



CHRYSLER



Part Submission Warrant

Part Name Eyelet Terminal - Loose Parts Cust. Part Number GU5T-14463-MA
Shown On Drawing No. GU5T-14463-MA Org. Part Number R8374
Engineering Change Level 0 Dated 9/29/14
Additional Engineering Changes N/A Dated _____
Safety and/or Government Regulation ☐ Yes ☒ No Purchase Order No. N/A Weight (kg) .0071
Checking Aid No. N/A Checking Aid Engineering Change Level N/A Dated _____

ORGANIZATION MANUFACTURING INFORMATION

Royal Power Solutions 118532649
Supplier Name & Supplier/Vendor Code

125 Mercedes Drive
Street Address

Carol Stream IL 60188 USA
City Region Postal Code Country

CUSTOMER SUBMITTAL INFORMATION

NURSAN OTOMOTIV EOOD
Customer Name/Division

AKBAS, Gulcin
Buyer/Buyer Code

Automotive/ Various
Application

MATERIALS REPORTING

Has customer-required Substances of Concern information been reported? ☒ Yes ☐ No
Submitted by IMDS or other customer format: 1280146493 / 2 11/27/2023

Are polymeric parts identified with appropriate ISO marking codes? ☐ Yes ☐ No ☒ n/a

REASON FOR SUBMISSION (Check at least one)

- | | |
|---|--|
| ☒ Initial Submission | ☐ Change to Optional Construction or Material |
| ☐ Engineering Change(s) | ☐ Supplier or Material Source Change |
| ☐ Tooling: Transfer, Replacement, Refurbishment, or additional | ☐ Change in Part Processing |
| ☐ Correction of Discrepancy | ☐ Parts Produced at Additional Location |
| ☐ Tooling Inactive less than 1 year | ☐ Annual Submission |
| | ☐ Other - please specify below |

REQUESTED SUBMISSION LEVEL (Check One)

- ☐ Level 1 - Warrant only (and for designated appearance items, and Appearance Approval Report) submitted to customer.
☐ Level 2 - Warrant with product samples and limited supporting data submitted to customer.
☒ Level 3 - Warrant with product samples and complete supporting data submitted to customer.
☐ Level 4 - Warrant and other requirements as defined by customer.
☐ Level 5 - Warrant and product samples and complete supporting data reviewed at supplier's manufacturing location.

SUBMISSION RESULTS

The results for ☒ dimensional measurements ☒ material and functional tests ☐ appearance criteria ☒ statistical process package
These results meet all design record requirements: ☒ Yes ☐ NO (If "NO" - Explanation Required)
Mold / Cavity / Production Process Stamping

DECLARATION

I affirm that the samples represented by this warrant are representative of our parts which were made by a process that meets all Production Part Approval Process Manual 4th Edition Requirements. I further affirm that these samples were produced at the production rate of 4800 / 8 hours.
I also certify that documented evidence of such compliance is on file and available for review. I have noted any deviations from this declaration below.

EXPLANATION/COMMENTS: _____

Is each Customer Tool properly tagged and numbered? ☐ Yes ☐ No ☒ N/A

Organization Authorized Signature Ribota, Lidia Date 11/5/23

Print Name Ribota, Lidia Phone No. 847-873-3662 Fax No. _____
Title Quality Analyst E-mail LRibota@royaldie.com

FOR CUSTOMER USE ONLY (IF APPLICABLE)

PPAP Warrant Disposition: ☒ Approved ☐ Rejected ☐ Other _____

Customer Signature [Signature] Date 10.11.2023

Print Name Nadiye BARUTÇU Customer Tracking Number (optional) _____

Production Part Approval Dimensional Test Results



ORGANIZATION: Royal Die & Stamping Co., Inc.					PART NUMBER: R8374							
SUPPLIER/VENDOR CODE:					PART NAME: Eyelet Terminal - Loose Parts							
INSPECTION FACILITY: Royal Die & Stamping Co., Inc.					DESIGN RECORD CHANGE LEVEL: 0							
ADDITIONAL REMARKS:					ENGINEERING CHANGE DOCUMENTS:							
ITEM	DIMENSION / SPECIFICATION	SPECIFICATION / LIMITS	TEST DATE	QTY. TESTED	ORGANIZATION MEASUREMENT RESULTS (DATA)					REMARKS	OK	NOT OK
Material/Plating	C422/TIN	Attribute	11/5/23	1	Pass						X	
Note 1	Parts conform to the electrical connection system design specification (SDS) Ver. 20 EL0176	Attribute	11/5/23	1	Pass						X	
Note 2	Grip per FORD terminal wire grip spec. ES-F6DB-14474-CA (F GRIP) except for carrier strip -Parts comply with ES-D8AB-1293-A	Attribute	11/5/23	1	Pass						X	
Note 3	N/A	Attribute	11/5/23	1	Pass						X	
Note 4	Tolerances unless otherwise specified X.X=0.5, X.XX=0.3, Angles = 3°	Attribute	11/5/23	1	Pass						X	
Note 5	0.2mm Max radius permissible on edges and fillets shown as sharp for stamping part	Attribute	11/5/23	1	Pass						X	
Note 6	Crimp values are recommendations. Harness supplier has crimp development responsibility	Attribute	11/5/23	1	Pass						X	
Note 7	Parts supplied loose piece.	Attribute	11/5/23	1	Pass						X	
1	Wire Blank Length 18.00	18.300 mm 17.700 mm	11/5/23	5	18.020	18.000	18.010	18.020	18.000		X	
2	Insulation Blank Length 24.6	25.100 mm 24.100 mm	11/5/23	5	24.640	24.610	24.620	24.630	24.610		X	
3	Carrire Holder 2.8	3.300 mm 2.300 mm	11/5/23	5	2.550	2.540	2.550	2.540	2.540		X	
4	Carrier Strip 2.5	3.000 mm 2.000 mm	11/5/23	5	2.870	2.860	2.860	2.870	2.870		X	
5	Hole to Crimp 26.25	26.550 mm 25.950 mm	11/5/23	5	26.290	26.290	26.280	26.270	26.260		X	
6	Hole to Cut 15.7	16.200 mm 15.200 mm	11/5/23	5	15.600	15.620	15.610	15.600	15.610		X	
7	Part Width 17.3	17.800 mm 16.800 mm	11/5/23	5	17.300	17.350	17.340	17.330	17.340		X	
8	Tab Width 6.0	6.500 mm 5.500 mm	11/5/23	5	6.000	6.000	6.010	6.010	5.990		X	
9	Hole to Hole 26.16	26.460 mm 25.860 mm	11/5/23	5	26.210	26.250	26.210	26.190	26.240		X	
10	Width 8.3	8.800 mm 7.800 mm	11/5/23	5	8.310	8.290	8.300	8.310	8.320		X	
11	Diameter 6.50	6.80 mm 6.20 mm	11/5/23	5	6.55	6.55	6.55	6.55	6.55		X	
12	Radius 8.9	9.400 mm 8.400 mm	11/5/23	20	8.720 8.780 8.750 8.740	8.760 8.750 8.760 8.760	8.730 8.760 8.750 8.760	8.780 8.780 8.780 8.780	8.790 8.740 8.750 8.790		X	
13	Length 6.1	6.600 mm 5.600 mm	11/5/23	5	6.090	6.080	6.090	6.080	6.080		X	
14	Length 12.7	13.200 mm 12.200 mm	11/5/23	5	12.670	12.650	12.660	12.650	12.670		X	
15	Insulation Blank Width 4.8	5.300 mm 4.300 mm	11/5/23	5	4.560	4.590	4.580	4.570	4.560		X	
16	CL to inside tab 16.0	16.50 mm 15.50 mm	11/5/23	5	16.49	16.50	16.47	16.50	16.49		X	
17	Tab Height 20.5	21.00 mm 20.00 mm	11/5/23	5	20.73	20.75	20.74	20.75	20.73		X	
18	Angle 30°	Attribute	11/5/23	1	Pass						X	

Production Part Approval Dimensional Test Results



ORGANIZATION: Royal Die & Stamping Co., Inc. SUPPLIER/VENDOR CODE:					PART NUMBER: R8374 PART NAME: Eyelet Terminal - Loose Parts							
INSPECTION FACILITY: Royal Die & Stamping Co., Inc. ADDITIONAL REMARKS:					DESIGN RECORD CHANGE LEVEL: 0 ENGINEERING CHANGE DOCUMENTS:							
ITEM	DIMENSION / SPECIFICATION	SPECIFICATION / LIMITS	TEST DATE	QTY. TESTED	ORGANIZATION MEASUREMENT RESULTS (DATA)					REMARKS	OK	NOT OK
19	Hole to Bend 11.0	Attribute	11/5/23	1	Pass						X	
20	Radius 1.0	Attribute	11/5/23	1	Pass						X	
21	Wire Radius 1.27	1.570 mm 0.970 mm	11/5/23	5	1.140	1.210	1.180	1.150	1.210		X	
22	Wire crimp width 8.38	8.68 mm 8.08 mm	11/5/23	5	8.45	8.46	8.45	8.46	8.46		X	
23	Wire crimp height 7.24	7.49 mm 6.99 mm	11/5/23	5	7.31	7.30	7.09	7.31	7.29		X	
24	Insulation Radius 1.27	1.570 mm 0.970 mm	11/5/23	5	1.500	1.490	1.480	1.500	1.500		X	
25	Insulation crimp width 11.43	11.730 mm 11.130 mm	11/5/23	5	11.200	11.230	11.210	11.190	11.200		X	
26	Insulation crimp height 9.53	9.780 mm 9.280 mm	11/5/23	5	9.700	9.730	9.700	9.720	9.700		X	

Blanket statements of conformance are unacceptable for any test results.

MARCH
2006

CFG-1003

<u>SIGNATURE</u>	<u>TITLE</u>	<u>DATE</u>
Lidia Ribota	Quality Analyst	11/5/23



Royal Power Solutions
125 Mercedes Drive
Carol Stream, IL 60188
Tel (630) 766-2685
Fax (630) 766-0401

Process Flow Chart

Part No R8374	Rev 0	Name Eyelet Terminal - Loose Parts		
Customer Nursan	Customer Part No GU5T-14463-MA	Rev	Rev Date 09/29/2014	Customer Part Rev GU5T-14463-MA
FMEA R8374-0 - Approved		Control Plan 4870 - Production - - Primary		
Core Team Erik Freitag, Ron Robertson, Kris Daehler, Daniel Lopez				

Operation	Inspection Step	All Specifications
 20: Stamp - Finish Approved Workcenters: B-090, B-081, B-110, B-100, B-082	Receiving	A - Material Procurement
	Transport Tooling to Work Center	B - Transport Tooling to Work Center
	Transport Material to Work Center	C - Transport Material to Work Center
	Setup	D - Set-up Work Center
		D-A - Verify Correct Raw Material at Machine
		D-B - Verify Correct Tooling
		D-C - Verify Correct Machine Operating Parameters
		D-D - Verify All Safety Guards are Enabled
		D-E - Confirm All Setup Parts Have been Scrapped
	Tryout	Tryout - PASS/FAIL
	Quality First Piece	Visual 1 - 5 Serrations must be present at correct location - See Print
		Visual 2 - Coin on wire and insulation crimps must be visually present
		Visual 3 - Part Supplied Loose
		Visual 5 - Part Matches Print/Picture
		Visual Defect 1 - No Fractures on part
		Visual Defect 2 - No Slug Marks
		Visual Defect 3 - No Burrs
Visual Defect 4 - No Slivers allowed on part		
Visual Defect 5 - No expose Raw material		
Visual Defect 6 - No excessive Tool Marks		
Visual Defect 7 - No Bent Parts		
D-E - Confirm All Setup Parts Have been Scrapped		
Visual - 5 serrations, coin on crimps		
11 - Diameter 6.50 (Target: 6.5mm)		
16 - CL to inside tab 16.0 (Target: 16mm)		
17 - Tab Height 20.5 (Target: 20.5mm)		
22 - Wire crimp width 8.38 (Target: 8.38mm)		

	23 - Wire crimp height 7.24 (Target: 7.24mm)
	25 - Insulation crimp width 11.43 (Target: 11.43mm)
	26 - Insulation crimp height 9.53 (Target: 9.53mm)
Operator - In-process Inspection	Visual - 5 serrations, coin on crimps
	Visual 2 - Coin on wire and insulation crimps must be visually present
	Visual 3 - Part Supplied Loose
	Visual 5 - Part Matches Print/Picture
	Visual Defect 1 - No Fractures on part
	Visual Defect 2 - No Slug Marks
	Visual Defect 3 - No Burrs
	Visual Defect 4 - No Slivers allowed on part
	Visual Defect 5 - No expose Raw material
	Visual Defect 6 - No excessive Tool Marks
	Visual Defect 7 - No Bent Parts
	11 - Diameter 6.50 (Target: 6.5mm)
	22 - Wire crimp width 8.38 (Target: 8.38mm)
Quality - In-process Inspection	Visual 1 - 5 Serrations must be present at correct location - See Print
	Visual 2 - Coin on wire and insulation crimps must be visually present
	Visual 3 - Part Supplied Loose
	Visual 5 - Part Matches Print/Picture
	Visual Defect 1 - No Fractures on part
	Visual Defect 2 - No Slug Marks
	Visual Defect 3 - No Burrs
	Visual Defect 4 - No Slivers allowed on part
	Visual Defect 5 - No expose Raw material
	Visual Defect 6 - No excessive Tool Marks
	Visual Defect 7 - No Bent Parts
	11 - Diameter 6.50 (Target: 6.5mm)
	13 - Length 6.1 (Target: 6.1mm)
	17 - Tab Height 20.5 (Target: 20.5mm)
	22 - Wire crimp width 8.38 (Target: 8.38mm)
	25 - Insulation crimp width 11.43 (Target: 11.43mm)
Quality Last Piece	Visual - 5 serrations, coin on crimps
	Visual 2 - Coin on wire and insulation crimps must be visually present
	Visual 3 - Part Supplied Loose
	Visual 5 - Part Matches Print/Picture
	Visual Defect 1 - No Fractures on part
	Visual Defect 2 - No Slug Marks

	Visual Defect 3 - No Burrs
	Visual Defect 4 - No Slivers allowed on part
	Visual Defect 5 - No expose Raw material
	Visual Defect 6 - No excessive Tool Marks
	Visual Defect 7 - No Bent Parts
	11 - Diameter 6.50 (Target: 6.5mm)
	16 - CL to inside tab 16.0 (Target: 16mm)
	17 - Tab Height 20.5 (Target: 20.5mm)
	22 - Wire crimp width 8.38 (Target: 8.38mm)
	23 - Wire crimp height 7.24 (Target: 7.24mm)
	25 - Insulation crimp width 11.43 (Target: 11.43mm)
	26 - Insulation crimp height 9.53 (Target: 9.53mm)
Final Audit	H - Labels correct & cartons sealed properly
Transport to Final Location	I - Transport to Final Location
PPAP Layout	1 - Wire Blank Length 18.00 (Target: 18mm)
	2 - Insulation Blank Length 24.6 (Target: 24.6mm)
	3 - Carrire Holder 2.8 (Target: 2.8mm)
	4 - Carrier Strip 2.5 (Target: 2.5mm)
	5 - Hole to Crimp 26.25 (Target: 26.25mm)
	6 - Hole to Cut 15.7 (Target: 15.7mm)
	7 - Part Width 17.3 (Target: 17.3mm)
	8 - Tab Width 6.0 (Target: 6mm)
	9 - Hole to Hole 26.16 (Target: 26.16mm)
	10 - Width 8.3 (Target: 8.3mm)
	11 - Diameter 6.50 (Target: 6.5mm)
	12 - Radius 8.9 (Target: 8.9mm)
	13 - Length 6.1 (Target: 6.1mm)
	14 - Length 12.7 (Target: 12.7mm)
	15 - Insulation Blank Width 4.8 (Target: 4.8mm)
	16 - CL to inside tab 16.0 (Target: 16mm)
	17 - Tab Height 20.5 (Target: 20.5mm)
	18 - Angle 30°
	19 - Hole to Bend 11.0
	20 - Radius 1.0
	21 - Wire Radius 1.27 (Target: 1.27mm)
	22 - Wire crimp width 8.38 (Target: 8.38mm)
	23 - Wire crimp height 7.24 (Target: 7.24mm)

		24 - Insulation Radius 1.27 (Target: 1.27mm)
		25 - Insulation crimp width 11.43 (Target: 11.43mm)
		26 - Insulation crimp height 9.53 (Target: 9.53mm)
		Material/Plating - C422/TIN
		Note 1 - Parts conform to the electrical connection system design specification (SDS) Ver. 20 EL0176
		Note 2 - Grip per FORD terminal wire grip spec. ES-F6DB-14474-CA (F GRIP) except for carrier strip -Parts comply with ES-D8AB-1293-A
		Note 3 - N/A
		Note 4 - Tolerances unless otherwise specified X.X=0.5, X.XX=0.3, Angles = 3°
		Note 5 - 0.2mm Max radius permissible on edges and fillets shown as sharp for stamping part
		Note 6 - Crimp values are recommendations. Harness supplier has crimp development responsibility
		Note 7 - Parts supplied loose piece.
	Production Workcenter Audit	Audit #1 - Verify Red Bin is at workcenter and used accordingly
		Audit #2 - Raw Material and/or Component Serial Numbers used correct in Control Panel
		Audit #3 - Product Packaging
		Audit #4 - Parts at workcenter are Labeled as made
		Audit #5 - Lubrication specified on shop order
		Audit #6 - Part Picture in Plex
		Audit #7 - Scrap Label
		Audit #8 - Inspection Frequency



FAILURE MODE AND EFFECTS ANALYSIS

(Process FMEA)

Part Name:	Eyelet Terminal - Loose Parts	Internal Part Number:	R8374-0	External Part Number:	GU5T-14463-MA
FMEA Date:	(Orig.) 2/9/15 (Rev.)	Key Date:		Prepared By:	Daehler, Kristine
Note:		Process Responsibility:	Lasseter, Vince	FMEA Number:	R8374-0
Core Team:			Model Year(s)/Vehicle(s):	Automotive/Various	

FMEA begins on page 2

FAILURE MODE AND EFFECTS ANALYSIS

(Process FMEA)

Part Name:	Eyelet Terminal - Loose Parts	Internal Part Number:	R8374-0	External Part Number:	GU5T-14463-MA
FMEA Date:	(Orig.) 2/9/15 (Rev.)	Key Date:		Prepared By:	Daehler, Kristine
Note:		Process Responsibility:	Lasseter, Vince	FMEA Number:	R8374-0
Core Team:		Model Year(s)/Vehicle(s):	Automotive/Various		

Part Name:		Eyelet Terminal - Loose Parts			Internal Part Number:		R8374-0			External Part Number:		GU5T-14463-MA					
Process Function/ Requirements	Potential Failure Mode	Potential Effects of Failure	S E V	C L S	Potential Causes/ Mechanisms of Failure	Current Process Controls Prevention	O C C	Current Process Controls Detection	D E T	R P N	Recommend Action(s)	Responsibility & Target Completion Date	Action Results				
													Actions Taken	S E V	O C C	D E T	R P N
20 (A)Material Procurement Requirements	Non-Conforming Material Material Thickness out of spec.	Material Un-available for Production	5		Supplier's Error	Purchase Order Specifications tied to part specific requirements.	1	Internal Inspection Review of Required Material Certificate - Material is Tagged " Approved for use" if Meets PO requirements.	3	15	None						
20 (B)Transport Tooling to Work Center	Unfit for use. Being Worked on.	Machine Downtime Waiting for tool to be Prepared.	3		Un-Planned Maintenance, Un-Coordinated Tool Room Work	Tooling Maintenance Schedule	1	Production Meetings	5	15	None						
20 (C)Transport Material to Work Center	Wrong Material	Unfit for use,Production Interruptions.	4		Die Setter / Set-up Error		2	MSO Requirements. Material is Tagged " Approved for use". Tags are turned in for traceability.	2	16	None						
20 (D)Set-up Work Center (D-A) Verify correct material at machine, (D-B) Verify correct tooling, (D-C) Verify correct machine operating parameters, (D-D) Verify all safty guards are enabled, (D-E) Confirm all setup parts have been scrapped, (D-F) Submit samples to QA for approval.	Work Center is not available	Delayed Production	5		Customer Gives Short Lead Time Due-Date, Production Schedule Conflicts, Unscheduleed Maintenance.	Production capacity report.	2	Production Forman plans Schedule allowing sufficient time. Customer is provided with lead time.	4	40	None						
20 Quality First Piece	Non Conforming Samples, Incapable	Delayed Production, Lost Time, Wasted material.	5		Set-up Error, Operator	Die Setter Completion of Royal Die " Die	2	1st Article Approval.	3	30	None						

Process Function/ Requirements	Potential Failure Mode	Potential Effects of Failure	S E V	C L S	Potential Causes/ Mechanisms of Failure	Current Process Controls Prevention	O C C	Current Process Controls Detection	D E T	R P N	Recommend Action(s)	Responsibility & Target Completion Date	Action Results				
													Actions Taken	S E V	O C C	D E T	R P N
	Process. Diameter 6.50 +/-0.3, out of spec				Documentation Error	Setter Course* - Basic Set-up Requirements Defined on Part Specific MSO.											
20 In-Process Operator inspection	Nonconforming Sample, Incapable Process. Wire Crimp Width 8.38 +/-0.3, out of spec.	Wasted Set-up, Material, Operator Time. Dissatisfied Customer	5		Process Error, Material Shortage or High Waste. Operator Error. Tooling malfunction.	Control plan in-process inspection, Die Setter and Operator Training.	2	Operator Quality Control Monitoring.	6	60	None						
20 In-Process Quality Monitoring	Non-Conforming Product, Production interruption Insulation Crimp Width 11.43 +/- .3 out of spec.	Wasted Set-up, Material, Operator Time. Dissatisfied Customer Containment requirements and corrective action measures Certification sort and expedited shipping changes Line down charges	5		Process Error, Material Shortage or High Waste. Operator Error. Tooling malfunction.	Control plan Quality in-process, Quality Control Training.	2	Process/Product Monitoring per Part Specific Control Plans.	6	60	None						
20 Quality Last Piece	Non Conforming Product. Hole Diameter 6.50 +/-0.30, out of spec.	Customer dis-satisfaction Containment requirements and corrective action measures Certification sort and expedited shipping changes Line down charges	5		Process Error, High Waste	APQP, Quality Control Training	2	Process/Product monitoring per Part Specific Control Plan.	6	60	None						
20 Final Product Audit (H) Labels correct and cartons sealed properly.	Nonconforming Product. Unidentified, Wrong count.	Shortage Customer dis-satisfaction Containment requirements and corrective action measures Certification sort and expedited shipping changes Line down charges	3		System Failure. Operator Error	Documented Manufacturing and Inspection Process.	2	Control Plan monitoring.	5	30	None						
20 (I)Transport to Final Location	Unidentified, Wrong Count, Damaged.	Damage and deformation of product Part contamination Wrong packaging Customer dis-satisfaction Containment requirements and corrective action measures Certification sort and expedited shipping changes Line down charges	8		Damaged through Handling or Transit. Operator Error	MSO Packaging Requirements, Ship/Rec Training on Handling Requirements.	1	Visual Inspection.	4	32	None						

Control Plan

Control Plan Number 4870	Control Plan Type Production	Part Number/Latest Change Level R8374-0	Date (Orig.) 2/9/15	Date (Rev.)
Key Contact/Phone Kris Daehler (630) 766-2685 EXT 129	Core Team Erik Freitag, Ron Robertson, Kris Daehler, Daniel Lopez		Customer Engineering Approval Date (If Req'd)	
Part Name/Description R8374-0 (Eyelet Terminal - Loose Parts)	Organization/Plant Approval Date (If Req'd)		Customer Quality Approval Date (If Req'd)	
Organization/Plant Royal Die & Stamping Co., Inc. /	Organization Code		Other Approval date (If Req'd)	

Control Plan Number 4870			Control Plan Type Production		Part Number/Latest Change Level R8374-0		Date (Orig.) 2/9/15		Date (Rev.)		
Part/ Process Number	Operation	Machine / Device	Characteristics			Special Char. Class	Methods				Reaction Plan
			No.	Product	Process		Product / Process Specification Tolerance	Evaluation Measurement Technique	Sample Size / Freq.	Control Method	
20	Stamp - Finish Receiving	-	A		Material Procurement		Attribute	Visual	1 each Set Up/ 1 cada Set Up	Material Certification	Notify Materials & Quality, follow procedure COP8 Notificar a Calidad y Materiales, seguir procedimiento COP8.
20	Stamp - Finish Transport Tooling to Work Center	-	B		Transport Tooling to Work Center		Attribute	Visual	1 each Set Up/ 1 cada Set Up	Tool ID	Perform adjustments and/or corrections/Ajustar y corregir.
20	Stamp - Finish Transport Material to Work Center	-	C		Transport Material to Work Center		Attribute	Visual	1 each Set Up/ 1 cada Set Up	Checksheet	Perform adjustments and/or corrections/Ajustar y corregir.
20	Stamp - Finish Setup	-	D		Set-up Work Center		Attribute	Visual	1 each Set Up/ 1 cada Set Up	Checksheet	Perform adjustments and/or corrections/Ajustar y corregir.
		-	D-A		Verify Correct Raw Material at Machine		Attribute	Visual	1 each Set Up/ 1 cada Set Up	Checksheet	Perform adjustments and/or corrections/Ajustar y corregir.
		-	D-B		Verify Correct Tooling		Attribute	Visual	1 each Set Up/ 1 cada Set Up	Checksheet	Perform adjustments and/or corrections/Ajustar y corregir.
		-	D-C		Verify Correct Machine Operating Parameters		Attribute	Visual	1 each Set Up/ 1 cada Set Up	Checksheet	Perform adjustments and/or corrections/Ajustar y corregir.
		-	D-D		Verify All Safety Guards are Enabled		Attribute	Visual	1 each Set Up/ 1 cada Set Up	Checksheet	Perform adjustments and/or corrections/Ajustar y corregir.
		-	D-E		Confirm All Setup Parts Have been Scrapped		Attribute	Visual	1 each Set Up/ 1 cada Set Up	Checksheet	Perform adjustments and/or corrections/Ajustar y corregir.

Control Plan Number 4870			Control Plan Type Production		Part Number/Latest Change Level R8374-0		Date (Orig.) 2/9/15		Date (Rev.)		
Part/ Process Number	Operation	Machine / Device	Characteristics			Special Char. Class	Methods			Reaction Plan	
			No.	Product	Process		Product / Process Specification Tolerance	Evaluation Measurement Technique	Sample Size / Freq.		Control Method
20	Stamp - Finish Tryout	-	Tryout	PASS/FAIL			Attribute	Visual	Each Setup / Cada Set-up	Checksheet	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
20	Stamp - Finish Quality First Piece	-	Visual 1	5 Serrations must be present at correct location - See Print			Attribute	Visual	5 each Setup/5 cada Setup.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
				5 serraciones deben de estar presente en la ubicación que marca el dibujo.							
		-	Visual 2	Coin on wire and insulation crimps must be visually present			Attribute	Visual	5 each Setup/5 cada Setup.	Checksheet	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
				El chaflan debe de esta presente en la zona de crimpado, en el wire y en el insulation.							
		-	Visual 3	Part Supplied Loose			Attribute	Visual	5 each Setup/5 cada Setup.	Checksheet	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
				Partes proveidas sueltas							
		-	Visual 5	Part Matches Print/Picture			See Picture	Visual	5 each Setup/5 cada Setup.	Checksheet	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	Visual Defect 1	No Fractures on part			Attribute	Visual	5 each Setup/5 cada Setup.	Checksheet	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
				No debe de haber fracturas en la pieza, en especial en la transición de eyelet y zona de crimpado.							
		-	Visual Defect 2	No Slug Marks			Attribute	Visual	5 each Setup/5 cada Setup.	Checksheet	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
				No debe tener marcas.							
		-	Visual Defect 3	No Burrs			Attribute	Visual	5 each Setup/5 cada Setup.	Checksheet	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
				Sin rebabas - Las reababas de no deben de exceder el 10% del espesor del metal.							
-	Visual Defect 4	No Slivers allowed on part			Attribute	Visual	5 each Setup/5 cada Setup.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.		
		Sin astillas.									
-	Visual Defect 5	No expose Raw material			No Exposed Copper on Terminal Body - O.K. on cut edges	Visual	5 each Setup/5 cada Setup.	Checksheet	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.		
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Control Plan Number 4870			Control Plan Type Production			Part Number/Latest Change Level R8374-0			Date (Orig.) 2/9/15		Date (Rev.)	
Part/ Process Number	Operation	Machine / Device	Characteristics				Special Char. Class	Methods				Reaction Plan
			No.	Product	Process	Product / Process Specification Tolerance		Evaluation Measurement Technique	Sample Size / Freq.	Control Method		
				Sin material expuesto								
		-	Visual Defect 6	No excessive Tool Marks			Attribute	Visual	5 each Setup/5 cada Setup.	Checksheet	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
		Sin marcas excesivas de herramientas										
		-	Visual Defect 7	No Bent Parts			Attribute	Visual	5 each Setup/5 cada Setup.	Checksheet	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
		No partes dobladas.										
		-	D-E		Confirm All Setup Parts Have been Scrapped		Attribute	Visual	1 each Set Up/ 1 cada Set Up	Checksheet	Verify action has been completed/Verificación de acciones completas.	
		-	Visual	5 serrations, coin on crimps			Verify for presence	Visual	5 each Setup/5 cada Setup.	Checksheet	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
		-	11	Diameter 6.50			6.20 / 6.80 mm 0.244 / 0.268	Pin Gage	3 each Set Up / 3 piezas cada Setup.	Checksheet	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
		-	16	CL to inside tab 16.0			15.50 / 16.50 mm	Optical Projector	3 each Set Up / 3 piezas cada Setup.	Checksheet	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
		-	17	Tab Height 20.5			20.00 / 21.00 mm	Optical Projector	3 each Set Up / 3 piezas cada Setup.	Checksheet	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
		-	22	Wire crimp width 8.38			8.08 / 8.68 mm	Calipers	3 each Set Up / 3 piezas cada Setup.	Checksheet	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
		-	23	Wire crimp height 7.24			6.99 / 7.49 mm	Calipers	3 each Set Up / 3 piezas cada Setup.	Checksheet	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
		-	25	Insulation crimp width 11.43			11.130 / 11.730 mm	Calipers	3 each Set Up / 3 piezas cada Setup.	Checksheet	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
		-	26	Insulation crimp height 9.53			9.280 / 9.780 mm	Calipers	3 each Set Up / 3 piezas cada Setup.	Checksheet	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
20	Stamp - Finish	-	Visual	5 serrations, coin on crimps			Verify for presence	Visual	5 pcs every hour/5 piezas	Checksheet	Suspect Material - Refer to procedure QP-8300/Material	
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Control Plan Number 4870		Control Plan Type Production		Part Number/Latest Change Level R8374-0			Date (Orig.) 2/9/15		Date (Rev.)		
Part/ Process Number	Operation	Machine / Device	Characteristics			Special Char. Class	Methods				Reaction Plan
			No.	Product	Process		Product / Process Specification Tolerance	Evaluation Measurement Technique	Sample Size / Freq.	Control Method	
	Operator - In-process Inspection								cada hora.		sospechoso - En referencia al procedimiento QP-8300
		-	Visual 2	Coin on wire and insulation crimps must be visually present			Attribute	Visual	5 pcs every hour/5 piezas cada hora.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				El chafán debe de esta presente en la zona de crimpado, en el wire y en el insulation.							
		-	Visual 3	Part Supplied Loose			Attribute	Visual	5 pcs every hour/5 piezas cada hora.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				Partes proveidas sueltas							
		-	Visual 5	Part Matches Print/Picture			See Picture	Visual	5 pcs every hour/5 piezas cada hora.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
		-	Visual Defect 1	No Fractures on part			Attribute	Visual	5 pcs every hour/5 piezas cada hora.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				No debe de haber fracturas en la pieza, en especial en la transición de eyelet y zona de crimpado.							
		-	Visual Defect 2	No Slug Marks			Attribute	Visual	5 pcs every hour/5 piezas cada hora.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				No debe tener marcas.							
		-	Visual Defect 3	No Burrs			Attribute	Visual	5 pcs every hour/5 piezas cada hora.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				Sin rebabas - Las reababas de no deben de exceder el 10% del espesor del metal.							
		-	Visual Defect 4	No Slivers allowed on part			Attribute	Visual	5 pcs every hour/5 piezas cada hora.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				Sin astillas.							
		-	Visual Defect 5	No expose Raw material			No Exposed Copper on Terminal Body - O.K. on cut edges	Visual	5 pcs every hour/5 piezas cada hora.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				Sin material expuesto							
		-	Visual Defect 6	No excessive Tool Marks			Attribute	Visual	5 pcs every hour/5 piezas cada hora.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				Sin marcas excesivas de herramientas							

Control Plan Number 4870		Control Plan Type Production		Part Number/Latest Change Level R8374-0			Date (Orig.) 2/9/15		Date (Rev.)		
Part/ Process Number	Operation	Machine / Device	Characteristics			Special Char. Class	Methods				Reaction Plan
			No.	Product	Process		Product / Process Specification Tolerance	Evaluation Measurement Technique	Sample Size / Freq.	Control Method	
		-	Visual Defect 7	No Bent Parts			Attribute	Visual	5 pcs every hour/5 piezas cada hora.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				No partes dobladas.							
		-	11	Diameter 6.50			6.20 / 6.80 mm 0.244 / 0.268	Pin Gage	5 pcs every hour/5 piezas cada hora.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
		-	22	Wire crimp width 8.38			8.08 / 8.68 mm	Calipers	5 pcs every hour/5 piezas cada hora.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
20	Stamp - Finish Quality - In-process Inspection	-	Visual 1	5 Serrations must be present at correct location - See Print			Attribute	Visual	5 pcs every 2 Hours/5 piezas cada 2 horas.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				5 serraciones deben de estar presente en la ubicación que marca el dibujo.							
		-	Visual 2	Coin on wire and insulation crimps must be visually present			Attribute	Visual	5 pcs every 2 Hours/5 piezas cada 2 horas.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				El chaflan debe de esta presente en la zona de crimpado, en el wire y en el insulation.							
		-	Visual 3	Part Supplied Loose			Attribute	Visual	5 pcs every 2 Hours/5 piezas cada 2 horas.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				Partes proveidas sueltas							
		-	Visual 5	Part Matches Print/Picture			See Picture	Visual	5 pcs every 2 Hours/5 piezas cada 2 horas.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
		-	Visual Defect 1	No Fractures on part			Attribute	Visual	5 pcs every 2 Hours/5 piezas cada 2 horas.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				No debe de haber fracturas en la pieza, en especial en la transición de eyelet y zona de crimpado.							
		-	Visual Defect 2	No Slug Marks			Attribute	Visual	5 pcs every 2 Hours/5 piezas cada 2 horas.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				No debe tener marcas.							
		-	Visual Defect 3	No Burrs			Attribute	Visual	5 pcs every 2 Hours/5 piezas cada 2 horas.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				Sin rebabas - Las reababas de no deben de exceder el 10% del espesor del metal.							

Control Plan Number 4870			Control Plan Type Production			Part Number/Latest Change Level R8374-0			Date (Orig.) 2/9/15		Date (Rev.)	
Part/ Process Number	Operation	Machine / Device	Characteristics				Special Char. Class	Methods				Reaction Plan
			No.	Product	Process	Product / Process Specification Tolerance		Evaluation Measurement Technique	Sample Size / Freq.	Control Method		
		-	Visual Defect 4	No Slivers allowed on part				Attribute	Visual	5 pcs every 2 Hours/5 piezas cada 2 horas.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
		Sin astillas.										
		-	Visual Defect 5	No expose Raw material				No Exposed Copper on Terminal Body - O.K. on cut edges	Visual	5 pcs every 2 Hours/5 piezas cada 2 horas.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
		Sin material expuesto										
		-	Visual Defect 6	No excessive Tool Marks				Attribute	Visual	5 pcs every 2 Hours/5 piezas cada 2 horas.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
		Sin marcas excesivas de herramientas										
		-	Visual Defect 7	No Bent Parts				Attribute	Visual	5 pcs every 2 Hours/5 piezas cada 2 horas.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
		No partes dobladas.										
		-	11	Diameter 6.50				6.20 / 6.80 mm 0.244 / 0.268	Pin Gage	3 pcs every 2 hours/3 pcs cada 2 horas	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
		-	13	Length 6.1				5.600 / 6.600 mm	Optical Projector	3 pcs every 2 hours/3 pcs cada 2 horas	Checksheet	
-	17	Tab Height 20.5				20.00 / 21.00 mm	Optical Projector	3 pcs every 2 hours/3 pcs cada 2 horas	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300		
-	22	Wire crimp width 8.38				8.08 / 8.68 mm	Calipers	3 pcs every 2 hours/3 pcs cada 2 horas	Checksheet		Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300	
-	25	Insulation crimp width 11.43				11.130 / 11.730 mm	Calipers	3 pcs every 2 hours/3 pcs cada 2 horas	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300		
20	Stamp - Finish Quality Last Piece	-	Visual	5 serrations, coin on crimps				Verify for presence	Visual		5 pcs upon job completion/5 terminada la corrida.	Checksheet
		-	Visual 2	Coin on wire and insulation crimps must be visually present				Attribute	Visual	5 Pcs upon job ends/5 pcs al terminar corrida	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
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Control Plan Number 4870		Control Plan Type Production		Part Number/Latest Change Level R8374-0		Date (Orig.) 2/9/15		Date (Rev.)			
Part/ Process Number	Operation	Machine / Device	Characteristics			Special Char. Class	Methods			Reaction Plan	
			No.	Product	Process		Product / Process Specification Tolerance	Evaluation Measurement Technique	Sample Size / Freq.		Control Method
				El chaflan debe de esta presente en la zona de crimpado, en el wire y en el insulation.							
		-	Visual 3	Part Supplied Loose			Attribute	Visual	5 Pcs upon job ends/5 pcs al terminar corrida	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				Partes proveidas sueltas							
		-	Visual 5	Part Matches Print/Picture			See Picture	Visual	5 Pcs upon job ends/5 pcs al terminar corrida	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
		-	Visual Defect 1	No Fractures on part			Attribute	Visual	5 pcs upon job completion/5 terminada la corrida.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				No debe de haber fracturas en la pieza, en especial en la transición de eyelet y zona de crimpado.							
		-	Visual Defect 2	No Slug Marks			Attribute	Visual	5 Pcs upon job ends/5 pcs al terminar corrida	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				No debe tener marcas.							
		-	Visual Defect 3	No Burrs			Attribute	Visual	5 Pcs upon job ends/5 pcs al terminar corrida	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				Sin rebabas - Las reababas de no deben de exceder el 10% del espesor del metal.							
		-	Visual Defect 4	No Slivers allowed on part			Attribute	Visual	5 Pcs upon job ends/5 pcs al terminar corrida	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				Sin astillas.							
		-	Visual Defect 5	No expose Raw material			No Exposed Copper on Terminal Body - O.K. on cut edges	Visual	5 Pcs upon job ends/5 pcs al terminar corrida	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				Sin material expuesto							
		-	Visual Defect 6	No excessive Tool Marks			Attribute	Visual	5 Pcs upon job ends/5 pcs al terminar corrida	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				Sin marcas excesivas de herramientas							
		-	Visual Defect 7	No Bent Parts			Attribute	Visual	5 Pcs upon job ends/5 pcs al terminar corrida	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300
				No partes dobladas.							
		-	11	Diameter 6.50			6.20 / 6.80 mm	Pin Gage	3 pcs upon job ends/3 pcs al	Checksheet	Suspect Material - Refer to procedure QP-8300/Material

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Control Plan Number 4870			Control Plan Type Production			Part Number/Latest Change Level R8374-0			Date (Orig.) 2/9/15		Date (Rev.)	
Part/ Process Number	Operation	Machine / Device	Characteristics			Special Char. Class	Methods				Reaction Plan	
			No.	Product	Process		Product / Process Specification Tolerance	Evaluation Measurement Technique	Sample Size / Freq.	Control Method		
							0.244 / 0.268		terminar corrida		sospechoso - En referencia al procedimiento QP-8300	
		-	16	CL to inside tab 16.0			15.50 / 16.50 mm	Optical Projector	3 pcs upon job ends/3 pcs al terminar corrida	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300	
		-	17	Tab Height 20.5			20.00 / 21.00 mm	Optical Projector	3 pcs upon job ends/3 pcs al terminar corrida	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300	
		-	22	Wire crimp width 8.38			8.08 / 8.68 mm	Calipers	3 pcs upon job ends/3 pcs al terminar corrida	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300	
		-	23	Wire crimp height 7.24			6.99 / 7.49 mm	Calipers	3 pcs upon job ends/3 pcs al terminar corrida	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300	
		-	25	Insulation crimp width 11.43			11.130 / 11.730 mm	Calipers	3 pcs upon job ends/3 pcs al terminar corrida	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300	
		-	26	Insulation crimp height 9.53			9.280 / 9.780 mm	Calipers	3 pcs upon job ends/3 pcs al terminar corrida	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300	
20	Stamp - Finish Final Audit	-	H		Labels correct & cartons sealed properly		Attribute	Visual	Each Container/cada contenedor.	Checksheet	Suspect Material - Refer to procedure QP-8300/Material sospechoso - En referencia al procedimiento QP-8300	
20	Stamp - Finish Transport to Final Location	-	I	Transport to Final Location			Attribute			Component Verification		
				Move to Warehouse for customer shipping								
20	Stamp - Finish PPAP Layout	-	1	Wire Blank Length 18.00			17.700 / 18.300 mm	Calipers	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
		-	2	Insulation Blank Length 24.6			24.100 / 25.100 mm	Calipers	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
		-	3	Carrire Holder 2.8			2.300 / 3.300 mm	Calipers	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
		-	4	Carrier Strip 2.5			2.000 / 3.000 mm	Calipers	5 per Dimensional /5	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no	

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Control Plan Number 4870		Control Plan Type Production		Part Number/Latest Change Level R8374-0			Date (Orig.) 2/9/15		Date (Rev.)		
Part/ Process Number	Operation	Machine / Device	Characteristics			Special Char. Class	Methods				Reaction Plan
			No.	Product	Process		Product / Process Specification Tolerance	Evaluation Measurement Technique	Sample Size / Freq.	Control Method	
									por dimensional.		conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	5	Hole to Crimp 26.25			25.950 / 26.550 mm	Optical Projector	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	6	Hole to Cut 15.7			15.200 / 16.200 mm	Optical Projector	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	7	Part Width 17.3			16.800 / 17.800 mm	Calipers	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	8	Tab Width 6.0			5.500 / 6.500 mm	Calipers	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	9	Hole to Hole 26.16			25.860 / 26.460 mm	Optical Projector	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	10	Width 8.3			7.800 / 8.800 mm	Calipers	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	11	Diameter 6.50			6.20 / 6.80 mm 0.244 / 0.268	Pin Gage	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	12	Radius 8.9			8.400 / 9.400 mm	Go/No-Go Gage	5 Per dimensional (4)/5 por dimensional (4).	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
				4 places							
		-	13	Length 6.1			5.600 / 6.600 mm	Optical Projector	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	14	Length 12.7			12.200 / 13.200 mm	Optical Projector	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	15	Insulation Blank Width 4.8			4.300 / 5.300 mm	Calipers	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	16	CL to inside tab 16.0			15.50 / 16.50 mm	Optical Projector	5 per Dimensional /5	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no

Control Plan Number 4870		Control Plan Type Production		Part Number/Latest Change Level R8374-0			Date (Orig.) 2/9/15		Date (Rev.)		
Part/ Process Number	Operation	Machine / Device	Characteristics			Special Char. Class	Methods				Reaction Plan
			No.	Product	Process		Product / Process Specification Tolerance	Evaluation Measurement Technique	Sample Size / Freq.	Control Method	
									por dimensional.		conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	17	Tab Height 20.5			20.00 / 21.00 mm	Optical Projector	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	18	Angle 30°			Attribute	Optical Projector	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
				N/A							
		-	19	Hole to Bend 11.0			Attribute	Optical Projector	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
				N/A							
		-	20	Radius 1.0			Attribute	Optical Projector	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
				N/A							
		-	21	Wire Radius 1.27			0.970 / 1.570 mm	Optical Projector	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	22	Wire crimp width 8.38			8.08 / 8.68 mm	Calipers	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	23	Wire crimp height 7.24			6.99 / 7.49 mm	Calipers	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	24	Insulation Radius 1.27			0.970 / 1.570 mm	Optical Projector	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	25	Insulation crimp width 11.43			11.130 / 11.730 mm	Calipers	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	26	Insulation crimp height 9.53			9.280 / 9.780 mm	Calipers	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.
		-	Material/Plating	C422/TIN			Attribute	Certification	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.

Control Plan Number 4870			Control Plan Type Production			Part Number/Latest Change Level R8374-0		Date (Orig.) 2/9/15		Date (Rev.)		
Part/ Process Number	Operation	Machine / Device	Characteristics			Special Char. Class	Methods				Reaction Plan	
			No.	Product	Process		Product / Process Specification Tolerance	Evaluation Measurement Technique	Sample Size / Freq.	Control Method		
		-	Note 1	Parts conform to the electrical connection system design specification (SDS) Ver. 20 EL0176			Attribute	Visual	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
		-	Note 2	Grip per FORD terminal wire grip spec. ES-F6DB-14474-CA (F GRIP) except for carrier strip - Parts comply with ES-D8AB-1293-A			Attribute	Visual	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
		-	Note 3	N/A			Attribute	Visual	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
		-	Note 4	Tolerances unless otherwise specified X.X=0.5, X.XX=0.3, Angles = 3°				Visual	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
		-	Note 5	0.2mm Max radius permissible on edges and fillets shown as sharp for stamping part			Attribute	Visual	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
		-	Note 6	Crimp values are recommendations. Harness supplier has crimp development responsibility			Attribute	Visual	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
		-	Note 7	Parts supplied loose piece.			Attribute	Visual	5 per Dimensional /5 por dimensional.	PPAP Layout	Nonconforming samples, Reject sample & notify setup/ Partes no conformes, rechazar las piezas y notificar a técnico de ajuste.	
20	Stamp - Finish Production Workcenter Audit	-	Audit #1	Verify Red Bin is at workcenter and used accordingly		Verify Red Bin is at workcenter and used accordingly	Visual	As Required / Según sea necesario	Verification	Notify Supervisor/Notificar al Supervisor		
				Suspect, Rejected and Setup parts must be placed in the Red Bin.								
		-	Audit #2	Serial Numbers of Raw Material and/or Components used must match serial numbers loaded in Control Panel				Serial Numbers of Raw Material and/or Components used must match serial numbers loaded in Control Panel	Visual	As Required / Según sea necesario	Verification	Notify Supervisor/Notificar al Supervisor
				Serial Numbers of Raw Material and/or Components used must match serial numbers loaded in Control Panel								
		-	Audit #3	Parts must be packaged per the job sheet requirements				Parts are packaged per the shop order requirements	Visual	As Required / Según sea necesario	Verification	Notify Supervisor/Notificar al Supervisor
				Parts are packaged per the shop order requirements								
-	Audit #4	Parts at workcenter are Labeled as made				Part must be labeled once container is complete	Visual	As Required / Según sea necesario	Verification	Notify Supervisor/Notificar al Supervisor		
		Part must be labeled once container is complete										
Plex 11/5/23 9:56 AM												

Control Plan Number 4870			Control Plan Type Production		Part Number/Latest Change Level R8374-0			Date (Orig.) 2/9/15		Date (Rev.)	
Part/ Process Number	Operation	Machine / Device	Characteristics			Special Char. Class	Methods				Reaction Plan
			No.	Product	Process		Product / Process Specification Tolerance	Evaluation Measurement Technique	Sample Size / Freq.	Control Method	
		-	Audit #5	Lubrication must be specified on shop order			Lubrication must be specified on shop order	Visual	As Required / Según sea necesario	Verification	Notify Supervisor/Notificar al Supervisor
				Lubrication must be specified on shop order							
		-	Audit #6	Part Picture must be in Plex			Part Picture must be in Plex	Visual	As Required / Según sea necesario	Verification	Notify Supervisor/Notificar al Supervisor
				Part Picture must be in Plex							
		-	Audit #7		Scrap Label		Scrap Label Must be present where applicable	Visual	As Required / Según sea necesario	Verification	Notify Supervisor/Notificar al Supervisor
		-	Audit #8		Inspection Frequency		Parts inspected per control Plan	Visual	As Required / Según sea necesario	Verification	Notify Supervisor/Notificar al Supervisor
		Plex 11/5/23 9:56 AM									

Checksheet

2222615 - Capability Study

Part R8374-0 Eyelet Terminal - Loose Parts		Operation Stamp - Finish	Inspection Step PPAP Layout	Workcenter AIDA-1	SPC Checksheet Container Text		Job No			
Date/Time 11/5/23 10:55 AM		Inspector Ribota, Lidia		Description Eyelet Terminal		Samples 6	Size 5	Note		
Tooling										
No	Specification	Target	Limits	Gage	Measurements			Note		
22	Wire crimp width 8.38	8.38 mm	8.68 8.08		8.45	8.46	8.46	8.45	8.47	
					8.47	8.45	8.46	8.47	8.46	
					8.47	8.47	8.45	8.45	8.46	
					8.45	8.47	8.46	8.46	8.46	
					8.46	8.47	8.45	8.45	8.47	
					8.47	8.45	8.46	8.47	8.45	

Plex 11/5/23 10:58 AM



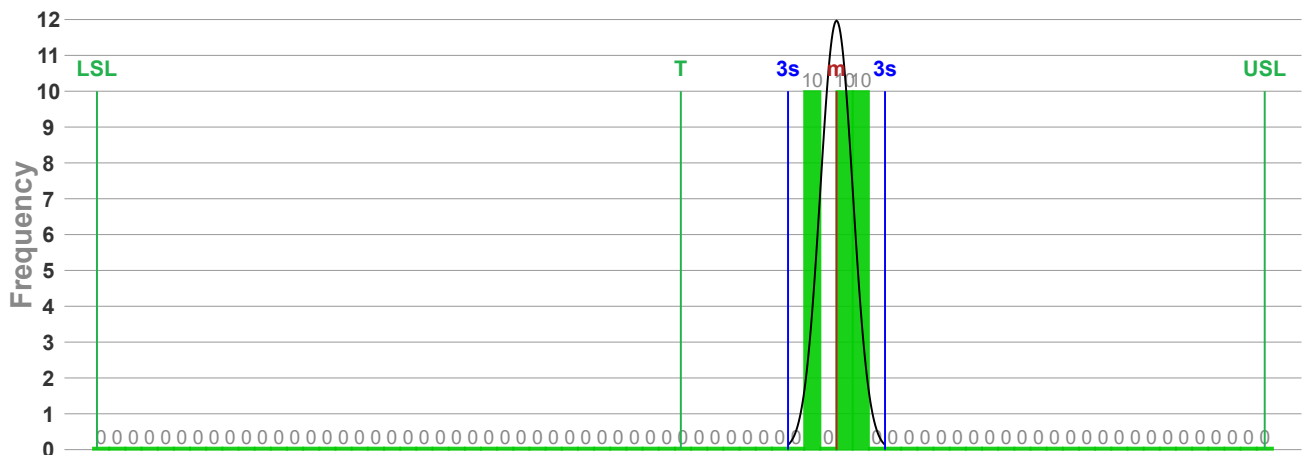
Capability Study - Histogram

Part R8374-0 Eyelet Terminal - Loose Parts	Operation Stamp - Finish	Inspection Mode PPAP Layout	Workcenter AIDA-1
Containers		Job No	
Specification 22 - Wire crimp width 8.38 (Target: 8.38 mm) 8.68 mm 8.08 mm	Date Range 11/5/2023 - 11/5/2023	Samples 6	Sample Size 5
Tooling			
Description Eyelet Terminal			

Chart Statistics

Data	Specifications	Central Tendency	Dispersion	Distribution	Capability/Performance			Prediction
Min: 8.450 Max: 8.470 Mean: 8.460 Count: 30	Tol.: 0.600 USL: 8.680 Target: 8.380 LSL: 8.080	<u>Extended Limits</u> UCLx: N/A EXDBar: 8.460 LCLx: N/A	<u>Extended Limits</u> UCLr: N/A ERBar: 0.020 LCLr: N/A	σ : 0.008 +3 σ : 8.485 Mean: 8.460 -3 σ : 8.435	CR (1/Cp): 0.086 Cp (Tol/6 σ): 11.631 Cpk: 8.529 σ_c (R/d2): 0.009	Pp: 12.041 Ppk: 8.830 kurt: -1.599 skew: 0.000 d2: 2.326	ZU: 25.587 ZL: 44.196 CPU: 8.529 CPL: 14.732	% Above: 0.000 % Below: 0.000 % OoS: 0.000 % In Spec: 100.000

Histogram Chart





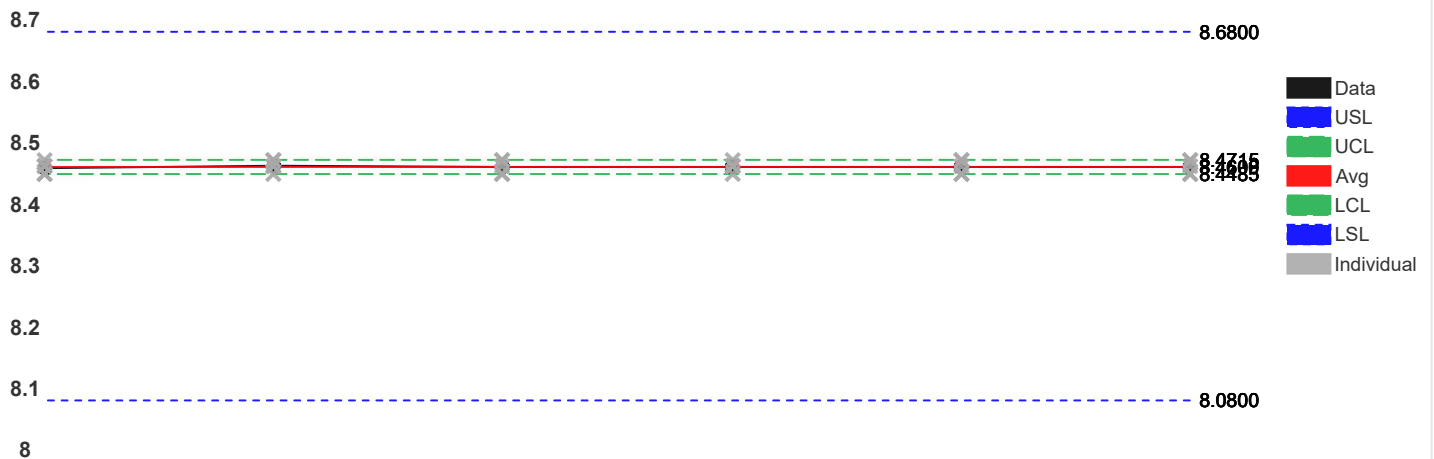
Capability Study - Xbar & Range Chart

Part R8374-0 Eyelet Terminal - Loose Parts	Operation Stamp - Finish	Inspection Mode PPAP Layout	Workcenter AIDA-1
Containers		Job No	
Specification 22 - Wire crimp width 8.38 (Target: 8.38 mm)	Date Range 11/5/2023 - 11/5/2023	Samples 6	Sample Size 5
Tooling			
Description Eyelet Terminal			

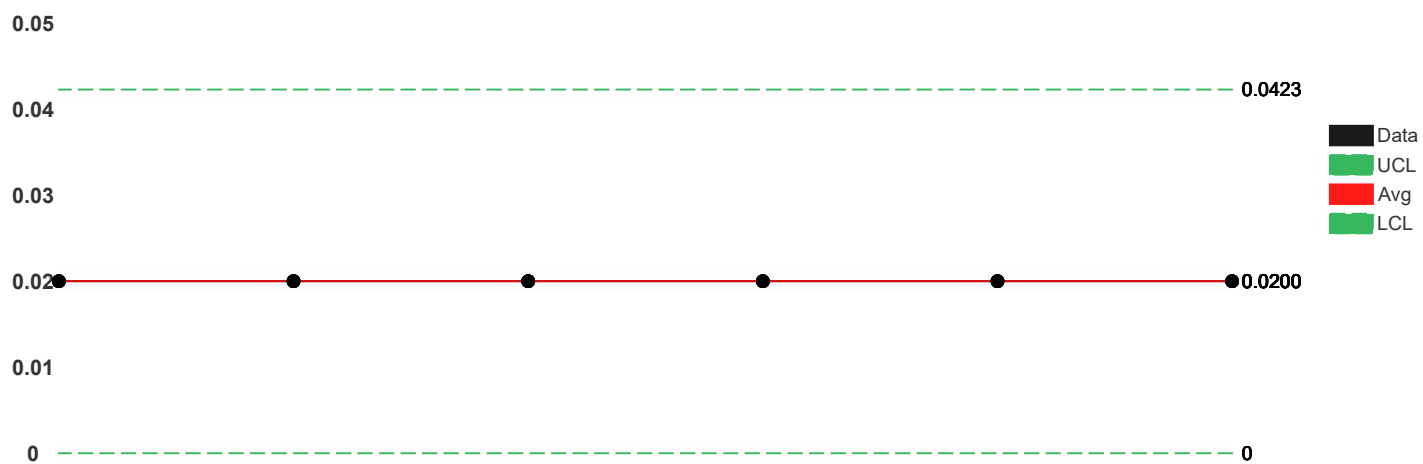
Chart Statistics

Data	Specifications	Central Tendency	Dispersion	Distribution	Capability/Performance			Prediction
Min: 8.450 Max: 8.470 Mean: 8.460 Count: 30	Tol.: 0.600 USL: 8.680 Target: 8.380 LSL: 8.080	<u>Extended Limits</u> UCLx: 8.472 EXDBar: 8.460 LCLx: 8.448	<u>Extended Limits</u> UCLr: 0.042 ERBar: 0.020 LCLr: 0.000	σ : 0.008 +3 σ : 8.485 Mean: 8.460 -3 σ : 8.435	CR (1/Cp): 0.086 Cp (Tol/6 σ): 11.631 Cpk: 8.529 σ_c (R/d2): 0.009	Pp: 12.041 Ppk: 8.830 kurt: -1.599 skew: 0.000 d2: 2.326	ZU: 25.587 ZL: 44.196 CPU: 8.529 CPL: 14.732	% Above: 0.000 % Below: 0.000 % OoS: 0.000 % In Spec: 100.000

X Bar Chart



Range Chart





Royal Power Solutions
125 Mercedes Drive
Carol Stream, IL 60188
Tel (630) 766-2685
Fax (630) 766-0401

Study Results for Gage A16005995 (Digital Caliper) on 2/16/23

GAGE LOG INFORMATION

Gage Log No: 2618394
Gage ID: A16005995
Gage Log Type: Gage Study
Study Date: 2/16/23

Device Name:
Operators: 3
Operator Names: Huicochea, Vitaliano, Perez
Trials: 3
Samples: 10

CHARACTERISTIC & VARIATION

LSL: 19.8
USL: 20.2
Tolerance: .400000
Spec Description: Width 20.00
Part-to-Part Standard Deviation (σ_p): .000611
Measurement Standard Deviation (σ_m): .000051
Process Variation Standard Deviation (σ_t): .000613

K1: .590818
K2: .523136
K3: .314559
Average of All Ranges ($\bar{R}$): .000333
X Difference ($\bar{X}_{DIFF}$): .000334
Range of Part Average (R_p): .010000

MEASUREMENT UNIT ANALYSIS - GRR (Range Method)

GRR

Repeatability - Equipment
Variation (EV): .000197
Reproducibility - Appraiser
Variation (AV): .000171
GageR&R (GRR): .000261
Part Variation (PV): .003146
Total Variation (TV): .003156

Repeatability As % (EV/TV): 6.23
Reproducibility As % (AV/TV): 5.41
GRR % (GRR /TV): 8.26
% PV (PV / TV): 99.66
Distinct Levels: 17.02
GRR % of Tolerance/5.15: .34 %

Comments:



Royal Power Solutions
125 Mercedes Drive
Carol Stream, IL 60188
Tel (630) 766-2685
Fax (630) 766-0401

Study Results for Gage 1051 (Optical Projector) on 2/9/23

GAGE LOG INFORMATION

Gage Log No: 2615457
Gage ID: 1051
Gage Log Type: Gage Study
Study Date: 2/9/23

Device Name:
Operators: 3
Operator Names: Vitaliano, Carvajal, Lopez
Trials: 3
Samples: 10

CHARACTERISTIC & VARIATION

LSL: 8.5
USL: 8.6
Tolerance: .100000
Spec Description: Dim #18: Hole Diameter 8.50
Part-to-Part Standard Deviation (σ_p): .000611
Measurement Standard Deviation (σ_m): .000051
Process Variation Standard Deviation (σ_t): .000613

K1: .590818
K2: .523136
K3: .314559
Average of All Ranges ($\bar{R}$): .000333
X Difference ($\bar{X}_{DIFF}$): .000333
Range of Part Average (R_p): .010000

MEASUREMENT UNIT ANALYSIS - GRR (Range Method)

GRR

Repeatability - Equipment
Variation (EV): .000197
Reproducibility - Appraiser
Variation (AV): .000171
GageR&R (GRR): .000260
Part Variation (PV): .003146
Total Variation (TV): .003156

Repeatability As % (EV/TV): 6.23
Reproducibility As % (AV/TV): 5.40
GRR % (GRR /TV): 8.25
% PV (PV / TV): 99.66
Distinct Levels: 17.03
GRR % of Tolerance/5.15: 1.34 %

Comments:



Wieland Metal Services, LLC

180 Alexandra Way

Carol Stream, IL, 60188

CERTIFICATE OF CONFORMANCE

WMS Order Number#	366674
WMS Item#	212108
WMS Item Description	BR-CU42200-0.04-H04-Electro Tin-COIL-3.20--
Customer Name	ROYAL POWER SOLUTIONS
Cust Part#	040X3.2004224MTP

Cust PO#	41839-26
Quantity / UOM	938 / LB
Date Shipped	21-JUN-23

Lot Number#	Heat#	Mill Coil#	Num of Pieces#	Ship Qty / UOM	Ship Date	Country of Origin#
04-1158781	170561000	E230242280 10090936 B671	1	648 / LB	21-JUN-23	US

Class: Chemical	Spec Min	Spec Max	Result	UOM
Cu	86.00000	89.00000	86.41000	%
Fe	.00000	.05000	.03500	%
P	.00000	.35000	.00200	%
Pb	.00000	.05000	.00900	%
Sn	.80000	1.40000	.91000	%
Zn	.00000	14.00000	12.60000	%
Class: Dimension	Spec Min	Spec Max	Result	UOM
Coil ID	16.00	16.00	16.00	inch
Coil OD	38.00	50.00	33.50	inch
Class: Mechanic	Spec Min	Spec Max	Result	UOM
Tensile	67.00	79.00	67.00	KSI
Class: Size	Spec Min	Spec Max	Result	UOM
Gauge	.03900	.04100	.04000	inch
Width	3.1970	3.2030	3.2000	inch
Class: Shape	Spec Min	Spec Max	Result	UOM
Camber	.0000	.1250	.0620	inch
Class: Plating	Spec Min	Spec Max	Result	UOM
Plating Thickness	40.0	100.0	54.4	micro Inch
Underplate Thickness 1	30.0	80.0	41.1	micro Inch

* UNLESS OTHERWISE IS NOTED, THE CHEMICAL ANALYSIS DATA ON THIS CERTIFICATE OF CONFORMANCE IS OF THE BARE BASE METAL AS PROVIDED FROM OUR SUPPLIER. WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HERE IN HAS BEEN MADE TO CONFORM TO SPECIFICATION OR REQUIREMENTS OF YOUR ORDER.

DATE
6/21/23

APPROVED BY
Castro, Jessica

RECEIVED
JUN 20 2023
BY:

Certificate US21/819944551.00

The management system of

Wieland Metal Services, LLC

457 Warwick Industrial Drive
Warwick, RI 02886, United States

has been assessed and certified as meeting the requirements of

ISO 9001:2015

For the following activities

**Distribution and Secondary Processing of Aluminum, Copper
and Steel Alloy Flat Rolled, Tube and Bar Products.**

Further clarifications regarding the scope of this certificate and the applicability of
ISO 9001:2015 requirements may be obtained by consulting the organization.

This certificate is valid from 18 January 2022 until 18 January 2025
and remains valid subject to satisfactory surveillance audits.
Recertification audit due a minimum of 60 days before the expiration date.

Issue 2. Certified since July 2021.

The organisation was previously certified by a different body
against ISO 9001 since 19 January 2010.

The audit leading to this certificate commenced on 25/10/2021.

Previous issue certificate validity date was until 18/01/2022.

This is a multi-site certification.

Additional site details are listed on subsequent pages.

Authorized by:

Dan Seal

Dan Seal

Technical Accreditation Manager,
Knowledge Solutions
SGS North America, Inc.

201 Route 17 North, Rutherford, NJ 07070, USA

t (201) 508-3000 f (201) 935-4555 www.us.sgs.com

This certificate remains the property of SGS and shall be returned upon request.

Page 1 of 2

SGS



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Wieland Metal Services, LLC

ISO 9001:2015

Issue 2



Additional facilities

150 Lackawanna Avenue, Parsippany, NJ 07054, United States
Scope: The Warehousing, Processing and distribution
of Metal Materials.

180 Alexandra Way, Carol Stream, IL 60188, United States
Scope: Slitting and coating.

2081 McCrea Street, Alliance, OH 44601, United States
Scope: Slitting and coating.

5100 S Archibald Ave, Ontario, CA 91762, United States
Scope: Slitting.

Calle La Griega #117, Parque Industrial Queretaro, Santa Rosa
Jauregui, 76220, Mexico
Scope: The Warehousing, Processing and distribution
of Metal Materials.

Centro Industrial Rio Canas Carretera 175 Lote #29
Caguas, 00725, Puerto Rico
Scope: Slitting.





Certificate US21/819944552

The management system of

Wieland Metals, Inc

567 Northgate Parkway
Wheeling 60090, United States

has been assessed and certified as meeting the requirements of

ISO 9001:2015

For the following activities:

Manufacture of Copper and Copper Alloy Strip Products

Further clarifications regarding the scope of this certificate and the applicability of ISO 9001:2015 requirements may be obtained by consulting the organization.

This certificate is valid from 20 January 2022 until 20 January 2025
and remains valid subject to satisfactory surveillance audits.
Recertification audit due a minimum of 60 days before the expiration date.
Issue 2. Certified since July 2021.
Certified since 31 January 2007 by former Certification Body.

The audit leading to this certificate commenced on 08/11/2021.
Previous issue certificate validity date was until 20/01/2022.

Authorized by:

Dan Seal

Dan Seal
Technical Accreditation Manager,
Knowledge Solutions
SGS North America, Inc.

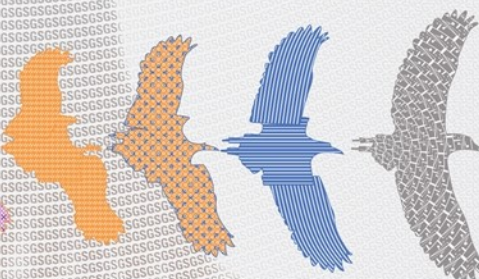
201 Route 17 North, Rutherford, NJ 07070, USA
t (201) 508-3000 f (201) 935-4555 www.us.sgs.com

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ANSI National Accreditation Board
ACCREDITED
ISO/IEC 17021-1
MANAGEMENT SYSTEMS
CERTIFICATION BODY



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CERTIFICATE



This is to certify that

Royal Power Solutions

125 Mercedes Drive
Carol Stream, IL 60188
United States of America

has implemented and maintains a **Quality Management System**.

Scope:

Design and manufacture of precision metal stampings. The assembly of components.

An audit, conducted and documented in a report, has verified that this quality management system fulfills the requirements of the following International Automotive Standard:

IATF 16949:2016

(with product design)

Certificate registration no.	269998 IATF 16
Issuing date	2021-11-17
This certificate is valid until	2024-11-16
Date of revision	2021-12-31
IATF No.	0434818



2-IAO-QMC-01001

For and on behalf of DQS

Brad McGuire
Managing Director, DQS Inc.

Michael Drechsel
Managing Director, DQS Holding GmbH

IATF Contract Office: DQS Holding GmbH, Konrad-Adenauer-Allee 8-10, 61118 Bad Vilbel, Germany
Issuing Office: DQS Inc., 1500 McConnor Parkway, Suite 400, Schaumburg, IL 60173 USA



CERTIFICATE



This is to certify that

Royal Power Solutions

125 Mercedes Drive
Carol Stream, IL 60188
United States of America

has implemented and maintains a **Quality Management System**.

Scope:

Design and manufacture of precision metal stampings. The assembly of components.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

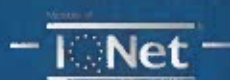
ISO 9001 : 2015

Certificate registration no.	269998 QM15
Date of original certification	2018-09-04
Date of revision	2021-12-31
Date of certification	2021-11-17
Valid until	2024-09-03



DQS Inc.

Brad McGuire
Managing Director



Accredited Body: DQS Inc., 1500 McConnor Parkway, Suite 400, Schaumburg, IL 60173 USA

Laboratory Scope

Royal Power Solutions (Carol Stream) Quality Laboratory is qualified to perform the following inspection, testing and calibration activities. All other activities are performed by accredited outside laboratories.

Inspection/Test/Calibration	Equipment Used	Method and/or Standard Used
First Piece Inspection	Micrometers, Calipers, Indicators, Plug/Pin sets, Optical Comparators/Projectors, Vision and Touch Probe systems (Micro-Vu/OGP/Keyence), Dynes Solution, Force Gages, torque driver/wrenches and Profilometer	QSP-4.10.101
In-process Inspection	Micrometers, Calipers, Indicators, Plug/Pin sets, Optical Comparators/Projectors, Vision and Touch Probe systems (Micro-Vu/OGP/Keyence), Dynes Solution, Force Gages, torque driver/wrenches and Profilometer	QSP-4.10.101
Quality Last Piece Inspection	Micrometers, Calipers, Indicators, Plug/Pin sets, Optical Comparators/Projectors, Vision and Touch Probe systems (Micro-Vu/OGP/Keyence), Dynes Solution, Force Gages, torque driver/wrenches and Profilometer	QSP-4.10.101
Calibrate Depth Micrometers	Jo Block Set, ID # 62444	QSP-4.11.118
Calibrate Drop Indicators	Jo Block Set, ID # 62444	QSP-4.11.110
Calibrate Digital Calipers	Jo Block Set, ID # 62444	QSP-4.11.116
Calibrate Dial Calipers	Jo Block Set, ID # 62444	QSP-4.11.114
Calibrate Height Gages	Jo Block Set, ID # 62444	QSP-4.11.111
Calibrate Outside Micrometers	Jo Block Set, ID # 62444	QSP-4.11.109
Calibrate Test / Drop Indicators	Jo Block Set, ID # 62444	QSP-4.11.114