

Part Name	Terminal - Eyelet Type	Cust. Part Number	F4HT-14463-KA
Shown on Drawing No.	RE1874-000	Org. Part Number	F4HT-14463-KA
Engineering Change Level	Rev. B1	Dated	130315
Additional Engineering Changes	N/A	Dated	N/A
Safety and/or Government Regulation	☐ Yes ☒ No	Purchase Order No.	N/A
Checking Aid No.	N/A	Weight (kg)	0.008
Checking Aid Engineering Change Level	N/A	Dated	N/A

ORGANIZATION MANUFACTURING INFORMATION

GRAND TRAVERSE STAMPING

Organization Name & Supplier/Vendor Code

1677 PARK DRIVE

Street Address

TRAVERSE CITY

MI

49686

USA

City

Region

Postal Code

Country

CUSTOMER SUBMITTAL INFORMATION

Nursan

Customer Name / Division

Nursan

Buyer / Buyer Code

AUTOMOTIVE

Application

MATERIALS REPORTING

Has customer-required Substances of Concern information been reported?

☒ Yes ☐ No ☐ n/a

Submitted by IMDS or other customer format:

IMDS# 1159415154 / 1

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) | ☐ Sub-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 > than 1 year | ☐ Other - Please specify below |

REQUESTED SUBMISSION LEVEL (Check One)

- ☐ Level 1 -- Warrant only (and for designated appearance items, an Appearance Approval Report) submitted to customer.
- ☒ Level 2 -- Warrant with product samples and limited supporting data submitted to the customer
- ☐ Level 3 -- Warrant with product samples and complete supporting data submitted to customer.
- ☐ Level 4 -- Warrant and other requirements defined by customer.
- ☐ Level 5 -- Warrant with 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 packageThese results meet all design record requirements: ☒ Yes ☐ No (If "NO" -- Explanation Required)

Mold / Cavity / Production Process Die 239

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 300 SPM / 1 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

Date 9-23-22

Print Name Joseph Deere

Phone No. 231-929-4215

FAX No. 231-929-0589

Title Quality Manager

E-mail joseph.deere@pkcgroup.com

FOR CUSTOMER USE ONLY (IF APPLICABLE)

PPAP Warrant Disposition: ☐ Approved ☐ Rejected ☐ Other

Customer Signature

Date

Print Name

Customer Tracking Number (optional)

GRAND TRAVERSE STAMPING

DIMENSIONAL LAYOUT REPORT

R1874-007 / # 1622847

LAYOUT TYPE	Scheduled			PLEX#	288559
DATE	4-5-22	LAB. TECH.	J. Minnis	STATUS	ACCEPT
PRINT NO.	RE1874-000	PRINT DATE	130315	PRINT REV.	B1
PART NO.	F44T-14463-KA	PART NAME	Terminal Ring	DIE NO.	239
PRINT NO.	PRINT SPECIFICATION	TOLERANCE	RESULT	DEVIATION	REMARKS
1	Source ID, Date & Wire		GTS, 6, 9		N/A for die no.
2	20.60	0.15	N/A		
3	Ø20.00	0.15	N/A		
4	ØD) 7.09 / 7.23		GAGE		# 1162
5	2.9	0.3	3.1		INSIDE
6	4.0	0.3	4.0		
7	1.00	0.15	0.90		
8	8.0 MAX.		7.4 MAX		
9	2X 20°	3°00'	19°		2X
10	10.3	0.3	10.2		
11	0.3 MAX.		0.1 MAX		
12	Ø4.10	0.15	Ø4.19		
13	2X 20°	3°00'	19°		2X
14	10.8	0.3	10.9		
15	0.3 MAX.		0.1 MAX		
16	Ø5.70	0.15	Ø5.60		
17	12.0	0.3	12.1		
18	8.0	0.3	8.0		
19	Ø3.2	0.3	Ø3.2		
20	12.00	0.15	12.07		
21	15.55	0.15	15.60		R to R
22	28.00	0.15	28.00		
23	27.00	0.15	27.07		AT CENTER
24	2.0	0.3	2.1		
25	2X 2.0	0.3	2.0		2X
26	0.10/0.40 TYP		0.19		3X
27	0.75 TYP	0.15	0.63 - 0.65		TYP
28	20.60	0.15	N/A		-006,-024,-025,-026,-027
29	Ø20.00	0.15	N/A		-006,-024,-025,-026,-027
30	14.0 MIN.		N/A		-006,-024,-025,-026,-027

GRAND TRAVERSE STAMPING

DIMENSIONAL LAYOUT REPORT

PART NO.	F4HT-14463-KA	PART NAME	Terminal Ring	DIE NO.	239
PRINT NO.	PRINT SPECIFICATION	TOLERANCE	RESULT	DEVIATION	REMARKS
31	16.25	0.15	16.23		-007,-028,-029,-030,-031
32	11.00	0.15	11.01		-007,-028,-029,-030,-031
33	Ø14.80	0.15	Ø 14.79		-007,-028,-029,-030,-031
34	4X 6.33	0.1	N/A		-010 & -011
	⊕0.1 (M) A (M) B C		N/A		-010 & -011
35	8X 45.0°	3°00'	N/A		-010 & -011
36	Material)		Vendor Cert. Attached		
	1.5	0.05	1.51		

CERTIFICATE OF TEST

Customer: AEES
GRAND TRAVERSE STAMPING
1677 PARK DRIVE
TRAVERSE CITY, MI 49686

Customer Part No: 1597200

Description: C15100 .059 H040

Specification: ASTM B 747-15

Customer PO No: GTS000030 7-12

PMX Order No: 124360-8

PMX Bill of Lading: 00292727

Pallet | Tag No.: 799252 | M9X5FC-CA

Chemical Composition (Wt %)	Test Date 10/07/21	Method (See below**)
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Element	Cu	Zr
Spec Min.	99.8000	0.0500
Spec Max.	99.9500	0.1500
Actual	99.8855	0.0918

Dimensions	Units/Scale	Spec. Min.	Spec. Max.	Actual
Thickness	in	.058	.06	.0589
Width	in	2.235	2.245	PASS

Mechanical Properties	Test Date 01/05/22				
	Method	Units/Scale	Spec. Min.	Spec. Max.	Actual
Tensile Strength	ASTM-E8-16a	ksi	47.0	56.0	50.1
Yield Strength		ksi			
Elongation		%			
Hardness 1					
Hardness 2					
Grain Size		mm			

Other Tests	Test Date 12/12/21				
	Method	Units/Scale	Spec. Min.	Spec. Max.	Actual
C Coating Type 1	Mech-Sn				
C Ctg. Top Thk. 1	ASTM-B568-98(2014)	Microinc	20		37.6
C Ctg. Bot. Thk. 1	ASTM-B568-98(2014)	Microinc	20		35.4

We certify that these test results were obtained from samples of the material lots identified above. The test procedures and material production conform to chemical and mechanical requirements of applicable customer and ASTM specifications. This document may not be reproduced, except in full, without the written approval of PMX Industries, Inc. **Chemistry is analyzed according to methods ASTM-E1621 and/or ASTM-E-1251. Country of Melt and MFG:USA


Mary Pasker, Laboratory Supervisor

01/10/22

Date

PMX INDUSTRIES, INC. 5300 WILLOW CREEK DRIVE SW, CEDAR RAPIDS, IA 52404-4303

TEL: 319/368-7700 FAX: 319/368-7701 E-MAIL: Mary.Pasker@ipmx.com

ISO 9001:2015 REGISTERED



AEES, Inc.

Control Plan

Control Plan Number 256		Control Plan Type Production		Part Number/Latest Change Level 288559 / 288559		Date (Orig.) 4/4/1994		Date (Rev.) 12/28/2021			
Key Contact/Phone Joseph Deere (231)922-7557				Core Team J. Deere, S. Page, J. Minnis, L. Wheelock		Customer Engineering Approval Date (If Req'd)					
Part Name/Description F4HT-14463-KA				Organization/Plant Approval Date (If Req'd) 12/28/2021		Customer Quality Approval Date (If Req'd)					
Organization/Plant GTS / Traverse City				Organization Code Die 239		Other Approval Date (If Req'd)					
Notes											
Control Plan Number 256		Control Plan Type Production		Part Number/Latest Change Level 288559 / 288559		Date (Orig.) 4/4/1994		Date (Rev.) 12/28/2021			
Part/Process Number	Operation	Machine / Device	Characteristics			Special Char. Class	Methods				Reaction Plan / Corrective Action
			No.	Product	Process		Product / Process Specification Tolerance	Evaluation Measurement Technique	Sample Size / Freq.	Control Method	
10	Stamp FG Pre-Run Safety Checks	Press 04 Press 02 Press 01 Press 03 Press 05	PRSC1		Safety Pilots		Test Safety Pilots	Visual	Each Set up	Checksheet	Notify Supervisor
			PRSC2		Front Press Door		Test Door Safety	Visual	Each Set up	Checksheet	Notify Supervisor
			PRSC3		Back Press Door		Test Door Safety	Visual	Each Set up	Checksheet	Notify Supervisor
			PRSC4		Press End of Stock Sensor		Test Sensor	Visual	Each Set up	Checksheet	Notify Supervisor
			PRSC5		Weld Sensor		Test Sensor	Visual	Each Set up	Checksheet	Notify Supervisor
			PRSC6		Press Guards Adjusted to Spec.		Check Guards	Visual	Each Set up	Checksheet	Notify Supervisor
			PRSC7		Take up		Test Sensor	Visual	Each Set up	Checksheet	Notify Supervisor
			PRSC8		Payoff		Test Sensor	Visual	Each Set up	Checksheet	Notify Supervisor
			PRSC9		Bar Cover		Test Switch	Visual	Each Set up	Checksheet	Notify Supervisor
10	Stamp FG First Piece Inspection	Press 04 Press 02 Press 01 Press 03 Press 05	47	Material Thickness			1.473 / 1.523 mm Micrometer	Micrometer	Each Set up	Checksheet	Replace with correct material
			P.O.	Material Width			56.77 / 57.02 mm Caliper	Caliper	Each Set up	Checksheet	Replace with correct material
			1A	stamps:GTS, 6, week code			0 / 52	Visual	Each Set up	Checksheet	Adjust and reset die
			1	hole location			16.10 / 16.40 mm comparator	Comparator	Each Set up	Checksheet	Adjust and reset die
			2	hole size			7.09 / 7.23 Gage #1162	Go/No 1162 Gage #1162	Each Set up	Checksheet	Adjust and reset die
			3	body width			14.65 / 14.95 mm Caliper	Caliper	Each Set up	Checksheet	Adjust and reset die
			5	insulation grip hole			3 / 3 ref gage 1108	Visual ref gage #1108	Each Set up	Checksheet	Adjust and reset die
			26	serration depth 3X			0.10 / 0.40 mm dial indicator	Dial Indicator	Each Set up	Checksheet	Adjust and reset die
			28	insulation grip coin present 2X			Attribute	Visual	Each Set up	Checksheet	Adjust and reset die
			29	insulation grip width			10.50 / 11.10 mm Caliper	Caliper	Each Set up	Checksheet	Adjust and reset die
			31/33	grips are even			Attribute	Visual	Each Set up	Checksheet	Adjust and reset die
			32	insulation grip diameter formed correctly			Attribute	Visual	Each Set up	Checksheet	Adjust and reset die
			34	conductor grip coin present 2X			Attribute	Visual	Each Set up	Checksheet	Adjust and reset die
			35	Conductor grip width			10.00 / 10.60 mm Caliper	Caliper	Each Set up	Checksheet	Adjust and reset die

Control Plan Number 256			Control Plan Type Production			Part Number/Latest Change Level 288559 / 288559			Date (Orig.) 4/4/1994		Date (Rev.) 12/28/2021	
Part/Process Number	Operation	Machine / Device	Characteristics			Special Char. Class	Methods				Reaction Plan / Corrective Action	
			No.	Product	Process		Product / Process Specification Tolerance	Evaluation Measurement Technique	Sample Size / Freq.	Control Method		
			37	conductor grip diameter formed correctly			Attribute	Visual	Each Set up	Checksheet	Adjust and reset die	
			*69	feed slot must be present			Attribute	Visual	Each Set up	Checksheet	Adjust and reset die	
			A	Appearance			No burrs, slug marks, bent or misformed parts	Visual	Each Set up	Checksheet	Adjust and reset die	
10	Stamp FG In-Process Inspection	Press 04 Press 02 Press 01 Press 03 Press 05	1A	stamps:GTS, 6, week code			0 / 52	Visual	Every 4 hours	Checksheet	Shut down process	
			2	hole size			7.09 / 7.23 Gage #1162	Go/No 1162 Gage #1162	Every 4 hours	Checksheet	Shut down process	
			3	body width			14.65 / 14.95 mm Caliper	Caliper	Every 4 hours	Checksheet	Shut down process	
			5	insulation grip hole			3 / 3 ref gage 1108	Visual ref gage #1108	Every 4 hours	Checksheet	Shut down process	
			26	serration depth 3X			0.10 / 0.40 mm dial indicator	Visual	Every 4 hours	Checksheet	Shut down process	
			28	insulation grip coin present 2X			Attribute	Visual	Every 4 hours	Checksheet	Shut down process	
			29	insulation grip width			10.50 / 11.10 mm Caliper	Caliper	Every 4 hours	Checksheet	Shut down process	
			31/33	grips are even			Attribute	Visual	Every 4 hours	Checksheet	Shut down process	
			32	insulation grip diameter formed correctly			Attribute	Visual	Every 4 hours	Checksheet	Shut down process	
			34	conductor grip coin present 2X			Attribute	Visual	Every 4 hours	Checksheet	Shut down process	
			35	Conductor grip width			10.00 / 10.60 mm Caliper	Caliper	Every 4 hours	Checksheet	Shut down process	
			37	conductor grip diameter formed correctly			Attribute	Visual	Every 4 hours	Checksheet	Shut down process	
			*69	feed slot must be present			Attribute	Visual	Every 4 hours	Checksheet	Shut down process	
			A	Appearance			No burrs, slug marks, bent or misformed parts	Visual	Every 4 hours	Checksheet	Shut down process	
			0	serial number			0 / 10,000	Visual	Every 4 hours	Checksheet	Shut down process	
10	Stamp FG Final Inspection	Press 04 Press 02 Press 01 Press 03 Press 05	1A	stamps:GTS, 6, week code			0 / 52	Visual	Each Lot	Checksheet	Impound parts	
			2	hole size			7.09 / 7.23 Gage #1162	Go/No 1162 Gage #1162	Each Lot	Checksheet	Impound parts	
			5	insulation grip hole			3 / 3 ref gage 1108	Visual ref gage #1108	Each Lot	Checksheet	Impound parts	
			26	serration depth 3X			0.10 / 0.40 mm dial indicator	Visual	Each Lot	Checksheet	Impound parts	
			28	insulation grip coin present 2X			Attribute	Visual	Each Lot	Checksheet	Impound parts	
			31/33	grips are even			Attribute	Visual	Each Lot	Checksheet	Impound parts	
			32	insulation grip diameter formed correctly			Attribute	Visual	Each Lot	Checksheet	Impound parts	

Control Plan Number 256			Control Plan Type Production			Part Number/Latest Change Level 288559 / 288559			Date (Orig.) 4/4/1994		Date (Rev.) 12/28/2021	
Part/Process Number	Operation	Machine / Device	Characteristics			Special Char. Class	Methods				Reaction Plan / Corrective Action	
			No.	Product	Process		Product / Process Specification Tolerance	Evaluation Measurement Technique	Sample Size / Freq.	Control Method		
			34	conductor grip coin present 2X			Attribute	Visual	Each Lot	Checksheet	Impound parts	
			37	conductor grip diameter formed correctly			Attribute	Visual	Each Lot	Checksheet	Impound parts	
			*69	feed slot must be present			Attribute	Visual	Each Lot	Checksheet	Impound parts	
			A	Appearance			No burrs, slug marks, bent or misformed parts	Visual	Each Lot	Checksheet	Impound parts	
			0	serial number			0 / 10,000	Visual	Each Lot	Checksheet	Impound parts	
10	Stamp FG Manufacture Parts	Press 04 Press 02 Press 01 Press 03 Press 05	1A	stamps:GTS, 6, week code			0 / 52	Visual	Each Case	Checksheet	Shut down process and/or notify Q.C.	
			2	hole size			7.09 / 7.23 Gage #1162	Go/No 1162 Gage #1162	Each Case	Checksheet	Shut down process and/or notify Q.C.	
			5	insulation grip hole			3 / 3 ref gage 1108	Visual ref gage #1108	Each Case	Checksheet	Shut down process and/or notify Q.C.	
			26	serration depth 3X			0.10 / 0.40 mm dial indicator	Visual	Each Case	Checksheet	Shut down process and/or notify Q.C.	
			28	insulation grip coin present 2X			Attribute	Visual	Each Case	Checksheet	Shut down process and/or notify Q.C.	
			31/33	grips are even			Attribute	Visual	Each Case	Checksheet	Shut down process and/or notify Q.C.	
			32	insulation grip diameter formed correctly			Attribute	Visual	Each Case	Checksheet	Impound parts	
			34	conductor grip coin present 2X			Attribute	Visual	Each Case	Checksheet	Shut down process and/or notify Q.C.	
			37	conductor grip diameter formed correctly			Attribute	Visual	Each Case	Checksheet	Impound parts	
			*69	feed slot must be present			Attribute	Visual	Each Case	Checksheet	Shut down process and/or notify Q.C.	
			A	Appearance			No burrs, slug marks, bent or misformed parts	Visual	Each Case	Checksheet	Shut down process and/or notify Q.C.	

aees.minnijk - 9/23/2022 4:11 PM