IIO / Drawing	Visual / OGP / Optical comparator	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.53	Forming details (tool)	Details die		Length of the front to the back of the box.			Within especification according IIO / Drawing	Visual / OGP / Optical comparator	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.54	Forming details (tool)	Details die		Length of the front of the box to the front of the wings of the core			Within especification according IIO / Drawing	Visual / OGP / Optical comparator	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
260.55	Forming details (tool)	Details die		Plating orientation in the terminal.(as applicable)			Correct orientation of the plating according iio / drawing	Visual / Microscope / OGP	1.- QC (1 sample;)	1.-Set-up, Final audit, Process adjustment,Last run;	(P) -Set up released by manufacturing -first sample released -MFG inspection -Q.C finalaudit -Tool maker setup	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
270	Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Tools details die			Retainers, stripper plates, square or parallel		Tool alignment/Correctly adjustment	Preventive maintenance routine / Tool maker set-up	100%	each set up	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	notify to supervisor, tool maker, adjust process
270.06	Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Tools details die			Spring functional properly		No problems with worn / broken spring	Visual / Preventive maintenance routine / Tool maker set-up	100%	each set up	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	notify to supervisor, tool maker, adjust process
270.08	Common tooling (shoes, backup plates, retainers,	Tools details die			Correct spring in die		Correct Spring according drawing	Visual / Preventive maintenance routine / Tool maker set-up	100%	each set up	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -P- -Tool maker set up	notify to supervisor, tool maker, adjust process

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
	stripper plates& springs) in die											
270.12	Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Tools details die		Insulation wings within of spec			Dimention of wings withing especification according IIO / Drawing	visual / OGP / digital caliper/ Keyence	1 sample	each setup	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -Vision system -P- -Preventive maint. routine	notify to supervisor, tool maker, adjust process
270.15	Common tooling (shoes, backup plates, retainers, stripper plates& springs) in die	Tools details die		Core wings within of spec			Dimention of wings withing especification according IIO / Drawing	visual / OGP / digital caliper / Keyence	1 sample	each setup	(D) -Released of set up for mfg -First sample released -MFG inspection -Q.C final audit -Vision system -P- -Preventive maint. routine	notify to supervisor, tool maker, adjust process
280	Clip Assembly (tool)	Die		Clip present	Tool not breakage		Clip present according product drawing	Visual	1 sample	each setup	(D) -Operator method -Helm load monitor -Vision system	Contact Supervisor and tool maker , adjust and revalidate the process.
280.01	Clip Assembly (tool)	Die		Correct form wings the clip	Correct tool		correct wings according drawing	Visual/ Ogp/Keyence	1 sample	each setup	(D) -Operator method -First sample release -Tool maker released -Helm load monitor	Contact Supervisor and tool maker , adjust and revalidate the process.
280.02	Clip Assembly (tool)	Die		Wings of clip without burrs	Correct desing of detail		Wings without burrs	Visual	1 sample	each setup	(D) -Operator method -First sample release	Contact Supervisor and tool maker , adjust and revalidate the process.
280.03	Clip Assembly (tool)	Die		Dimention of clip within especification	Die detail made properly		Parts inside spec according drawing	Ogp/Keyence	1 sample	each setup	(D) -Operator method -First sample release -Tool maker released -IIO -Tool adjustment instruction	Contact Supervisor and tool maker , adjust and revalidate the process.
280.04	Clip Assembly (tool)	Die		Correct assembly of clip	Tool without wear / correct adjust		Correct assembly of clip in terminal according product drawing	Visual	1 sample	each setup	(D) -Operator method -First sample release -QC inspection -Helm load system -Vision System	Contact Supervisor and tool maker , adjust and revalidate the process.
280.05	Clip Assembly (tool)	Die		Gap of terminal within of specification	Tool without wear / correct adjust		.53 - .67 mm according drawin / IIO	Keyence / Ogp according IIO	1 sample	each setup	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Helm load system -Vision System	Contact Supervisor and tool maker , adjust and revalidate the process.
290	Helm load system	Helm		Clip present within terminal	Wire not broken		Clip present	Visual / vision	100%	continuos	(D) -Preventive maint. routine -Tool maker set up -D- -Set up released by manufacturing -First sample released by Q -MFG insp -Q.C final audit -Vision system (GAP)	Contact Supervisor, tool maker or maintenance, adjust and revalidate the process.
290.01	Helm load system	Helm		Clip present within terminal	Wire not broken		Clip present	Visual / vision	100%	continuos	(P)-Prev maint. routine -Tool maker set up -D- -set up released by Mfg first sample released -MFG insp -Q.C final audit -Helm load system -Vision System (GAP) -Bad terminal cutted from te carrier	Contact Supervisor, tool maker or maintenance, adjust and revalidate the process.
290.02	Helm load system	Helm		Clip present within terminal	Wire not broken		Clip present	Visual / vision	100%	continuos	(P) -Tool maker set up -D- -Set up released by manufacturing - first sample released -MFG insp -Q.C final audit -Vision System (GAP)	Contact Supervisor, tool maker or maintenance, adjust and revalidate the process.
290.03	Helm load system	Helm		Clip present within terminal	Load cell not damaged		Clip present	Visual / vision	100%	continuos	(P) -Tool maker set up -D- -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Vision System (GAP) -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	Contact Supervisor, tool maker or maintenance, adjust and revalidate the process.
290.04	Helm load system	Helm		Clip present within terminal	Tooling of Load cell not damaged		Clip present	Visual / vision	100%	continuos	(D) -Tool maker set up -D- -Set up released by manufacturing - First sample released -MFG insp -Q.C final audit -Vision System (GAP) -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	Contact Supervisor, tool maker or maintenance, adjust and revalidate the process.

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
290.05	Helm load system	Helm		Terminal without clip cut	Cutter present		terminals without clip cut	Visual / vision	100%	continuos	(D) -Tool maker set up -D- -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Vision System (GAP) -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	Contact Supervisor, tool maker or maintenance, adjust and revalidate the process.
290.06	Helm load system	Helm		Clip present within terminal	Helm trained		Clip present	Visual / vision	100%	continuos	(D) -Set up released by manufacturing -First sample released -MFG insp -Q.C final audit -Vision System (GAP) -Autonomus maintenance DPNP-5.3-ME-P84-02 F01	Contact Supervisor, tool maker or maintenance, adjust and revalidate the process.
300	Vision system	Vision System			Program in correct condition for operation		Correct adjusment in vision system	Fault display in PLC program	100%	Continuous	(D) -In process inspection/ stabilized rails in vision block -MFG inspection -QC released	Stop process, Contact Supervisor or maintenance, adjust process
300.01	Vision system	Vision System			" Vision on "		Vision on	Fault display in PLC program	100%	Continuous	(D) -In process inspection/ trolling bit logic -MFG inspection -Q.C inspection	Stop process, Contact Supervisor or maintenance, adjust process
300.02	Vision system	Vision System			Vision system free of variation		Correct adjusment in vision system	Fault display in PLC program	100%	Continuous	(D) -Setup/In-process inspection -MFG inspection -Q.C Inspection	Stop process, Contact Supervisor or maintenance, adjust process
300.03	Vision system	Vision System			Vision free of nuisance fault		vision worked correctly	Fault display in PLC program	100%	Continuous	(D) -Blow Offs -P- -Preventive maint. routine-Lead in / Vision Block with support rails / subsequent operation.	Stop process, Contact Supervisor or maintenance, adjust process
300.05	Vision system	Vision System			Vision free of failed to locate part		vision worked correctly	Fault display in PLC program	100%	Continuous	(D) -Diagnostic Fault Display -Machine stop	Stop process, Contact Supervisor or maintenance, adjust process
300.08	Vision system	Vision System			Trigger precent and functional		vision worked correctly	Sensor of trigger	100%	Continuous	(D) -Keyence Fiber Optic Trigger	Stop process, Contact Supervisor or maintenance, adjust process
300.14	Vision system	Vision System		Dimentions within specifications(width of the box (front, back and middle of terminal)			4.20 - 4.30 mm according Product drawing / IIO	Vision	100%	Continuous	Set-up released, First sample released, Inspection QC, -Automatic cutting of rejected samples	Stop process, Contact Supervisor, maintenance, tool maker, verify and recalibrate,
300.15	Vision system	Vision System		Dimentions within specifications(gap lefth / rigth of terminal)			.53 -.67 mm according Product drawing / IIO	Vision	100%	Continuous	Set-up released, First sample released, Inspection QC, -Automatic cutting of rejected samples	Stop process, Contact Supervisor, maintenance, tool maker, verify and recalibrate,
300.16	Vision system	Vision System		Dimentions within specifications(wide core wings and insulation of terminal) according each p/n			within especification according product drawing / IIO	Vision	100%	Continuous	Set-up released, First sample released, Inspection QC, -Automatic cutting of rejected samples	Stop process, Contact Supervisor, maintenance, tool maker, verify and recalibrate,
310	Grease post aplication (if apply)	Aplicator of grease		Correct grase			Correct grease according IIO / Drawing	Visual	on time	each setup	(D) -Process card -Operator method -MFG inspection -First piece released -QC inspection	noify Supervisor or QC , Maintenance, adjust of process
310.01	Grease post aplication (if apply)	Aplicator of grease		Correct application (no Too much grease or enough grease)			Correct application according drawing	Visual / applicator	100%	continuos	(D) -Process card -Operator method	Notify Supervisor or QC , Maintenance, adjust of process
310.02	Grease post aplication (if apply)	Aplicator of grease		Grease present			Grease present	Visual / Microscope / OGP 4.-sensor	1.- QC (1 sample;) 4.- 100%	1.-Set-up, Final audit, Process adjustment,Last run; 4.- Continuos	(D) -Low level sensor in grease pump -UV sensor in nest of application -Operathor method / IIO	Notify Supervisor or QC , Maintenance, Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
310.021	Grease post aplication (if apply)	Aplicator of grease		Grease present			Grease present	Visual / Microscope	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours.	(D) -Low level sensor in grease pump -UV sensor in nest of application -Operathor method / IIO	Notify Supervisor or QC , Maintenance,Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
310.08	Grease post aplication (if apply)	Aplicator of grease		Grease within of the terminal			correct application	Visual / applicator	100%	continuos	(D) -Process card -QC inspection	Notify Supervisor or QC , Maintenance, adjust of process
310.09	Grease post aplication (if apply)	Aplicator of grease		Enough grease			correct application	Visual / applicator	100%	continuos	(D) -Process card -First sample release -Automated sensor in the machine	Notify Supervisor or QC , Maintenance, adjust of process
320	Automatic reject cut system by vision system	Automatic reeler		Bad part cutted	Functional loop sensor		Parts bad cutted	Visual / Cut Automatic / Sensor	100%	Continuous	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press	Notify to Supervisor or QC , Maintenance, verified and adjust process

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
320.01	Automatic reject cut system by vision system	Automatic reeler		Bad part cutted	correct presion of winder		Parts bad cutted	Visual / Cut Automatic / Sensor	100%	Continuous	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press	Notify to Supervisor or QC , Maintenance, verified and adjust process
320.02	Automatic reject cut system by vision system	Automatic reeler		Bad part cutted	System with knives		Parts bad cutted	Visual / Cut Automatic / Sensor	100%	Continuous	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press -Preventive maintenance	Notify to Supervisor or QC , Maintenance, verified and adjust process
320.03	Automatic reject cut system by vision system	Automatic reeler		Bad part cutted	Correct feed length load in the winder		Parts bad cutted	Visual / Cut Automatic / Sensor	100%	Continuous	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press	Notify to Supervisor or QC , Maintenance, verified and adjust process
320.04	Automatic reject cut system by vision system	Automatic reeler		Bad part cutted	Winder counter in possition / not damage		Parts bad cutted	Visual / Cut Automatic / Sensor	100%	Continuous	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press -MFG inspection	Notify to Supervisor or QC , Maintenance, verified and adjust process
320.05	Automatic reject cut system by vision system	Automatic reeler		Bad part cutted	Correct vision signal		Parts bad cutted	Visual / Cut Automatic / Sensor	100%	Continuous	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press -MFG inspection -Preventive maintenance	Notify to Supervisor or QC , Maintenance, verified and adjust process
320.06	Automatic reject cut system by vision system	Automatic reeler		Bad part cutted	Vision On		Parts bad cutted	Visual / Cut Automatic / Sensor	100%	Continuous	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control stop the press -MFG inspection -Preventive maintenance	Notify to Supervisor or QC , Maintenance, verified and adjust process
320.07	Automatic reject cut system by vision system	Automatic reeler		Bad part cutted	Winding in automatic mode		Parts bad cutted	Visual / Cut Automatic / Sensor	100%	Continuous	(D) -Release of funtionality by quality -Operator method -QC released -Automatic control cut the terminal detected in continue and manual mode -MFG inspection -Preventive maintenance	Notify to Supervisor or QC , Maintenance, verified and adjust process
330	Automatic reeler	Automatic reeler		Wrap in correct aplication			Correct wrap	Visual / manual	100%	Continuous	(P) -Set up method -D- -First sample released -MFG inspection -QC final audit	Notify to Supervisor or QC , Maintenance, verified and adjust process
330.03	Automatic reeler	Automatic reeler		correct winder direction			Direction correct according method	Visual	100%	Each reel	(D) -Set up method -D- -First sample released -MFG insp -Q.C final audit	Notify to Supervisor or QC , Maintenance, verified and adjust process
330.04	Automatic reeler	Automatic reeler		Proper splice			Correct splice	Visual / manual	100%	Each reel	(D) -Operator method -MFG inspection	Notify to Supervisor or QC , Maintenance, verified and adjust process
330.05	Automatic reeler	Automatic reeler		Terminal in correct position of reel			correct position accordin drawing	Visual / manual	100%	Each reel	(P) -Set up card -D- -First sample released -MFG insp -Q.C final audit	Notify to Supervisor or QC , Maintenance, verified and adjust process
330.09	Automatic reeler	Automatic reeler		correct alignment of paper not out wrap of reel			Correct alignament of paper in the reel	Visual / manual	100%	Each reel	(P) -Set up -Operator method -D- -First sample released -MFG inspection -Q.C final audit	Notify to Supervisor or QC , Maintenance, verified and adjust process
330.1	Automatic reeler	Automatic reeler		not Twisted at hub of reel			Paper not twisted	Visual / manually	100%	Each reel	(P) -Set up -Operator method -D- -First sample released -MFG inspection -Q.C final audit	Notify to Supervisor or QC , Maintenance, verified and adjust process
330.12	Automatic reeler	Automatic reeler		No paper between terminals			Correct application of paper	Visual / manually	100%	Each reel	(P) -Set up -Operator method -D- -First sample released -MFG inspection -Q.C final audit	Notify to Supervisor or QC , Maintenance, verified and adjust process
340	Unload reel	None		Proper handling of material			Material not damaged	Visual	100%	Each reel	(P) -Operator method -D- -Q.C final inspection	Notify to Supervisor or QC , verified and adjust process
340.01	Unload reel	None			Flow correct of material		Material correct	Visual	100%	Each reel	(P) -Operator method -D- -Q.C final inspection	Notify to Supervisor or QC , verified and adjust process
350	Print shipping label	None		Correct part			Correct P/N according to run	Scanner / visual aid	100%	Each container / label	(D) -Label is scanned	Notify to supervisor or QC, adjust process
350.01	Print shipping label	None		Correct ID in boxes			correct identified according method	Scanner / visual aid	100%	Each container / label	(P) -Label is scanned -D- -Q.C final audit	Notify to supervisor or QC, adjust process
350.02	Print shipping label	None		Correctly quantity of pieces			correct quantity according label	Counting system in machine	100%	Each reel	(P) -Counting system in n machine	Notify to supervisor or QC, adjust process
360	Apply shipping label	None		Correct part			P/N correct according run	Scanner / visual	100%	Each container / label	(D) -Label is scaned	Notify to supervisor, adjust process

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
360.01	Apply shipping label	None		Correct ID in boxes			Boxes identified correctly	visual	100%	Each container / label	(D) -Label scaned -QC final audit	Notify to supervisor, adjust process
360.02	Apply shipping label	None		Correctly quantity of pieces			quantity correct according label	Visual / Counter machine	100%	Each reel	(D) -Mfg inspection -QC inspection -Operator packing method	Notify to supervisor, adjust process
370	Process inspection by Mfg	None		Part does meet the specification			Parts good according IIO / Drawing	Visual / Microscope / Gages applicables according IIO	2.- Mfg (each sample retained)	2.- In Run ; each reel and document an inspection every two hours	(D) -Final audit by QC -Certificated material is stamping -Operator Inspection instruction	Stop the press; to register; notify QC, MFG supervisor and Tool maker; place red tag; place material in area of red labels; correct and revalidate the process.
380	Annual Layout	None		P/N available			Sample available for each p/n	visual	1 pc	Initial ppap	(D) -Yearly inspection program	Notify to supervisor, adjust process, require piece to have available
380.01	Annual Layout	None		Dimentiosn according drawing			dimensions within specification according to the drawing	Measurement equipment OGP ,Optical comparator, digital caliper,keyence,laser , Gages applicables according IIO	1 pc	Initial ppap, as req'd by Cust., each year	(D) -Revision level available -History change available	Notify to supervisor, adjust process
380.02	Annual Layout	None			Inspection on time		Inspection within calendar according to the GSD	Visual / manual	1 pc	Initial ppap, as req'd by Cust, or each year.	(D) -Yearly inspection program	Notify to supervisor, adjust process, Perform sample inspection
390	Scan shipping label	Scanner		shipping label present			Present label	Visual / Scanner	100%	Each container	(D) -Container is not shipped	Notify to supervisor, adjust process,
390.01	Scan shipping label	Scanner			Scanned label		Label scanned	Visual / Scanner	100%	Each label	(D) -Container is not shipped	Notify to supervisor, adjust process,
400	QC audit	None		Verify attributes			According to VIG/Productg drawing / IIO	Visual/Gages applicables according IIO	1 pc	Minimum every 2 hours	D) -Inspection according IIO / VIG	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
400.01	QC audit	None		correct terminal			According to Product drawing and IIO	Visual	1 pc	Minimum every 2 hours	D) -Inspection according IIO / VIG	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
400.02	QC audit	None		Verify dimensions			According to Product drawing and IIO	Optical comparator, digital caliper, ogp,keyence, laser,according IIO	1 pc	Minimum every 2 hours	D) -Inspection according IIO / VIG	Stop the press; segregate material; identify suspicious or defective material with red label; Notify Mtto, tool maker and manufacturing; adjust and revalidate.
410	QC released	None		Label scanned			Label scanned	Visual / Scanner	All label	during the shifth	(D) -Operator method -Label scaned	Notify to supervisor, adjust process
410.01	QC released	None		Correct label released			Correct label released	Visual / Scanner	All label	during the shifth	(D) -Operator method -Label scaned	Notify to supervisor, adjust process
410.02	QC released	None		legible label printed			Label legible	Visual / Scanner	All label	during the shifth	(D) -Operator method -Label scanned -Manual print of label in materials	Notify to supervisor, adjust process
410.03	QC released	None		label present			Label available	Visual	All label	during the shifth	(D) -Operator method -Label scanned -Manual print of label in materials	Notify to supervisor, adjust process
410.04	QC released	None		correct label in box			Label correct in the box	Visual / Scanner	All label	during the shifth	(D) -Material retuned to quality area	Notify to supervisor, adjust process
420	Move parts to PPAP area (If apply)	None		Pack not Damage			Pack without damage	Visual	all containers	During the shift	(D) -Material retuned to quality area	Notify to supervisor, adjust process, change pack
430	Move good reels to supermarket area (If apply)	Carrier car			Correct handling of containers, Material moved inspected.		Material inspected	visual	100%	Each Container	(P) -Operator method -QC final inspection	Verified and return material of area the mfg.
430.01	Move good reels to supermarket area (If apply)	Carrier car		Terminal not damaged			Not damaged terminals	visual	100%	Each Container	(D) -Operator method -MFG inspection	Verified and return material of area the mfg.
430.02	Move good reels to supermarket area (If apply)	Carrier car			Correct handling of containers, free of damaged		Packing without damage	visual	100%	Each Container	(D) -Operator method	Notify to supervisor, adjust process, scan container
430.04	Move good reels to supermarket area (If apply)	Carrier car		Terminal not damaged			Not damaged terminals	visual	100%	Each Container	(D) -Operator method -MFG inspection -QC inspection	Notify to supervisor, adjust process, scan container
440	Move parts to quarentine area (if apply)	Carrier car		Pack not damaged			Pack without damage	Each Movement	all container		(P) -Material is returned to quality area -Operator training	Notify to supervisor, Verified and change Pack
450	Quarentine (If apply)	None		Material identified			Identified present	Visual	All material	each container	(D) -Operator method -Visual ID	Notify to supervisor, Verified material and identified or scrap
450.01	Quarentine (If apply)	None		Material not mixed			Material correct on box	Visual	All material	each container	(D) -Operator method -Visual ID	Notify to supervisor, Verified material and identified or scrap

Part / Proc #	Process Name / Operation description	Machine, Device, Jig, Tools For Mfg.	Characteristics			Special Char. Class	Methods					Reaction Plan
			No.	Product	Process		Product / Process Specification / Tolerance	Evaluation / Measurement Technique	Sample Size	Sample Freq.	Control Method	
450.02	Quarentine (If apply)	None		Correct attributes			Attributes corrects according IIO / Vig / product drawing	Visual / magnifying glass 10x / Microscope	All material	Each reel or box	(D) -Operator method - Visual ID, VIG	Notify to supervisor, Verified material, separate rejected pieces for scrap.
460	Move part to EPS (If apply)	Carrier car		Pack not damaged			Pack without damage	visual	All material	each container	(D) -Material is returned to quality area -Operator training	Notify to supervisor, Verified and change Pack
470	EPS (If apply)	EPS		Material identified			Identified present	Visual / Bar read	All material	each container	(D) -Operator method work instruction -Scan	Notify to supervisor, Verified material and re-identified or scrap
480	Push delivery is elaborated	System			Push delivery elaborated		Push delivery present	Visual	100%	Each shipping	(D) Operator method	notify to supervisor, adjust process, make delivery
490	Shipping to distribution center	Carrier car			package not damaged		Pack free of damaged	Visual	each container	Each shipping	(P) Operator method - Operator certified	notify to supervisor, adjust process, separate the damaged packaging
490.01	Shipping to distribution center	Carrier car			container manifest		manifest containers	Visual/scanner	each container	Each shipping	(D) -Container is scanned	notify to supervisor, adjust process, manifest the container
490.02	Shipping to distribution center	Carrier car			correct destiny		Correct shipments according to destination	Visual/scanner	each container	Each shipping	(D) -Container is scanned	notify to supervisor, adjust process, correct the destination

APTIV

ATTRIBUTE CHECK SHEET

Part Certification

Part Number (Delphi:35589655)	Description (Delphi:ASM TERM F APEX 2.8 AG)	ECL (Delphi:01)
Make Department 8474 MEXICO	Completed by VILLANUEVA, ARNULFO	Checked on date 25-Nov-2022

ATTRIBUTES CHECKED:

No.	DESCRIPTION
1	Correct identification
2	Cable ID present and correct
3	Stamping PED present and correct
4	Stamping serial number Given correct and present
5	Code present and correct the week
6	Body side windows present
7	Internal Free of clip marks and bruises.
8	Front corners of the body properly formed
9	Correct position of the clip.
10	Ribs on the Tongue present.
12	Term. free of cracks or bumps in transition areas
13	Coin present in the wings of the core
14	Coins present in the back of the box
15	Coin in the area of trancision
16	Coin present in the wings of the insulation
17	Embedded present on top of the box
18	Clip ears properly seated.
19	No burrs on coined areas
20	Back of box is properly formed.
21	Correct orientation of plating
21	Stamped Serration on core wings present

NOTES:

APTIV

ATTRIBUTE CHECK SHEET

Part Certification

Part Number (Delphi:35589655)	Description (Delphi:ASM TERM F APEX 2.8 AG)	ECL (Delphi:01)
Make Department 8474 MEXICO	Completed by VILLANUEVA, ARNULFO	Checked on date 25-Nov-2022

P.#	PASS	FAIL	P.#	PASS	FAIL	P.#	PASS	FAIL	P.#	PASS	FAIL	P.#	PASS	FAIL	P.#	PASS	FAIL
1	X		51	X		101	X		151	X		201	X		251	X	
2	X		52	X		102	X		152	X		202	X		252	X	
3	X		53	X		103	X		153	X		203	X		253	X	
4	X		54	X		104	X		154	X		204	X		254	X	
5	X		55	X		105	X		155	X		205	X		255	X	
6	X		56	X		106	X		156	X		206	X		256	X	
7	X		57	X		107	X		157	X		207	X		257	X	
8	X		58	X		108	X		158	X		208	X		258	X	
9	X		59	X		109	X		159	X		209	X		259	X	
10	X		60	X		110	X		160	X		210	X		260	X	
11	X		61	X		111	X		161	X		211	X		261	X	
12	X		62	X		112	X		162	X		212	X		262	X	
13	X		63	X		113	X		163	X		213	X		263	X	
14	X		64	X		114	X		164	X		214	X		264	X	
15	X		65	X		115	X		165	X		215	X		265	X	
16	X		66	X		116	X		166	X		216	X		266	X	
17	X		67	X		117	X		167	X		217	X		267	X	
18	X		68	X		118	X		168	X		218	X		268	X	
19	X		69	X		119	X		169	X		219	X		269	X	
20	X		70	X		120	X		170	X		220	X		270	X	
21	X		71	X		121	X		171	X		221	X		271	X	
22	X		72	X		122	X		172	X		222	X		272	X	
23	X		73	X		123	X		173	X		223	X		273	X	
24	X		74	X		124	X		174	X		224	X		274	X	
25	X		75	X		125	X		175	X		225	X		275	X	
26	X		76	X		126	X		176	X		226	X		276	X	
27	X		77	X		127	X		177	X		227	X		277	X	
28	X		78	X		128	X		178	X		228	X		278	X	
29	X		79	X		129	X		179	X		229	X		279	X	
30	X		80	X		130	X		180	X		230	X		280	X	
31	X		81	X		131	X		181	X		231	X		281	X	
32	X		82	X		132	X		182	X		232	X		282	X	
33	X		83	X		133	X		183	X		233	X		283	X	
34	X		84	X		134	X		184	X		234	X		284	X	
35	X		85	X		135	X		185	X		235	X		285	X	
36	X		86	X		136	X		186	X		236	X		286	X	
37	X		87	X		137	X		187	X		237	X		287	X	
38	X		88	X		138	X		188	X		238	X		288	X	
39	X		89	X		139	X		189	X		239	X		289	X	
40	X		90	X		140	X		190	X		240	X		290	X	
41	X		91	X		141	X		191	X		241	X		291	X	
42	X		92	X		142	X		192	X		242	X		292	X	
43	X		93	X		143	X		193	X		243	X		293	X	
44	X		94	X		144	X		194	X		244	X		294	X	
45	X		95	X		145	X		195	X		245	X		295	X	
46	X		96	X		146	X		196	X		246	X		296	X	
47	X		97	X		147	X		197	X		247	X		297	X	
48	X		98	X		148	X		198	X		248	X		298	X	
49	X		99	X		149	X		199	X		249	X		299	X	
50	X		100	X		150	X		200	X		250	X		300	X	