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PPAP Package for:

Customer Name: Newark Electronics
Customer Part Number: 1-2296696-1
(TE Connectivity Part Number): 1-2296696-1
Date: July 2020

Nondisclosure Agreement

If a nondisclosure agreement has been reached with your company, it will be included on the following page(s). Please review the terms of this agreement to ensure that further actions associated with information contained within this PPAP package do not violate these terms.

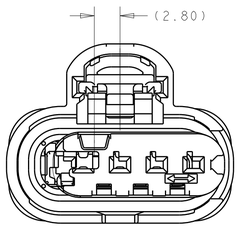
If a nondisclosure agreement HAS NOT been reached, certain documents deemed confidential by TE Connectivity will not be included in this PPAP package. These documents include but are not limited to the Design FMEA, the Process Flow Diagram, the Process FMEA and the Control Plan. These documents can be reviewed by you company but cannot be retained.

Section 1

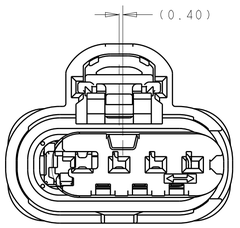
Design Records

REVISIONS

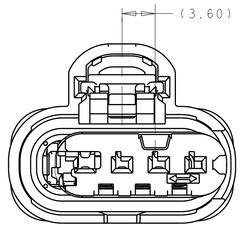
P	LTR	DESCRIPTION	DATE	DWN	APVD
	A	RELEASED PER ECO-16-010790	07NOV2016	DD	JT



KEY CODE A △12
SCALE 3:1



KEY CODE B △12
SCALE 3:1



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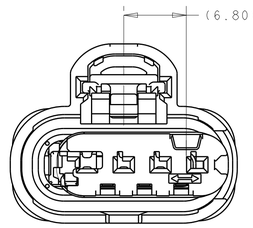
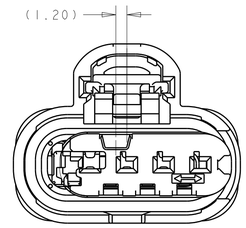
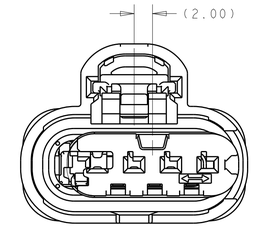
SCALE 3:1



KEY CODE D △12 △14
SCALE 3:1



KEY CODE E △12 △14
SCALE 3:1



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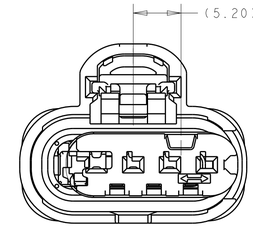
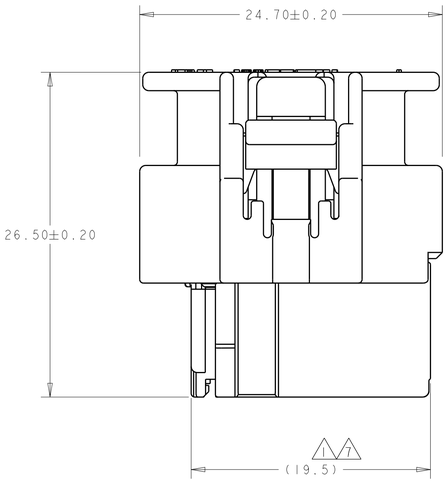
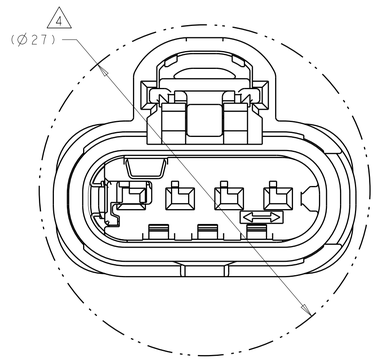
SCALE 3:1

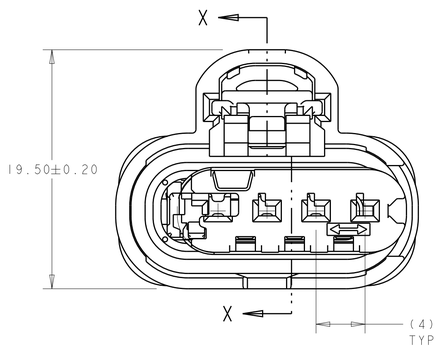


KEY CODE G △12
SCALE 3:1

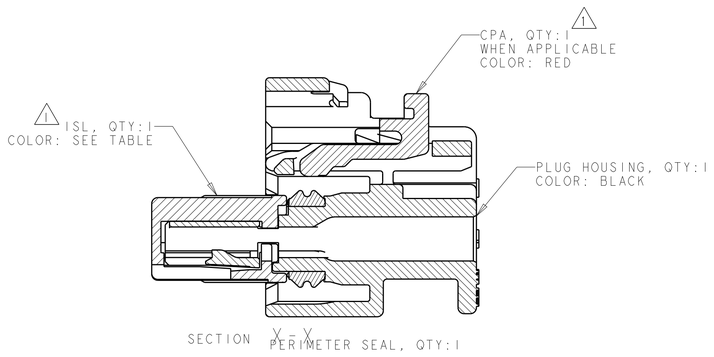




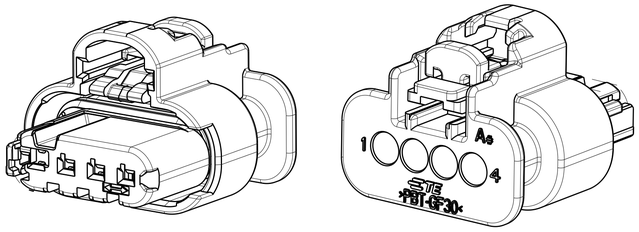
ISL SHOWN IN
FINAL (LOCKED) POSITION - REF ONLY
SCALE 4:1



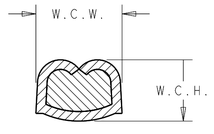
ISL SHOWN IN
PRE-LATCHED (AS-SHIPPED) POSITION



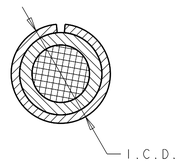
SECTION X-X



ISOMETRIC VIEW
SCALE 3:1



WIRE CRIMP DIMENSIONS



INSULATION CRIMP DIMENSIONS

△1 ISL AND CPA (WHEN APPLICABLE) ARE SHIPPED IN THEIR PRE-LATCHED POSITIONS.

2. TERMINALS SOLD SEPARATELY. FOR USE WITH TE MCON 1.2mm CLEAN BODY CONTACT WITH WIRE SEAL. SEE TABLE.

3. APPLICABLE INTERFACE DRAWINGS: EWCAP 120-S-004-1-Z01 AND 120-S-004-1-Z02.

△4 MINIMUM FEED THROUGH CONDITION WITH 1.0mm CLEARANCE ALL AROUND.

5. TRACEABILITY CODE (YY = TWO DIGIT YEAR, JJJ = 3 DIGIT JULIAN DAY, S = 1 DIGIT SHIFT).

6. FOR OPTIONAL TERMINAL CAVITY BLOCKING, CONTACT TE SALES REPRESENTIVE OR CUSTOMER SERVICE.

△7 SEE INSTRUCTION SHEET 408-32103 FOR CONNECTOR SERVICE AND ISL OPERATION. ISL ACTUATION DISTANCE IS 2.0mm.

△8 CONTACT PLATING AND APPLICABLE INDIVIDUAL WIRE SEAL ARE APPLICATION DEPENDENT. CONTACT TE SALES REPRESENTATIVE OR CUSTOMER SERVICE FOR DETAILS.

△9 FOR WIRE CRIMP DETAILS, SEE TE APPLICATION SPECIFICATION 114-18464.

△10 DOCUMENTED I.C.D. IS SPECIFIED TO MEET MOST WIRE SEAL APPLICATIONS. HOWEVER, I.C.D. IS HIGHLY DEPENDENT ON INSULATION TYPE AND OD. SUFFICIENT GRIP OF THE WIRE SEAL MUST BE OBTAINED SUCH THAT WIRE SEAL DOES NOT DISPLACE FROM INSULATION GRIP DURING CONTACT INSERTION INTO CONNECTOR HOUSING. THE WIRE SEAL SHALL NOT BE CRIMPED TOO TIGHTLY THAT THE WIRE SEAL TEARS DURING THE CRIMPING OPERATION.

11. CONNECTOR VALIDATION PER GMW3191 T4,V4,S3 WITH THE FOLLOWING EXCEPTIONS:
PRIMARY TERMINAL RETENTION FORCE > 30 NEWTONS.

△12 KEY CODE DIMENSIONS ARE SHOWN WITH ISL IN PRE-LATCHED POSTION. FOR DIMENSION OF KEY WITH ISL IN FINAL POSITION, ADJUST SHOWN DIMENSIONS BY 2.0mm.

△13 PRELIMINARY - NOT RELEASED FOR PRODUCTION

△14 KEY CODE NOT TOOLED

15. MATES WITH STRAIGHT EXIT WIRE DRESS, TE PN 2272162-1 AND RIGHT ANGLE EXIT WIRE DRESS, TE PN 2272163-1

16. THIS DRAWING IS RESTRICTED TO GM CORPORATION.

CPA (YES / NO)	ISL COLOR	KEYING CONFIGURATION	PART NUMBER
YES	BLUE	KEY CODE G	1-2296696-7
	DK GRAY	KEY CODE F	1-2296696-6
	LT GRAY	KEY CODE E △14	1-2296696-5 △13
	BLUE	KEY CODE D △14	1-2296696-4 △13
	DK GRAY	KEY CODE C	1-2296696-3
	LT GRAY	KEY CODE B	1-2296696-2
	BLUE	KEY CODE A	1-2296696-1
NO	BLUE	KEY CODE G	2296696-7
	DK GRAY	KEY CODE F	2296696-6
	LT GRAY	KEY CODE E △14	2296696-5 △13
	BLUE	KEY CODE D △14	2296696-4 △13
	DK GRAY	KEY CODE C	2296696-3
	LT GRAY	KEY CODE B	2296696-2
	BLUE	KEY CODE A	2296696-1

150°C △8	MAX TEMP	△9	△9	△10	△8
1418844	FEMALE TERMINAL P/N	W.C.H	W.C.W	I.C.D	WIRE SEAL PART NUMBER
1670146					
1418850					

THIS DRAWING IS A CONTROLLED DOCUMENT.

DIMENSIONS: mm

TOLERANCES UNLESS OTHERWISE SPECIFIED:
0 PLC ±-
1 PLC ±0.3
2 PLC ±0.15
3 PLC ±-
4 PLC ±-
ANGLES ±-

MATERIAL -
FINISH -

DWN VISHNU.P 27MAY2013
CHK MD BROWN 29MAY2013
APVD MD BROWN 29MAY2013
PRODUCT SPEC -
APPLICATION SPEC -
WEIGHT -

TE Connectivity

NAME PLUG ASSEMBLY, SEALED, 4 POSITION, MCON

SIZE	CAGE CODE	DRAWING NO	RESTRICTED TO
A1	00779	C-2296696	GM

RESTRICTED CUSTOMER | SCALE 4:1 | SHEET 1 OF 1 | REV A

4805 (3/13)

Section 2

Engineering Change Documents

Product Change Notification

Current Date: 13-Nov-2019

TE Connectivity

Product Change Notification: P-19-018198 **PCN Date:** 11-NOV-19

TE would like to inform you of the following change(s) to the listed TE Connectivity Product. In case of any further questions about this change(s), please contact your TE Connectivity Sales Engineer. Affected part, drawing and/or specification numbers are listed on the attached sheet(s).

General Product Description:
Multiple Part numbers. Phase 1. Americas Footprint Optimization.

Description of Changes
We hereby inform you about a transfer of tools and/or processes of the components of the Finished Goods that we ship to you to further improve our Supply Chain towards our customers. The transfer follows a strict procedure, which fully maintains quality, ability to supply and form-fit-function of the concerned products. The receiving manufacturing location operates under a certified quality management system in accordance with standard automotive requirements. These moves will be validated not to affect product FFF, tool geometry or quality performance. TE will uphold our responsibility to internally validate and approve these tools among appropriate first article dimensional and capability analysis, comparative 2-sample T-tests before and after moves, before and after CT scans where needed, and PV test as defined by TE product engineering. TE is willing to provide any such validation data to our customers as our joint non-disclosure agreement statuses allow. AMEND with PCN P-19-018058

Reason for Changes:	
Product improvement.These changes are part of an overall effort from TE to improve our supply chain toward our customers and to focus each plant on core products and processes. A TE-internal release test based on the relevant part specifications will be executed before delivery and this notification serves to fulfill our notification requirements as prescribed by AIAG 4th edition. This change notification document accompanies a letter sent to your organization on September 13, 2019 signed by our Vice President of Sales and Marketing. Follow up conversations can occur upon request with your sales contact within 15 calendar days after receipt of this PCN. TE can share validation data with your organization upon request. If you have any questions or needs from this move, please contact your sales engineer within 15 days of receipt of this letter. If no response is received on this period, TE will consider this as an approval and tools must move to the new locations.	
Estimated Dates:	
Last Order Date (Obsolete Parts Only):	**First Date To Ship** (Changed Parts Only):
	03-JAN-2020
Last Ship Date (Obsolete Parts Only):	**Last Date for Mixed Shipments:** (Changed Parts Only):
	No Mixed Shipments

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1-1417746-2	NO					
1-1419168-1	NO		"V23542-G1506-D101"			
1-1419168-2	NO		"V23542-G1506-D102"			
1-1419168-3	NO		"V23542-G1506-D103"			
1-1419168-5	NO					
1-1438096-8	NO					
1-1438103-3	NO					
1-1438103-9	NO					
1-1438153-1	NO					
1-1438153-3	NO					
1-1438153-4	NO					
1-1438153-7	NO					
1-1438153-8	NO					
1-1438435-3	NO					
1-1438693-4	NO					
1-1438693-6	NO					
1-1438693-8	NO					
1-1438693-9	NO					
1-1438841-1	NO					
1-1438841-2	NO					
1-1438841-7	NO					
1-1456426-1	NO					
1-1456426-2	NO					
1-1456426-5	NO					
1-1456426-6	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1-1456985-0	NO					
1-1587041-4	NO					
1-1670915-1	NO					
1-1670917-1	NO					
1-1718644-5	NO					
1-1732466-0	NO					
1-1924067-1	NO					
1-1924067-2	NO					
1-1924067-3	NO					
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1-1924067-5	NO					
1-1924067-6	NO					
1-1924067-9	NO					
1-1924513-5	NO					
1-1924513-9	NO					
1-1924674-0	NO					
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1-2098198-1	NO					
1-2098559-2	NO					
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1-2098923-3	NO					
1-2098923-4	NO					
1-2098923-7	NO					
1-2098924-2	NO					
1-2103177-1	NO					
1-2103177-2	NO					
1-2103177-4	NO					
1-2138020-0	NO					
1-2203455-0	NO					
1-2203515-0	NO					
1-2203515-1	NO					
1-2203515-3	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1-2203515-4	NO					
1-2203515-7	NO					
1-2203529-2	NO					
1-2203654-2	NO					
1-2203654-7	NO					
1-2203663-0	NO					
1-2203663-6	NO					
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1-2203771-3	NO					
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1-2203973-1	NO					
1-2272723-0	NO					
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1-638514-6	NO					
1-776905-1	NO					
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1-776905-3	NO					
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Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1438098-1	NO					
1438099-1	NO					
1438099-8	NO					
1438136-1	NO					
1438136-3	NO					
1438136-4	NO					
1438136-5	NO					
1438426-1	NO					
1438426-3	NO					
1438435-2	NO					
1438435-4	NO					
1438435-7	NO					
1438435-9	NO					
1438442-4	NO					
1438483-1	NO					
1438486-1	NO					
1438545-1	NO					
1438617-1	NO					
1438618-1	NO					
1438618-3	NO					
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1438620-1	NO					
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1438693-1	NO					
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1488992-5	NO					
1488992-6	NO					
1557300-1	NO					
1557304-1	NO					
1557321-1	NO					
1557404-1	NO					
1557405-1	NO					
1557406-1	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1557408-2	NO					
1557408-3	NO					
1557409-3	NO					
1557409-4	NO					
1557410-2	NO					
1557410-3	NO					
1557410-4	NO					
1557485-3	NO					
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1557989-2	NO					
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1587671-1	NO					
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1587719-1	NO					
1587819-1	NO					
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1670119-1	NO					
1732377-1	NO					
1732377-2	NO					
1732434-3	NO					
1732466-7	NO					
1732513-3	NO					
1732560-4	NO					
1732789-2	NO					
184000-1	NO					
184004-1	NO					
184006-1	NO					
184006-2	NO					
184008-1	NO					
184010-1	NO					
184012-1	NO					
184014-1	NO					
184016-1	NO					
184022-1	NO					
184026-1	NO					
184032-1	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
184034-1	NO					
184042-1	NO					
184042-2	NO					
184046-1	NO		"EM3604-000", "AMP-0-0184046-1"			
184050-2	NO					
184060-1	NO					
184115-1	NO					
184116-1	NO					
184116-2	NO					
184124-1	NO					
184139-1	NO					
184140-1	NO					
184141-1	NO					
184207-1	NO					
184212-1	NO					
184212-2	NO					
184214-1	NO					
184216-1	NO					
184220-1	NO					
184240-1	NO					
184244-1	NO					
184248-1	NO					
184270-1	NO					
184292-1	NO					
184311-1	NO					
184315-1	NO					
184322-1	NO					
184340-1	NO					
184341-1	NO					
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184370-1	NO					
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1924484-1	NO					
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1924675-4	NO					
1924683-1	NO					
1924684-1	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1924685-1	NO					
1924686-1	NO					
1924689-1	NO					
1924783-4	NO					
1924940-5	NO					
1924940-6	NO					
1924941-7	NO					
1924941-9	NO					
1924942-1	NO					
1924942-2	NO					
1924942-3	NO					
1924942-4	NO					
1924942-5	NO					
1924942-6	NO					
1924943-1	NO					
1924943-2	NO					
1924943-3	NO					
1924943-5	NO					
1924943-6	NO					
1924944-2	NO					
1924944-4	NO					
1924944-6	NO					
2-1438099-8	NO					
2-1438103-2	NO					
2-1438103-3	NO					
2-1438103-4	NO					
2-1438103-6	NO					
2-1438103-7	NO					
2-1438103-8	NO					
2-1438136-3	NO					
2-1438153-1	NO					
2-1438454-1	NO					
2-1438950-1	NO					
2-1670917-1	NO					
2-1718643-1	NO					
2-1718644-1	NO					
2-1823608-4	NO					
2-1823608-5	NO					
2-1924067-0	NO					
2-1924211-1	NO					
2-1924513-4	NO					
2-1924513-6	NO					
2-1924513-7	NO					
2-1924513-9	NO					
2-1924675-1	NO					
2-1924675-2	NO					
2-1924783-6	NO					
2-1924783-7	NO					
2-1924783-8	NO					
2-1924783-9	NO					
2-1924939-2	NO					
2-1924939-4	NO					
2-1924939-7	NO					
2-1924939-9	NO					
2-1924940-3	NO					
2-1924940-4	NO					
2-1924941-0	NO					
2-1924941-1	NO					
2-2035383-2	NO					
2-2035383-7	NO					
2-2098922-3	NO					
2-2098922-5	NO					
2-2098922-8	NO					
2-2098922-9	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
2-2098923-0	NO					
2-2098923-1	NO					
2-2098923-2	NO					
2-2203654-3	NO					
2-2203654-4	NO					
2-2203654-9	NO					
2-2203663-6	NO					
2-2203663-8	NO					
2-2203663-9	NO					
2-2311078-0	NO					
2-2311078-1	NO					
2-2311078-5	NO					
2-2311078-6	NO					
2-2311078-7	NO					
2-2311078-8	NO					
2-2311078-9	NO					
2-2311082-0	NO					
2-2311082-1	NO					
2-2311082-2	NO					
2-2311082-3	NO					
2-2311082-4	NO					
2-2311082-5	NO					
2-2311082-6	NO					
2-2311082-9	NO					
2-2840440-1	NO					
2-2840672-1	NO					
2035383-3	NO					
2098198-5	NO					
2098256-7	NO					
2098269-1	NO					
2098269-4	NO					
2098541-1	NO					
2098541-2	NO					
2098541-5	NO					
2098541-6	NO					
2098641-1	NO					
2098641-2	NO					
2098641-5	NO					
2098641-6	NO					
2098863-2	NO					
2098863-3	NO					
2098863-4	NO					
2098864-3	NO					
2098865-1	NO					
2098865-2	NO					
2098865-3	NO					
2098865-4	NO					
2098865-5	NO					
2098866-1	NO					
2098866-3	NO					
2098866-4	NO					
2098866-5	NO					
2098866-7	NO					
2098922-1	NO					
2098922-2	NO					
2098922-6	NO					
2098922-8	NO					
2098922-9	NO					
2098923-5	NO					
2098923-6	NO					
2098923-8	NO					
2098923-9	NO					
2098924-5	NO					
2098924-7	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
2098924-8	NO					
2103022-1	NO					
2103177-5	NO					
2103385-4	NO					
2103628-1	NO					
2103628-2	NO					
2103628-4	NO					
2103628-5	NO					
2103628-6	NO					
2103628-7	NO					
2103741-2	NO					
2103741-3	NO					
2103742-2	NO					
2103742-3	NO					
2103743-2	NO					
2103743-3	NO					
2103744-1	NO					
2138020-1	NO					
2138020-2	NO					
2138020-3	NO					
2138020-4	NO					
2138020-5	NO					
2138020-6	NO					
2138020-8	NO					
2138020-9	NO					
2138041-1	NO					
2138041-2	NO					
2138043-6	NO					
2138161-1	NO					
2138161-2	NO					
2138161-3	NO					
2177376-1	NO					
2203109-6	NO					
2203455-1	NO					
2203455-7	NO					
2203455-8	NO					
2203455-9	NO					
2203515-5	NO					
2203516-7	NO					
2203516-8	NO					
2203516-9	NO					
2203663-5	NO					
2203773-7	NO					
2203919-1	NO					
2203973-2	NO					
2203973-5	NO					
2203973-6	NO					
2203973-7	NO					
2203973-8	NO					
2203973-9	NO					
2272033-1	NO					
2272723-1	NO					
2272723-5	NO					
2272723-9	NO					
2289050-1	NO					
2289050-2	NO					
2294430-1	NO					
2294430-5	NO					
2296698-1	NO					
2296700-3	NO					
2296700-6	NO					
2296701-1	NO					
2296701-3	NO					
2300498-1	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
2300498-2	NO					
2300498-6	NO					
2300498-7	NO					
2301631-2	NO					
2304305-2	NO					
2304306-1	NO					
2306039-1	NO					
2306271-1	NO					
2306883-1	NO					
2306884-1	NO					
2307223-1	NO					
2307235-1	NO					
2310207-1	NO					
2310239-1	NO					
2310242-1	NO					
2310242-2	NO					
2311069-1	NO					
2311069-3	NO					
2311069-4	NO					
2311069-5	NO					
2311069-6	NO					
2311071-1	NO					
2311073-9	NO					
2311074-1	NO					
2311075-1	NO					
2311077-1	NO					
2311077-2	NO					
2311084-1	NO					
2311084-2	NO					
2311084-3	NO					
2316020-1	NO					
2316023-1	NO					
2321028-1	NO					
2323660-1	NO					
2323661-1	NO					
2324336-1	NO					
2327375-1	NO					
2327375-2	NO					
2327611-1	NO					
2327611-2	NO					
2327904-1	NO					
2327904-2	NO					
2331832-1	NO					
2332200-6	NO					
2332200-7	NO					
2332470-1	NO					
2335239-1	NO					
2336315-1	NO					
2336318-1	NO					
2336334-1	NO					
2336677-1	NO					
2337306-1	NO					
2337311-1	NO					
2339949-1	NO					
2339949-2	NO					
2339949-3	NO					
2348609-1	NO					
2348609-3	NO					
2349476-1	NO					
2840368-2	NO					
2840595-1	NO					
2840624-1	NO					
2840789-1	NO					
2840822-1	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
2840837-1	NO					
2840838-1	NO					
2840960-1	NO					
2840960-2	NO					
3-1419171-9	NO					
3-1438099-1	NO					
3-1438099-4	NO					
3-1438099-5	NO					
3-1438103-1	NO					
3-1438103-3	NO					
3-1438103-4	NO					
3-1438103-8	NO					
3-1438691-1	NO					
3-1438693-1	NO					
3-1438693-2	NO					
3-1438693-6	NO					
3-1438841-2	NO					
3-1438841-5	NO					
3-1438841-8	NO					
3-1438950-5	NO					
3-1587041-0	NO					
3-1924513-2	NO					
3-1924513-6	NO					
3-1924513-8	NO					
3-1924672-4	NO					
3-1924672-7	NO					
3-1924939-0	NO					
3-1924939-1	NO					
3-1924939-4	NO					
3-1924939-5	NO					
3-1924939-8	NO					
3-2035383-3	NO					
3-2035383-5	NO					
3-2035383-7	NO					
3-2035383-8	NO					
3-2098269-1	NO					
3-2098269-2	NO					
3-2098269-3	NO					
3-2098269-6	NO					
3-2098269-7	NO					
3-2098269-8	NO					
3-2098922-0	NO					
3-2098922-3	NO					
3-2098922-5	NO					
3-2098922-7	NO					
3-2138020-1	NO					
3-2138020-2	NO					
3-2138020-4	NO					
3-2203654-2	NO					
3-2203654-4	NO					
3-2203654-5	NO					
3-2203663-1	NO					
3-2203663-3	NO					
3-2311078-0	NO					
3-2311078-1	NO					
3-2311078-2	NO					
3-2311078-3	NO					
3-2311078-4	NO					
3-2311078-5	NO					
3-2311078-6	NO					
3-2311078-7	NO					
3-2311078-9	NO					
3-2311082-0	NO					
3-2311082-2	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
3-2311082-5	NO					
3-2311082-6	NO					
3-2311082-7	NO					
3-2311082-8	NO					
3-2311082-9	NO					
319234-2	NO					
4-1419171-0	NO					
4-1419171-1	NO					
4-1438090-7	NO					
4-1438099-7	NO					
4-1438099-8	NO					
4-1438136-2	NO					
4-1438136-3	NO					
4-1438691-1	NO					
4-1438691-6	NO					
4-1438693-2	NO					
4-1438693-3	NO					
4-1438693-5	NO					
4-1438841-0	NO					
4-1438841-1	NO					
4-1438841-5	NO					
4-1456426-1	NO					
4-1488991-1	NO					
4-1488991-2	NO					
4-1587041-6	NO					
4-1924067-1	NO					
4-1924067-2	NO					
4-1924225-7	NO					
4-1924225-8	NO					
4-1924292-1	NO					
4-1924513-2	NO					
4-1924513-3	NO					
4-1924513-4	NO					
4-1924513-5	NO					
4-1924513-6	NO					
4-1924513-7	NO					
4-1924513-8	NO					
4-1924513-9	NO					
4-1924783-1	NO					
4-1924783-2	NO					
4-1924783-3	NO					
4-1924783-4	NO					
4-1924783-9	NO					
4-1924939-2	NO					
4-1924939-3	NO					
4-1924939-5	NO					
4-1924939-6	NO					
4-1924939-7	NO					
4-1924939-8	NO					
4-1924939-9	NO					
4-2035383-1	NO					
4-2035383-6	NO					
4-2035383-7	NO					
4-2035383-8	NO					
4-2035383-9	NO					
4-2098269-1	NO					
4-2098269-2	NO					
4-2098269-5	NO					
4-2098269-6	NO					
4-2098269-7	NO					
4-2098269-8	NO					
4-2098541-1	NO					
4-2098541-2	NO					
4-2098559-1	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
4-2098641-1	NO					
4-2098641-2	NO					
4-2098922-1	NO					
4-2098922-2	NO					
4-2098922-3	NO					
4-2098922-4	NO					
4-2098922-6	NO					
4-2098922-8	NO					
4-2103015-1	NO					
4-2103015-2	NO					
4-2103015-4	NO					
4-2103015-5	NO					
4-2103015-6	NO					
4-2103177-1	NO					
4-2103177-2	NO					
4-2103177-4	NO					
4-2103177-5	NO					
4-2103177-6	NO					
4-2103177-7	NO					
4-2103350-1	NO					
4-2103350-2	NO					
4-2103350-4	NO					
4-2103350-5	NO					
4-2103587-1	NO					
4-2103587-2	NO					
4-2203654-2	NO					
4-2203654-3	NO					
4-2203654-6	NO					
4-2203654-7	NO					
4-2203654-8	NO					
4-2203654-9	NO					
4-2203663-3	NO					
4-2203663-4	NO					
4-2203663-6	NO					
4-2203663-7	NO					
4-2203663-8	NO					
4-2203663-9	NO					
4-2272003-1	NO					
4-2272003-2	NO					
4-2272003-3	NO					
4-2272003-4	NO					
4-2272003-5	NO					
4-2272004-1	NO					
4-2272004-2	NO					
4-2272005-1	NO					
4-2272005-2	NO					
4-2272173-1	NO					
4-2272173-2	NO					
4-2272173-3	NO					
4-2840548-1	NO					
4-2840548-2	NO					
5-1438099-1	NO					
5-1438129-9	NO					
5-1438691-4	NO					
5-1438691-6	NO					
5-1438691-7	NO					
5-1438841-9	NO					
5-1557773-1	NO					
5-1557773-2	NO					
5-1557773-3	NO					
5-1557773-5	NO					
5-1557774-1	NO					
5-1557774-3	NO					
5-1557774-4	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
5-1557774-5	NO					
5-1557774-7	NO					
5-1557802-1	NO					
5-1557803-1	NO					
5-1557911-1	NO					
5-1557915-1	NO					
5-1557921-1	NO					
5-1557922-1	NO					
5-1587041-6	NO					
5-1587041-7	NO					
5-1924225-3	NO					
5-1924225-5	NO					
5-1924225-7	NO					
5-1924225-9	NO					
5-1924513-0	NO					
5-1924513-1	NO					
5-1924513-3	NO					
5-1924513-5	NO					
5-1924513-6	NO					
5-1924513-8	NO					
5-1924783-0	NO					
5-1924783-2	NO					
5-1924783-3	NO					
5-1924783-4	NO					
5-1924783-5	NO					
5-1924939-0	NO					
5-1924939-1	NO					
5-1924939-4	NO					
5-1924939-5	NO					
5-1924939-6	NO					
5-1924939-7	NO					
5-1924939-9	NO					
5-2035383-0	NO					
5-2035383-3	NO					
5-2035383-6	NO					
5-2098269-0	NO					
5-2098922-9	NO					
5-2103177-1	NO					
5-2203455-5	NO					
5-2203654-0	NO					
5-2203654-1	NO					
5-2203654-3	NO					
5-2203654-6	NO					
5-2203654-7	NO					
5-2203654-8	NO					
5-2203654-9	NO					
5-2203663-0	NO					
5-2203663-1	NO					
5-2203663-3	NO					
5-2203663-8	NO					
5-2203663-9	NO					
5-2272723-1	NO					
5-2272723-5	NO					
5-2272723-7	NO					
5-2272723-9	NO					
5-2311082-3	NO					
5-2311082-4	NO					
5-2311082-5	NO					
5-2311082-6	NO					
6-1438090-7	NO					
6-1438691-0	NO					
6-1438841-3	NO					
6-1438841-5	NO					
6-1438841-7	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
6-1924225-0	NO					
6-1924225-1	NO					
6-1924225-2	NO					
6-1924225-5	NO					
6-1924225-6	NO					
6-1924225-7	NO					
6-1924225-8	NO					
6-1924783-0	NO					
6-1924783-2	NO					
6-1924783-6	NO					
6-1924783-7	NO					
6-1924783-9	NO					
6-1924939-0	NO					
6-1924939-1	NO					
6-1924939-2	NO					
6-1924939-3	NO					
6-1924939-4	NO					
6-1924939-5	NO					
6-1924939-6	NO					
6-1924939-7	NO					
6-1924939-8	NO					
6-1924939-9	NO					
6-2035383-0	NO					
6-2035383-2	NO					
6-2035383-3	NO					
6-2035383-5	NO					
6-2035383-6	NO					
6-2035383-9	NO					
6-2098922-0	NO					
6-2098922-6	NO					
6-2098922-7	NO					
6-2098922-8	NO					
6-2103177-4	NO					
6-2203654-0	NO					
6-2203654-6	NO					
6-2203654-7	NO					
6-2203654-8	NO					
6-2203654-9	NO					
6-2203663-0	NO					
6-2203663-2	NO					
6-2203663-5	NO					
6-2203663-6	NO					
6-2203663-7	NO					
6-2203663-9	NO					
6-2272723-0	NO					
638514-1	NO					
638514-8	NO					
7-1438136-2	NO					
7-1438136-3	NO					
7-1438691-4	NO					
7-1438691-7	NO					
7-1438691-8	NO					
7-1438691-9	NO					
7-1438841-1	NO					
7-1438841-2	NO					
7-1438841-3	NO					
7-1438841-5	NO					
7-1438841-6	NO					
7-1456659-0	NO					
7-1456659-1	NO					
7-1456659-3	NO					
7-1456659-7	NO					
7-1456659-8	NO					
7-1456659-9	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
7-1924225-0	NO					
7-1924225-1	NO					
7-1924225-2	NO					
7-1924225-3	NO					
7-1924783-0	NO					
7-1924783-1	NO					
7-1924783-2	NO					
7-1924783-3	NO					
7-1924783-4	NO					
7-1924783-5	NO					
7-1924783-6	NO					
7-1924783-7	NO					
7-1924783-8	NO					
7-1924783-9	NO					
7-1924939-0	NO					
7-2035383-0	NO					
7-2035383-2	NO					
7-2035383-3	NO					
7-2035383-8	NO					
7-2098922-2	NO					
7-2098922-3	NO					
7-2098922-6	NO					
7-2098922-8	NO					
7-2203654-0	NO					
7-2203654-1	NO					
7-2203654-2	NO					
7-2203654-3	NO					
7-2203654-9	NO					
7-2203663-0	NO					
7-2203663-1	NO					
776905-8	NO					
8-1438129-4	NO					
8-1438129-5	NO					
8-1438136-2	NO					
8-1438691-0	NO					
8-1438691-1	NO					
8-1438691-2	NO					
8-1438691-3	NO					
8-1438691-4	NO					
8-1438691-5	NO					
8-1438691-7	NO					
8-1438691-8	NO					
8-1438841-3	NO					
8-1438841-4	NO					
8-1438841-5	NO					
8-1438950-3	NO					
8-1438950-5	NO					
8-1438950-6	NO					
8-1456659-0	NO					
8-1456659-7	NO					
8-1456659-9	NO					
8-1924783-1	NO					
8-2035383-0	NO					
8-2035383-3	NO					
8-2035383-9	NO					
828904-1	NO		"CF0547-000", "AMP-0-0828904-1", "80.264.00", "8202609390", "8202611101"			
828904-2	NO					
828922-1	NO		"EG9737-000", "AMP-0-0828922-1", "80.263.00", "820A-37376"			
828922-2	NO					
9-1438090-6	NO					
9-1438136-6	NO					
9-1438841-4	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
9-1438841-7	NO					
9-1456659-2	NO					
9-1456659-7	NO					
9-2035383-4	NO					
9-2035383-5	NO					
9-2035383-6	NO					
9-2035383-7	NO					
963292-1	NO					
963293-1	NO					
963530-1	NO		"1072609867", "820P-37717", "820P-37904", "43119-000"			
963531-1	NO		"1072607258"			
964972-1	NO					
967067-1	NO		"0-0967067-1", "EG9740-000", "AMP-0-0967067-1"			
967067-2	NO					

Product Change Notification

Current Date: 13-Nov-2019

TE Connectivity

Product Change Notification: P-19-018199 **PCN Date:** 11-NOV-19

TE would like to inform you of the following change(s) to the listed TE Connectivity Product. In case of any further questions about this change(s), please contact your TE Connectivity Sales Engineer. Affected part, drawing and/or specification numbers are listed on the attached sheet(s).

General Product Description:
Multiple Part numbers. Phase 1. Americas Footprint Optimization.

Description of Changes
We hereby inform you about a transfer of tools and/or processes of the components of the Finished Goods that we ship to you to further improve our Supply Chain towards our customers. The transfer follows a strict procedure, which fully maintains quality, ability to supply and form-fit-function of the concerned products. The receiving manufacturing location operates under a certified quality management system in accordance with standard automotive requirements. These moves will be validated not to affect product FFF, tool geometry or quality performance. TE will uphold our responsibility to internally validate and approve these tools among appropriate first article dimensional and capability analysis, comparative 2-sample T-tests before and after moves, before and after CT scans where needed, and PV test as defined by TE product engineering. TE is willing to provide any such validation data to our customers as our joint non-disclosure agreement statuses allow. AMEND with PCN P-19-018058

Reason for Changes:	
Product improvement.These changes are part of an overall effort from TE to improve our supply chain toward our customers and to focus each plant on core products and processes. A TE-internal release test based on the relevant part specifications will be executed before delivery and this notification serves to fulfill our notification requirements as prescribed by AIAG 4th edition. This change notification document accompanies a letter sent to your organization on September 13, 2019 signed by our Vice President of Sales and Marketing. Follow up conversations can occur upon request with your sales contact within 15 calendar days after receipt of this PCN. TE can share validation data with your organization upon request. If you have any questions or needs from this move, please contact your sales engineer within 15 days of receipt of this letter. If no response is received on this period, TE will consider this as an approval and tools must move to the new locations.	
Estimated Dates:	
Last Order Date (Obsolete Parts Only):	**First Date To Ship** (Changed Parts Only):
	03-JAN-2020
Last Ship Date (Obsolete Parts Only):	**Last Date for Mixed Shipments:** (Changed Parts Only):
	No Mixed Shipments

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1-1438356-1	NO					
1-1438356-8	NO					
1-1438454-1	NO					
1-1924940-1	NO					
1-1924940-3	NO					
1-1924940-7	NO					
1-1924940-8	NO					
1-1924940-9	NO					
1-2203312-1	NO					
1-2203312-2	NO					
1-2203312-3	NO					
1-2203773-3	NO					
1438129-1	NO					
1438129-2	NO					
1438129-3	NO					
1456554-1	NO					
1557407-2	NO					
1557407-3	NO					
1557801-1	NO					
1557801-2	NO					
1557801-3	NO					
1557801-4	NO					
1557873-1	NO					
1587902-2	NO					
1670120-1	NO					
1670120-2	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
184002-1	NO					
184020-1	NO					
184097-1	NO					
184099-1	NO					
184344-1	NO					
184471-6	NO					
184471-8	NO					
2-1438693-0	NO					
2-1438693-1	NO					
2-1438693-8	NO					
2-1438693-9	NO					
2-1456659-4	NO					
2-1924225-9	NO					
2098557-1	NO					
2098557-2	NO					
2098557-4	NO					
2098557-7	NO					
2098559-5	NO					
2098559-6	NO					
2098559-7	NO					
2098559-8	NO					
2098863-5	NO					
2098863-6	NO					
2098863-7	NO					
2098863-8	NO					
2098863-9	NO					
2103149-1	NO					
2103149-4	NO					
2103149-7	NO					
2103534-1	NO					
2103534-2	NO					
2103534-4	NO					
2138089-1	NO					
2203654-5	NO					
2203654-9	NO					
2272763-1	NO					
2311072-1	NO					
2321027-1	NO					
2324337-1	NO					
3-1438136-4	NO					
3-1924783-0	NO					
3-1924783-7	NO					
3-1924783-8	NO					
3-1924783-9	NO					
4-2098557-1	NO					
4-2311082-0	NO					
4-2311082-1	NO					
4-2311082-2	NO					
4-2311082-4	NO					
4-2311082-5	NO					
4-2311082-6	NO					
4-2311082-7	NO					
4-2311082-8	NO					
5-1456659-3	NO					
5-1456659-8	NO					
5-1557909-1	NO					
5-1557910-1	NO					
5-1557910-2	NO					
5-1924670-0	NO					
5-2304580-1	NO					
6-1438136-2	NO					
6-1438136-8	NO					
6-1438136-9	NO					
6-1587041-6	NO					
6-1587041-9	NO					

Part Number	Part Discontinued per PCN	Customer Drawing	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
776671-1	NO					
776834-3	NO					
776834-4	NO					
776834-5	NO					
776887-2	NO					
776887-3	NO					
776887-5	NO					
9-1438691-0	NO					
9-1438691-1	NO					
9-1438691-3	NO					
9-2301631-2	NO					
963294-1	NO					

Section 3

Customer Engineering Approval

GMW 3191 (2019) - Sealed Connector

Testing Purpose: Product Validation Report

EWO Number: N/A - TE NA Tool Transfers

Model Year: N/A

First Using Program: N/A

Application: Various

Notes: This PV Report was to validate the move of:
1) Mold M487882 (Mold A) for TE PN 2303908-1 and 2272076-1. TE PN 2303908-1 was used in testing and surrogate to be used for 2272076-1.
2) CPA Mold 1046669 (Mold B) for TE PN 2138343-1 and 2203179-1. TE PN 2138343-1 was used in testing and surrogate to be used for 2203179-1.

Customer Information		Supplier Information						Connector Information		GM Approval
		Connector Supplier Name:	TE Connectivity					Connector Type:	Sealed X Unsealed	Pretest:
GM Connector Part Number(s)	See Part Number Tab	Supplier Part Number(s)	See Part Number Tab					Connector Size:	5P	
		Terminal Information						Part Description:	5P MCON CB Sld Plug Assembly and CPA	
			Primary Terminal			Secondary Terminal				
GM Terminal Part Number	N/A	Terminal Supplier	Terminal Type	Terminal Part No	Terminal Supplier	Terminal Type	Terminal Part No			
Other Information		TE	1.2 MCON	1418844	N/A	N/A	N/A	Temperature Class:	T4 / T3	
Wire Type		TE	1.2 MCON	1670146	N/A	N/A	N/A	Vibration Class:	V4, V2	Post Test:
Tool Number 487882 1046669	Tool Revision Number	TE	1.2 MCON	1418850	N/A	N/A	N/A	Sealing Class	S3	GM CVE - 09JUL20
Tool Location	Empalme, MX							Connector Mating Force Class:	M4	

				Primary Terminal or Connector (****)									Secondary Terminal/Connector (****)									
				Sample Description					Test Results					Sample Description					Test Results				
	Test Item	Test Requirement	Acceptance Criteria	Minimum Sample Size	Terminal Size (mm)	Wire Size	Test Number	Test Start Date	Test Completion Date	Minimum	Maximum	Average	Standard Deviation	Pass/Fail	Terminal Size (mm)	Wire Size	Test Number	Test Start Date	Test Completion Date	Minimum	Maximum	Average	Standard Deviation	Pass/Fail	Notes
Connector System Mechanical Tests	**Terminal to Connector Engagement Force (Section 4.2.4) Test Sequence 29A**																							
	Pre Test Visual Examination (3.4)	Visually examine each test specimen before testing or conditioning	There shall not exhibit any evidence of deterioration, cracks and/or other deformities that could affect performance, function and/or appeearance				20200750 ACL	7/3/2020	7/7/2020					PASS										
	TPA in Open Position (4.2.4) **Female Connector**	With the TPA in the open position, insert the terminal at a rate of 50mm/min until terminal is fully seated and locked	Wire size < 1.0 mm², Force < 15N	10 Terminals	1.2	0.75				7.97N	14.39N	9.89N	1.85	PASS										
			Wire size ≥ 1.0 mm², Force < 30N																					
			Forward Stop ≥ 25N		1.2	0.75				>25N	>25N	>25N		PASS										
	TPA in Fully Seated Position (4.2.4) **Female Connector**	With the TPA in the closed position, insert the terminal at a rate of 50mm/min until terminal is fully seated and locked or all forward motion has of the terminal has ceased or the maximum insertion force reaches 75N	Wire size < 1.0 mm², Force ≥ 30N	10 Terminals																				
			Wire Size = 1.0 mm², Force ≥ 40N																					
			Wire size > 1.0 mm², Force ≥ 60N																					
	Post Test Visual Examination (3.4)	Visually examine each test specimen after testing, note any obsevable changes, such as swelling, corrosion, discoloration, physical distortion, cracks, etc.	There shall be no corrosion, discoloration, cracks, etc which could affect the functionality of the part											PASS										
Connector System Mechanical Tests	**Terminal from Connector Extraction Force (Section 4.2.5) Test Sequence 29B**																							
	Pre Test Visual Examination (3.4)	Visually examine each test specimen before testing or conditioning	There shall not exhibit any evidence of deterioration, cracks and/or other deformities that could affect performance, function and/or appeearance				20200750 ACL	7/3/2020	7/7/2020					PASS										
	Primary Lock Only (4.2.5.4) **Female Connector**	With the TPA in the open position, extract the terminal at a rate of 50mm/min until the terminal is removed	Terminal Size = .5mm, Force ≥ 20N Terminal Size = .64mm, Force ≥ 30N Terminal Size ≤ 1.5mm, Force ≥ 50N Terminal Size ≤ 2.8mm, Force ≥ 60N Terminal Size ≤ 6.3mm, Force ≥ 90N Terminal Size ≤ 9.5mm, Force ≥ 100N Terminal Size > 9.5mm, Force ≥ 100N	10 Terminals	1.2	0.5				58.98N	68.37N	63.63N	2.99	PASS										
	Primary & Secondary Locks (4.2.5.4) **Female Connector**	With the TPA in the closed position, extract the terminal at a rate of 50mm/min until the terminal is removed	Terminal Size = .5mm, Force ≥ 60N Terminal Size = .64mm, Force ≥ 60N Terminal Size ≤ 1.5mm, Force ≥ 80N Terminal Size ≤ 2.8mm, Force ≥ 100N Terminal Size ≤ 6.3mm, Force ≥ 120N Terminal Size ≤ 9.5mm, Force ≥ 150N Terminal Size > 9.5mm, Force ≥ 200N	10 Terminals	1.2	0.75				138.37N	147.82N	143.59N	2.90	PASS										
	Primary & Secondary Locks (Moisture Conditioning) (4.2.5.4) **Female Connector**	Condition connectors according to Section 3.2.1 and with With the TPA in the closed position, extract the terminal at a rate of 50mm/min until the terminal is removed	Terminal Size = .5mm, Force ≥ 60N Terminal Size = .64mm, Force ≥ 60N Terminal Size ≤ 1.5mm, Force ≥ 80N Terminal Size ≤ 2.8mm, Force ≥ 100N Terminal Size ≤ 6.3mm, Force ≥ 120N Terminal Size ≤ 9.5mm, Force ≥ 150N Terminal Size > 9.5mm, Force ≥ 200N	10 Terminals																					
	Post Test Visual Examination (3.4)	Visually examine each test specimen after testing, note any obsevable changes, such as swelling, corrosion, discoloration, physical distortion, cracks, etc.	There shall be no corrosion, discoloration, cracks, etc which could affect the functionality of the part											PASS										
System ...l Tests	**Connector to Connector Engagement Force (Section 4.2.8) Test Sequence 29D**																							
	Pre Test Visual Examination (3.4)	Visually examine each test specimen before testing or conditioning	There shall not exhibit any evidence of deterioration, cracks and/or other deformities that could affect performance, function and/or appeearance											PASS										

Section 4

Design FMEA

See Section A for nondisclosure conditions.
The Design FMEA, if included, is a Class II confidential document belonging to TE Connectivity. A class II document may not be further distributed and is subject to the conditions of the nondisclosure agreement.

Section 5

Process Flow Diagram

See Section A for nondisclosure conditions.
The Process Flow Diagram, if included, is a Class II confidential document belonging to TE Connectivity. A class II document may not be further distributed and is subject to the conditions of the nondisclosure agreement.

Section 6

Process FMEA

See Section A for nondisclosure conditions.
The Process FMEA, if included, is a Class II confidential document belonging to TE Connectivity. A class II document may not be further distributed and is subject to the conditions of the nondisclosure agreement.

Section 7

Control Plan

See Section A for nondisclosure conditions.
The Control Plan, if included, is a Class II confidential document belonging to TE Connectivity. A class II document may not be further distributed and is subject to the conditions of the nondisclosure agreement.

Section 8

Measurement System Analysis

Gage Repeatability and Reproducibility (ANOVA)

Method:	Mico Vu	**Equipment:**	Micro VU	**Elaborated Date:**	January 9, 2020
Trainer:	Victor Peralta (SPC)	**ID Equipment:**	LMMC-007	**STANDARD RECORDS**	**2020-0355**
Area:	Metrology	**Sample Code:**	M-Micro VU		
		Plant:	Plant 2		

	Number	Name
Operator A:	25699	Jorge Martinez
Operator B:	40595	Angelina Cruz
Operator C:	33391	Carmen Solis
Eng. Quality:	**115293**	**Omar Sanchez**
According Results:		**Accepted**

GR&R - %Study Variation: 0.11%

Number of Distinct Categories: 1318

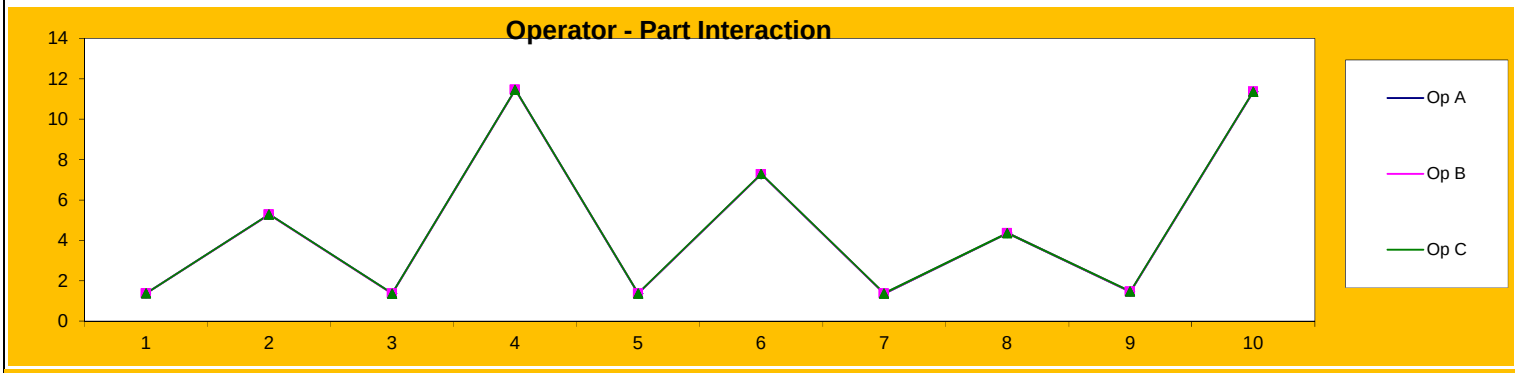
All points under line UCL R: OK

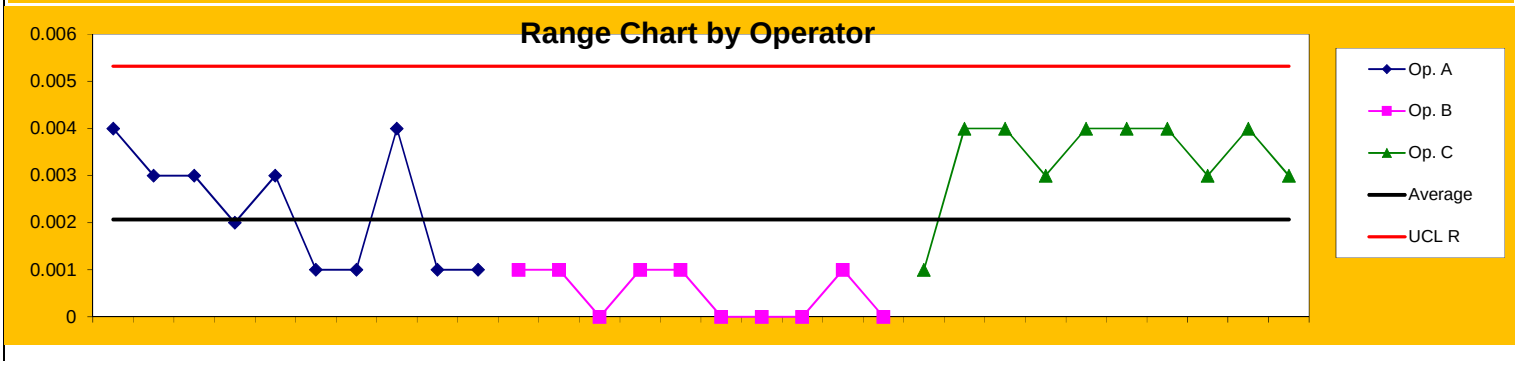
Reason of the Study

Entrenamiento

# of Trials =	3	K_1 =	0.5908	Xbar diff =	0.006217	D_4 =	2.58
# of appraisers =	3	K_2 =	0.5231	Rbarbar =	0.002067	R_p =	10.09933333
# of parts =	10	K_3 =	0.3146	UCL R =	0.0053		

Appraiser/Trial #		Parts to measure 1	2	3	4	5	6	7	8	9	10	Average
25699 Jorge Martinez	S-1	1.3730	5.2900	1.3680	11.4660	1.3690	7.2830	1.3680	4.3670	1.4620	11.3670	4.6713
	S-2	1.3770	5.2880	1.3670	11.4680	1.3670	7.2820	1.3690	4.3640	1.4630	11.3660	4.6711
	S-3	1.3730	5.2870	1.3700	11.4660	1.3700	7.2820	1.3690	4.3680	1.4630	11.3670	4.6715
Average		**1.3743**	**5.2883**	**1.3683**	**11.4667**	**1.3687**	**7.2823**	**1.3687**	**4.3663**	**1.4627**	**11.3667**	$Xbar_a$ = 4.6713
Range		**0.0040**	**0.0030**	**0.0030**	**0.0020**	**0.0030**	**0.0010**	**0.0010**	**0.0040**	**0.0010**	**0.0010**	$Rbar_a$ = 0.0023
40595 Angelina Cruz	S-1	1.3720	5.2860	1.3670	11.4650	1.3670	7.2820	1.3680	4.3630	1.4630	11.3650	4.6698
	S-2	1.3725	5.2850	1.3670	11.4640	1.3660	7.2820	1.3680	4.3630	1.4620	11.3650	4.66945
	S-3	1.3730	5.2850	1.3670	11.4650	1.3660	7.2820	1.3680	4.3630	1.4620	11.3650	4.6696
Average		**1.3725**	**5.2853**	**1.3670**	**11.4647**	**1.3663**	**7.2820**	**1.3680**	**4.3630**	**1.4623**	**11.3650**	$Xbar_b$ = 4.6696
Range		**0.0010**	**0.0010**	**0.0000**	**0.0010**	**0.0010**	**0.0000**	**0.0000**	**0.0000**	**0.0010**	**0.0000**	$Rbar_b$ = 0.0005
33391 Carmen Solis	S-1	1.3770	5.2860	1.3670	11.4690	1.3700	7.2980	1.3720	4.3630	1.4720	11.3780	4.6752
	S-2	1.3780	5.2900	1.3680	11.4710	1.3730	7.2950	1.3750	4.3660	1.4710	11.3760	4.6763
	S-3	1.3770	5.2880	1.3710	11.4720	1.3690	7.2990	1.3710	4.3630	1.4750	11.3750	4.676
Average		**1.3773**	**5.2880**	**1.3687**	**11.4707**	**1.3707**	**7.2973**	**1.3727**	**4.3640**	**1.4727**	**11.3763**	$Xbar_c$ = 4.6758
Range		**0.0010**	**0.0040**	**0.0040**	**0.0030**	**0.0040**	**0.0040**	**0.0040**	**0.0030**	**0.0040**	**0.0030**	$Rbar_c$ = 0.0034





Gage Repeatability and Reproducibility (Crossed)

Method:	Mico Vu	**Equipment:**	Micro VU
Trainer:	Victor Peralta (SPC)	**ID Equipment:**	LMMC-007
Area:	Metrology	**Sample Code:**	M-Micro VU
		Plant:	Plant 2

Elaborated Date: January 9, 2020

STANDARD RECORDS 2020-0355

	Number	Name
Operator A:	25699	Jorge Martinez
Operator B:	40595	Angelina Cruz
Operator C:	33391	Carmen Solis
Eng. Quality:	**115293**	Omar Sanchez
According Results:		**Accepted**

General Comments - Special Event

Gage R&R Study - ANOVA Method

Variance and Standard Deviation Components

Source	St. Dev.	Variance	% of Variance
Total Gage R&R	0.004399	1.9353E-05	0.00%
Repeatability	0.001349	1.8194E-06	0.00%
Reproducibility	0.004187	1.7533E-05	0.00%
Operator	0.003078	9.4718E-06	0.00%
Operator*Part	0.002839	8.0615E-06	0.00%
Part to Part	4.112694	16.9142556	100.00%
Total Variation	4.112697	16.9142749	100.00%

Process Tolerance = 0

Gage R&R Using 5.15 Standard Deviations (99%)

Source	Study Variation	% Study Variation
Total Gage R&R	0.022656	**0.11%**
Repeatability	0.006947	0.03%
Reproducibility	0.021565	0.10%
Operator	0.01585	0.07%
Operator*Part	0.014622	0.07%
Part to Part	21.18038	100.00%
Total Variation	21.18039	100.00%

Gage R&R Using 6.0 Standard Deviations (99.7%)

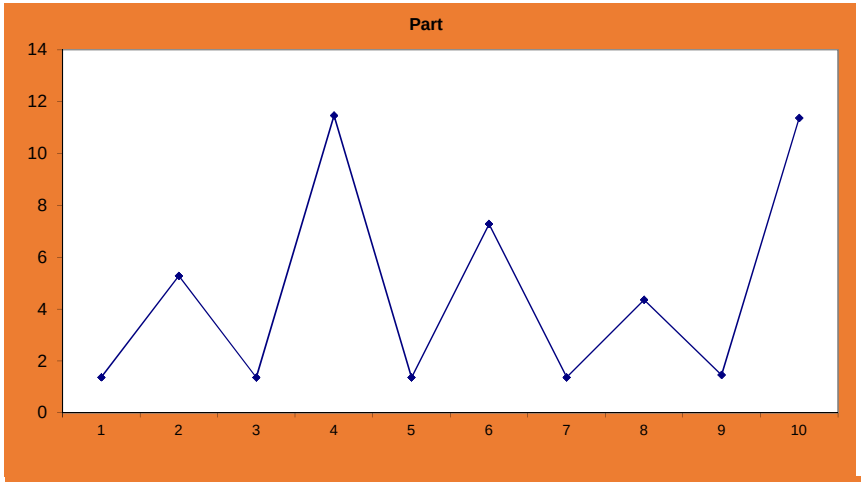
Source	Study Variation	% Study Variation
Total Gage R&R	0.026395	**0.11%**
Repeatability	0.008093	0.03%
Reproducibility	0.025124	0.10%
Operator	0.018466	0.07%
Operator*Part	0.017036	0.07%
Part to Part	24.67617	100.00%
Total Variation	24.67618	100.00%

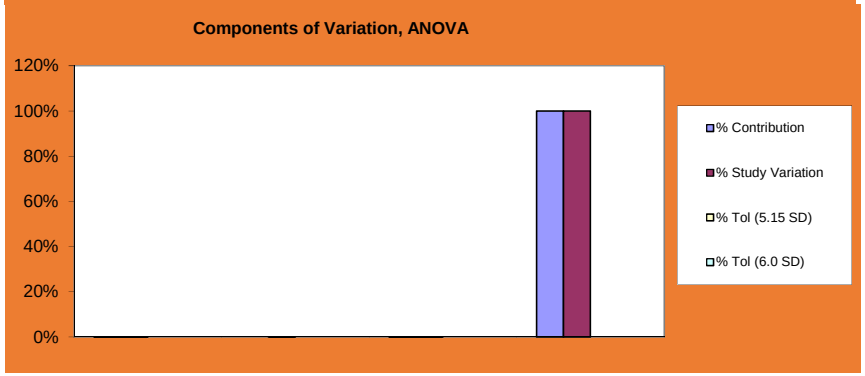
Number of Distinct Categories = **1318**

Analysis of Variance (ANOVA) Table

Source	DF	SS	MS	F	p
Part	9	1370.054937	152.228326	5854032.222	0.000
Operator	2	0.000620317	0.00031016	11.927	0.001
Op.x Part Interaction	18	0.000468072	2.6004E-05	14.292	0.000
Gage (error)	60	0.000109167	1.8194E-06		
Total	89	1370.056135			

p value for Op. x Part Interaction as error term = 0.25





Gage Repeatability and Reproducibility (ANOVA)

Method:	Mico Vu	**Equipment:**	Micro VU	**Elaborated Date:**	January 9, 2020
Trainer:	Victor Peralta (SPC)	**ID Equipment:**	LMMC-009	**STANDARD RECORDS**	**2020-0356**
Area:	Metrology	**Sample Code:**	M-Micro VU		
		Plant:	Plant 2		

	Number	Name
Operator A:	77190	Yvone Palma
Operator B:	84113	Alberto Meza
Operator C:	67601	Isis Mora
Eng. Quality:	**115293**	**Omar Sanchez**
According Results:		**Accepted**

GR&R - %Study Variation: 0.12%

Number of Distinct Categories: 1179

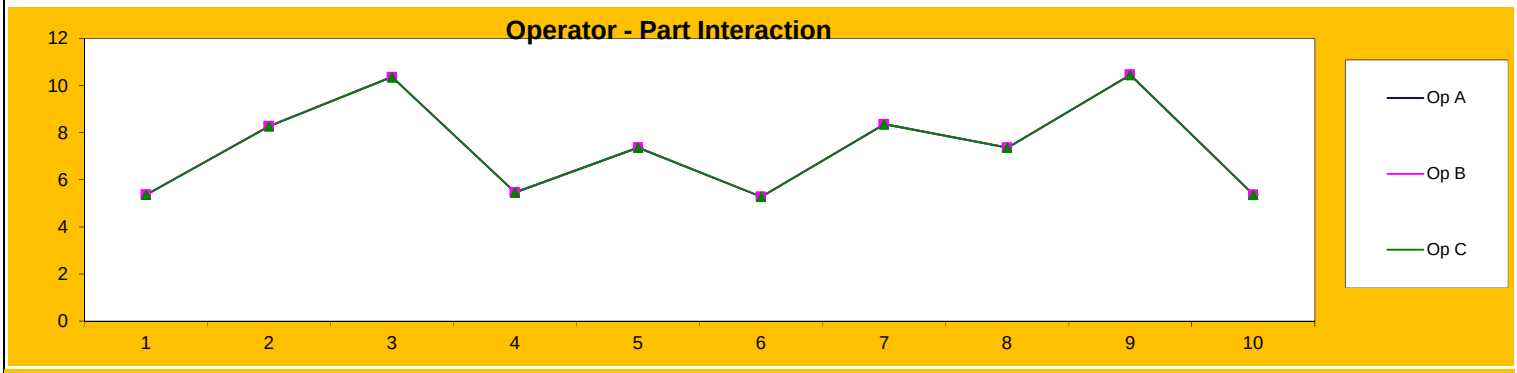
All points under line UCL R: OK

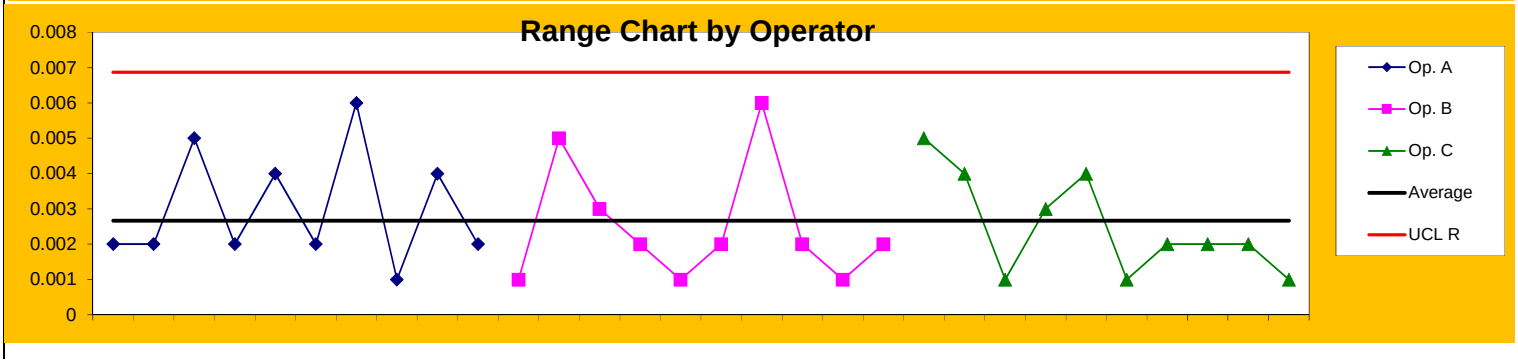
Reason of the Study

Entrenamiento

# of Trials =	3	K_1 =	0.5908	Xbar diff =	0.0029	D_4 =	2.58
# of appraisers =	3	K_2 =	0.5231	Rbarbar =	0.002667	R_p =	5.179222222
# of parts =	10	K_3 =	0.3146	UCL R =	0.0069		

Appraiser/Trial #		Parts to measure 1	2	3	4	5	6	7	8	9	10	Average
77190 Yvone Palma	S-1	5.3710	8.2870	10.3690	5.4650	7.3630	5.2820	8.3670	7.3630	10.4620	5.3630	7.3692
	S-2	5.3730	8.2860	10.3640	5.4660	7.3640	5.2830	8.3700	7.3620	10.4630	5.3640	7.3695
	S-3	5.3730	8.2880	10.3680	5.4670	7.3670	5.2840	8.3730	7.3620	10.4660	5.3650	7.3713
Average		**5.3723**	**8.2870**	**10.3670**	**5.4660**	**7.3647**	**5.2830**	**8.3700**	**7.3623**	**10.4637**	**5.3640**	$\bar{X}_a$ = 7.3700
Range		**0.0020**	**0.0020**	**0.0050**	**0.0020**	**0.0040**	**0.0020**	**0.0060**	**0.0010**	**0.0040**	**0.0020**	$\bar{R}_a$ = 0.0030
84113 Alberto Meza	S-1	5.3710	8.2840	10.3640	5.4640	7.3650	5.2810	8.3610	7.3620	10.4610	5.3620	7.3675
	S-2	5.3720	8.2870	10.3650	5.4640	7.3660	5.2810	8.3670	7.3620	10.4600	5.3640	7.3688
	S-3	5.3710	8.2820	10.3620	5.4660	7.3660	5.2830	8.3640	7.3640	10.4600	5.3630	7.3681
Average		**5.3713**	**8.2843**	**10.3637**	**5.4647**	**7.3657**	**5.2817**	**8.3640**	**7.3627**	**10.4603**	**5.3630**	$\bar{X}_b$ = 7.3681
Range		**0.0010**	**0.0050**	**0.0030**	**0.0020**	**0.0010**	**0.0020**	**0.0060**	**0.0020**	**0.0010**	**0.0020**	$\bar{R}_b$ = 0.0025
67601 Isis Mora	S-1	5.3740	8.2830	10.3630	5.4630	7.3650	5.2800	8.3620	7.3630	10.4570	5.3630	7.3673
	S-2	5.3700	8.2820	10.3640	5.4650	7.3670	5.2800	8.3630	7.3610	10.4580	5.3620	7.3672
	S-3	5.3750	8.2790	10.3630	5.4620	7.3630	5.2790	8.3640	7.3610	10.4590	5.3630	7.3668
Average		**5.3730**	**8.2813**	**10.3633**	**5.4633**	**7.3650**	**5.2797**	**8.3630**	**7.3617**	**10.4580**	**5.3627**	$\bar{X}_c$ = 7.3671
Range		**0.0050**	**0.0040**	**0.0010**	**0.0030**	**0.0040**	**0.0010**	**0.0020**	**0.0020**	**0.0020**	**0.0010**	$\bar{R}_c$ = 0.0025





Gage Repeatability and Reproducibility (Crossed)

Method:	Mico Vu	**Equipment:**	Micro VU
Trainer:	Victor Peralta (SPC)	**ID Equipment:**	LMMC-009
Area:	Metrology	**Sample Code:**	M-Micro VU
		Plant:	Plant 2

Elaborated Date: January 9, 2020

STANDARD RECORDS 2020-0356

	Number	Name
Operator A:	77190	Yvone Palma
Operator B:	84113	Alberto Meza
Operator C:	67601	Isis Mora
Eng. Quality:	**115293**	Omar Sanchez
According Results:		**Accepted**

General Comments - Special Event

Gage R&R Study - ANOVA Method

Variance and Standard Deviation Components

Source	St. Dev.	Variance	% of Variance
Total Gage R&R	0.002404	5.7778E-06	0.00%
Repeatability	0.001592	2.5333E-06	0.00%
Reproducibility	0.001801	3.2444E-06	0.00%
Operator	0.001395	1.9461E-06	0.00%
Operator*Part	0.001139	1.2984E-06	0.00%
Part to Part	2.009922	4.03978761	100.00%
Total Variation	2.009924	4.03979339	100.00%

Process Tolerance = 0

Gage R&R Using 5.15 Standard Deviations (99%)

Source	Study Variation	% Study Variation
Total Gage R&R	0.012379	**0.12%**
Repeatability	0.008197	0.08%
Reproducibility	0.009276	0.09%
Operator	0.007184	0.07%
Operator*Part	0.005868	0.06%
Part to Part	10.3511	100.00%
Total Variation	10.35111	100.00%

Gage R&R Using 6.0 Standard Deviations (99.7%)

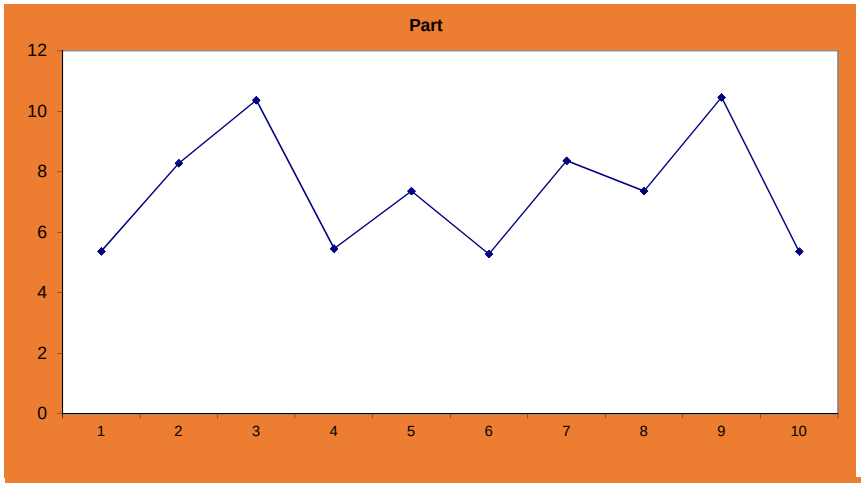
Source	Study Variation	% Study Variation
Total Gage R&R	0.014422	**0.12%**
Repeatability	0.00955	0.08%
Reproducibility	0.010807	0.09%
Operator	0.00837	0.07%
Operator*Part	0.006837	0.06%
Part to Part	12.05953	100.00%
Total Variation	12.05954	100.00%

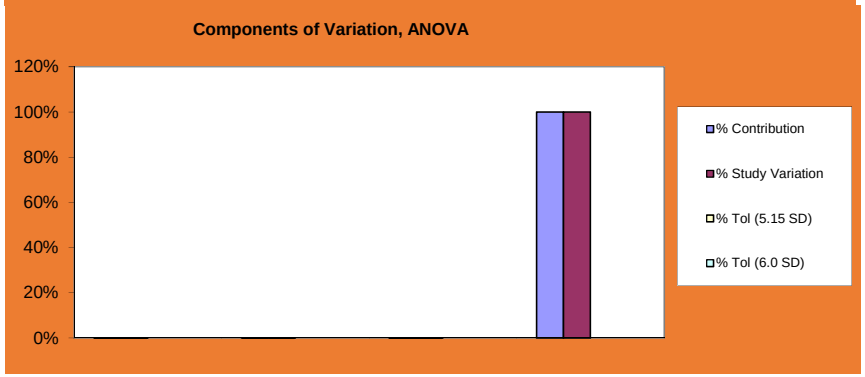
Number of Distinct Categories = **1179**

Analysis of Variance (ANOVA) Table

Source	DF	SS	MS	F	p
Part	9	327.2228545	36.3580949	5655858.875	0.000
Operator	2	0.000129622	6.4811E-05	10.082	0.001
Op.x Part Interaction	18	0.000115711	6.4284E-06	2.538	0.004
Gage (error)	60	0.000152	2.5333E-06		
Total	89	327.2232518			

p value for Op. x Part Interaction as error term = 0.25





Gage Repeatability and Reproducibility (ANOVA)

Method:	Externas - Internas	**Equipment:**	Vernier	**Elaborated Date:**	January 24, 2020
Trainer:	Miguel Rodriguez	**ID Equipment:**	EEVE-426	**STANDARD RECORDS**	**2020-0273**
Area:	MOLDEO	**Sample Code:**	Moldeo-Vernier		
		Plant:	Plant 2		

	Number	Name
Operator A:	55694	Guillermo Hernandez
Operator B:	110596	Suseth Rodriguez
Operator C:	89173	Gretel Borbon
Eng. Quality:	**62982**	**Miguel Rodriguez**
According Results:	**Accepted**	

GR&R - %Study Variation: 0.62%

Number of Distinct Categories: 228

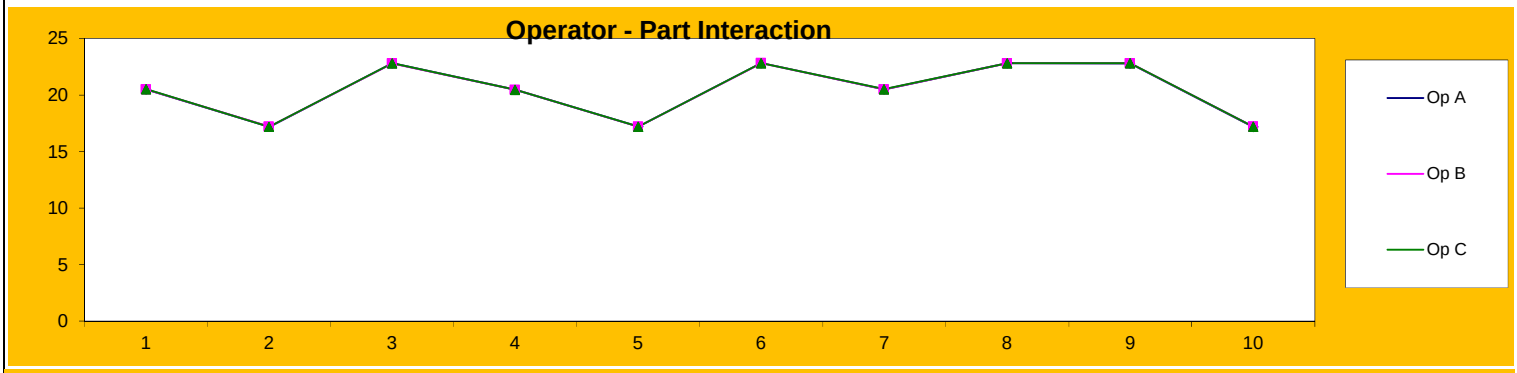
All points under line UCL R: OK

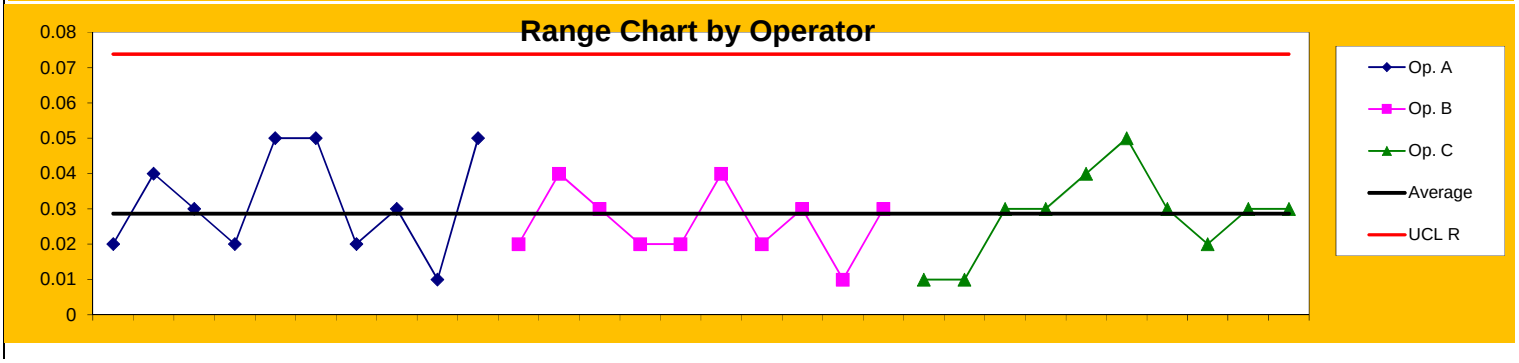
Reason of the Study

Entrenamiento

# of Trials =	3	K_1 =	0.5908	Xbar diff =	0.008333	D_4 =	2.58
# of appraisers =	3	K_2 =	0.5231	Rbarbar =	0.028667	R_p =	5.631111111
# of parts =	10	K_3 =	0.3146	UCL R =	0.0740		

Appraiser/Trial #		Parts to measure 1	2	3	4	5	6	7	8	9	10	Average
55694 Guillermo Hernandez	S-1	20.500	17.180	22.830	20.480	17.180	22.810	20.500	22.820	22.800	17.160	20.426
	S-2	20.510	17.190	22.800	20.470	17.210	22.840	20.510	22.830	22.810	17.200	20.437
	S-3	20.520	17.220	22.820	20.460	17.230	22.860	20.490	22.800	22.800	17.210	20.441
Average		**20.5100**	**17.1967**	**22.8167**	**20.4700**	**17.2067**	**22.8367**	**20.5000**	**22.8167**	**22.8033**	**17.1900**	Xbar $_a$ = 20.4347
Range		**0.0200**	**0.0400**	**0.0300**	**0.0200**	**0.0500**	**0.0500**	**0.0200**	**0.0300**	**0.0100**	**0.0500**	Rbar $_a$ = 0.0320
110596 Suseth Rodriguez	S-1	20.490	17.200	22.790	20.450	17.200	22.800	20.500	22.800	22.810	17.180	20.422
	S-2	20.510	17.190	22.820	20.460	17.190	22.820	20.510	22.800	22.810	17.210	20.432
	S-3	20.510	17.230	22.800	20.470	17.210	22.840	20.490	22.830	22.820	17.210	20.441
Average		**20.5033**	**17.2067**	**22.8033**	**20.4600**	**17.2000**	**22.8200**	**20.5000**	**22.8100**	**22.8133**	**17.2000**	Xbar $_b$ = 20.4317
Range		**0.0200**	**0.0400**	**0.0300**	**0.0200**	**0.0200**	**0.0400**	**0.0200**	**0.0300**	**0.0100**	**0.0300**	Rbar $_b$ = 0.0260
89173 Gretel Borbon	S-1	20.520	17.190	22.830	20.450	17.190	22.810	20.510	22.830	22.830	17.190	20.435
	S-2	20.510	17.200	22.800	20.480	17.200	22.830	20.530	22.820	22.810	17.220	20.44
	S-3	20.520	17.190	22.820	20.470	17.230	22.860	20.500	22.810	22.840	17.210	20.445
Average		**20.5167**	**17.1933**	**22.8167**	**20.4667**	**17.2067**	**22.8333**	**20.5133**	**22.8200**	**22.8267**	**17.2067**	Xbar $_c$ = 20.4400
Range		**0.0100**	**0.0100**	**0.0300**	**0.0300**	**0.0400**	**0.0500**	**0.0300**	**0.0200**	**0.0300**	**0.0300**	Rbar $_c$ = 0.0280





Gage Repeatability and Reproducibility (Crossed)

Method:	Externas - Internas	**Equipment:**	Vernier
Trainer:	Miguel Rodriguez	**ID Equipment:**	EEVE-426
Area:	MOLDEO	**Sample Code:**	Moldeo-Vernier
		Plant:	Plant 2

Elaborated Date: January 24, 2020
STANDARD RECORDS 2020-0273

	Number	Name
Operator A:	55694	Guillermo Hernandez
Operator B:	110596	Suseth Rodriguez
Operator C:	89173	Gretel Borbon
Eng. Quality:	**62982**	Miguel Rodriguez
According Results:		**Accepted**

General Comments - Special Event

Gage R&R Study - ANOVA Method

Variance and Standard Deviation Components

Source	St. Dev.	Variance	% of Variance
Total Gage R&R	0.015105	0.00022815	0.00%
Repeatability	0.016055	0.00025778	0.00%
Reproducibility	0	0	0.00%
Operator	0.00368	1.3539E-05	0.00%
Operator*Part	0	0	0.00%
Part to Part	2.451951	6.01206461	100.00%
Total Variation	2.451998	6.01229276	100.00%

Process Tolerance = 0

Gage R&R Using 5.15 Standard Deviations (99%)

Source	Study Variation	% Study Variation
Total Gage R&R	0.077789	**0.62%**
Repeatability	0.082686	0.65%
Reproducibility	0	0.00%
Operator	0.01895	0.15%
Operator*Part	0	0.00%
Part to Part	12.62755	100.00%
Total Variation	12.62779	100.00%

Gage R&R Using 6.0 Standard Deviations (99.7%)

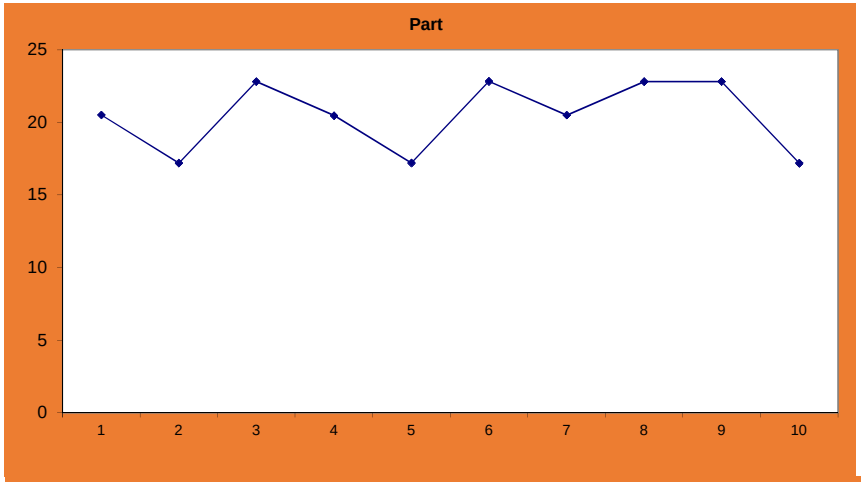
Source	Study Variation	% Study Variation
Total Gage R&R	0.090627	**0.62%**
Repeatability	0.096333	0.65%
Reproducibility	0	0.00%
Operator	0.022077	0.15%
Operator*Part	0	0.00%
Part to Part	14.71171	100.00%
Total Variation	14.71199	100.00%

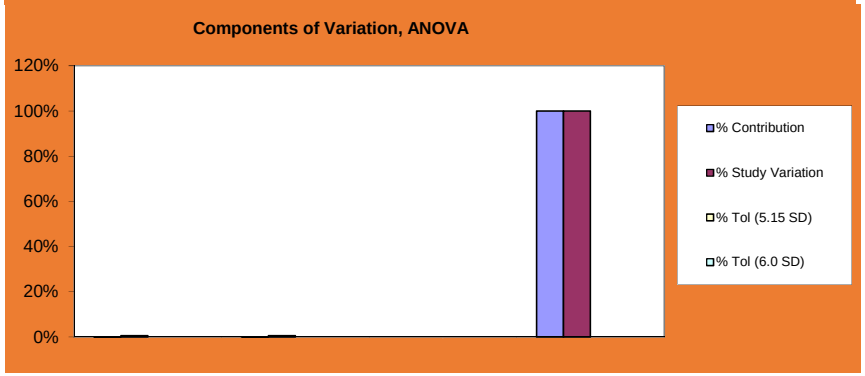
Number of Distinct Categories = **228**

Analysis of Variance (ANOVA) Table

Source	DF	SS	MS	F	p
Part	9	486.9783878	54.1087098	209904.478	0.000
Operator	2	0.001068889	0.00053444	2.073	0.135
Op.x Part Interaction	18	0.002308889	0.00012827	0.498	0.949
Gage (error)	60	0.015466667	0.00025778		
Total	89	486.9972322			

p value for Op. x Part Interaction as error term = 0.25





Section 9

Dimensional Results

Final assembly dimensions not affected by this change.

Production Part Approval

DIMENSIONAL TEST RESULTS

ACT-1173

TE Connectivity-Empalme is accredited by ANSI-ASQ National Accreditation Board for ISO/IEC 17025 under a defined calibration and/or testing scope.

Organization: TE Connectivity	Part Number: 1-2296696-1
Supplier/Vendor Code:	Part Name: PLUG ASSEMBLY, SEALED, 4 POSITION, MCON
INSPECTION FACILITY:	Design Record Change Level: C-2296696 REV. A
TE Connectivity Empalme Metrology lab	Engineering Change Documents: N/A
	# Folio: 49791 Page ___1__ of ___2___

Item	Dim./Spec.	Spec. / Limits tol +	Spec. / Limits tol -	Units	Organization Measurement Results (Data) SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4	SAMPLE 5	SAMPLE 6	Ok	Not Ok	Instrument # ID
1	24.70	0.20	0.20	mm	24.792	24.786	24.770	24.791	24.786	24.765	✔		LMMC-009
2	26.50	0.20	0.20	mm	26.491	26.487	26.497	26.489	26.502	26.483	✔		LMMC-009
3	19.5	REF	REF	mm	19.488	19.491	19.489	19.491	19.485	19.487	✔		LMMC-009
4	19.50	0.20	0.20	mm	19.453	19.440	19.431	19.452	19.440	19.438	✔		LMMC-009
5	4	REF	REF	mm	4.008	4.008	4.010	4.005	4.010	4.009	✔		LMMC-009
	4	REF	REF	mm	3.994	3.997	3.991	3.998	3.996	3.997	✔		LMMC-009
6	27	REF	REF	mm	OK	OK	OK	OK	OK	OK	✔		LMMC-009
7	2.80	REF	REF	mm	2.875	2.886	2.903	2.912	2.886	2.908	✔		LMMC-009
8	ISL QTY: COLOR SEE TABLE				OK	OK	OK	OK	OK	OK	✔		
9	CPA QTY: WHEN APPLICABLE COLOR: RED				OK	OK	OK	OK	OK	OK	✔		
10	PLUG HOUSING QTY: COLOR BLACK				OK	OK	OK	OK	OK	OK	✔		
	NOTES:												
1	ISL AND CPA (WHEN APPLICABLE) ARE SHIPPED IN THEIR PRE - LATCHED POSITIONS.				OK	OK	OK	OK	OK	OK	✔		
2	TERMINALS SOLD SEPARATELY. FOR USE WITH TE MCON 1.2mm CLEAN BODY CONTACT WITH WIRE SEAL. SEE TABLE.				NOTED PER APQP TEAM						✔		
3	APPLICABLE INTERFACE DRAWINGS: EWCAP 120-S-002-1-Z01 AND 120-S-002-1-Z02.				NOTED PER APQP TEAM						✔		
4	MINIMUM FEED THROUGH CONDITION WITH 1.0mm CLEARANCE ALL AROUND.				OK	OK	OK	OK	OK	OK	✔		
5	TRACEABILITY CODE (YY = TWO DIGIT YEAR, JJJ = 3 DIGIT JULIAN DAY, S = 1 DIGIT SHIFT)				OK	OK	OK	OK	OK	OK	✔		
6	FOR OPTIONAL TERMINAL CAVITY BLOCKING. CONTACT TE SALES REPRESENTIVE OR CUSTOMER SERVICE.				NOTED PER APQP TEAM						✔		
7	SEE INSTRUCTION SHEET 408-32103 FOR CONNECTOR SERVICE AND ISL OPERATION. ISL ACTUATION DISTANCE IS 2.0mm.				NOTED PER APQP TEAM						✔		
8	CONTACT PLATING AND APPLICABLE INDIVIDUAL WIRE SEAL ARE APPLICATION DEPENDENT, CONTACT TE SALES REPRESENTATIVE OR CUSTOMER SERVICE FOR DETAILS.				NOTED PER APQP TEAM						✔		

SIGNATURE	TITLE	DATE
Omar Sanchez	Metrology Chief	ENE-23-2020

Production Part Approval

DIMENSIONAL TEST RESULTS

ACT-1173

TE Connectivity-Empalme is accredited by ANSI-ASQ National Accreditation Board for ISO/IEC 17025 under a defined calibration and/or testing scope.

Organization: TE Connectivity	Part Number: 1-2296696-1
Supplier/Vendor Code:	Part Name: PLUG ASSEMBLY, SEALED, 4 POSITION, MCON
INSPECTION FACILITY:	Design Record Change Level: C-2296696 REV. A
TE Connectivity Empalme Metrology lab	Engineering Change Documents: N/A
	# Folio: 49791 Page 2 of 2

Item	Dim./Spec.	Spec. / Limits tol +	tol -	Units	Organization Measurement Results (Data) SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4	SAMPLE 5	SAMPLE 6	Ok	Not Ok	Instrument # ID
9	FOR WIRE CRIMP DETAILS, SEE TE APPLICATION SPECIFICATION 114-18464				NOTED PER APQP TEAM						✔		
10	DOCUMENTED I. C. D. IS SPECIFIED TO MEET MOST WIRE SEAL APPLICATIONS, HOWEVER, I. C. D. IS HIGHLY DEPENDENT ON INSULATION TYPE AND OD, SUFFICIENT GRIP OF THE WIRE SEAL MUST BE OBTAINED SUCH THAT WIRE SEAL DOES NOT DISPLACE FROM INSULATION GRIP DURING CONTACT INSERTION INTO CONNECTOR HOUSING. THE WIRE SEAL SHALL NOT BE CRIMPED TOO TIGHTLY THAT THE WIRE SEAL TEARS DURING THE CRIMPING OPERATION.				NOTED PER APQP TEAM						✔		
11	CONNECTOR VALIDATION PENDING PER GWW3191 T4,V4,S3 WITH THE FOLLOWING EXCEPTIONS: PRIMARY TERMINAL RETENTION FORCE > 30 NEWTONS.				NOTED PER APQP TEAM						✔		
12	KEY CODE DIMENSIONS ARE SHOWN WITH ISL IN PRE-LATCHED POSITION. FOR DIMENSION OF KEY WITH ISL IN FINAL POSITION, ADJUST SHOWN DIMENSIONS BY 2.0mm.				NOTED PER APQP TEAM						✔		
13	PRELLIMINARY - NOT RELEASED FOR PRODUCTION				NOTED PER APQP TEAM						✔		
14	KEY CODE NOT TOOLED				NOTED PER APQP TEAM						✔		
15	MATES WITH STRAIGHT EXIT WIRE DRESS, TE PN 2272162-1 AND RIGHT ANGLE EXIT WIRE DRESS, TE PN 2272163-1.				NOTED PER APQP TEAM						✔		
16	THIS DRAWING IS RESTRICTED TO GM CORPORATION				NOTED PER APQP TEAM						✔		

TOTAL # OF FEATURES	48
LESS BASIC DIMENSIONS	0
LESS REFERENCE DIMENSIONS	30
REPORTED DIMENSIONS	18
# DIMENSIONS IN TOLERANCE	18
# DIMENSIONS OUT OF TOLERANCE	0
% DIMENSION IN TOLERANCE	100.00 %
% DIMENSION OUT OF TOLERANCE	0.00 %

SIGNATURE	TITLE	DATE
Omar Sanchez	Metrology Chief	ENE-23-2020

Section 10

Material, Performance Test Results

BASF Mexicana S.A. de C.V

We create chemistry

Certificate of Analysis

Customer:

TE CONNECTIVITY HERMOSILLO
BLVD INDUSTRIAL NORTE 23
83118 HERMOSILLO SON

Attention: DAGOBERTO.LEON@TE.COM
eMAIL: dagoberto.leon@te.com
Cust Prod: 17669-1
Cust Prod Name: ULD.B4300G6 UN 726KG 11G
Cust P.O.: 2711323373
Cust P.O. Line: 1

Inspection Certificate 3.1 according to EN 10204

Product Number : 52498924
Product Name : ULTRADUR® B 4300 G6 UNCOLORED POLYBUTYLENE TEREPHTHALATE 726KG FIBREBOARD IBC
Vehicle : M-54/922EU9
Batch/Lot : A520002C1
Manuf.Date : Mar-01-2020
Shipped Date : Mar-03-2020
Shipped Quantity : 1,600.556 LB
Delivery Date : Mar-03-2020
Order Number : 117418966 000010
Delivery Note : 144292380 900001

Characteristic	Result	UOM	-----Specification----- Minimum	Maximum	Test Method
ASH-A	29.609	%	28.000	32.000	ASTMD5630
Moisture	0.04	%		0.05	ASTM6869 / ISO15512B

Comments :

The above results are means of individual test values determined on samples taken during production of the lot specified.

This product is approved to the following specifications:

WSK-M4D725-A
WSS-M4D7258-B1
ESB-M4D354
GMP-PBT-010
GMW16733
MS-DB400 CPN2252

Clariant Plastics & Coatings USA Inc.
85 Industrial Drive
Holden, MA 01520

CLARIANT

Maquilas Teta Kawi SA de CV
Carret Internacional Km 1969
Guadalajara-Nogales Km.2
85340 Empalme - Sonora
MEXICO

Certificate of Analysis

Date: 05.03.2020

Your order from 26.02.2020
Order No. : 2711373611
Material No. : 3-1573497-5

Our consignment from 11.03.2020
Delivery no./Pos. : 51714778 / 900001
Order : 14393863
Material : RAL3002 CARMINE RED PBT B4300 G6
Old Material No. : NB33620086
Material-no. : NB33620086
Batch No. : USPB021996
Quantity : 54.000 LB

On the batch, of which the consignment is a part, the following values were determined.

Inspection characteristic/-method	Specification	Result
COLOR - VISUAL		Pass
CONTAMINATION - VISUAL		Pass
a	Report	37.80 CIELAB
Da	-9999.00 - +9999.00	-0.25 CIELAB
b	Report	15.67 CIELAB
Db	-9999.00 - +9999.00	-0.22 CIELAB
DE	0.00 - 1.00	0.21 CMC
L	Report	41.68 CIELAB
	-9999.00 - +9999.00	-0.28 CIELAB

Clariant Plastics & Coatings USA Inc.
85 Industrial Drive
Holden, MA 01520

CLARIANT

Maquilas Teta Kawi SA de CV
Carret Internacional Km 1969
Guadalajara-Nogales Km.2
85340 Empalme - Sonora
MEXICO

Certificate of Analysis

Material : RAL3002 CARMINE RED PBT B4300 G6
Material No. : NB33620086
Batch No. : USPB021996
Old Material No : NB33620086

Inspection characteristic/-method	Specification	Result
PELLET COUNT	45.00 - 65.00	50.00 Pel./g

Date of production: 27.02.2020

The above particulars do not release the customer from the obligation to carry out an inspection of goods received.

Holden Quality Department

Management System Certified according to ISO 9001, ISO 14001 and OHSAS 18001

					Primary Terminal or Connector (****)											Secondary Terminal/Connector (****)											Notes
					Sample Description					Test Results						Sample Description					Test Results						
	Test Item	Test Requirement	Acceptance Criteria	Minimum Sample Size	Terminal Size (mm)	Wire Size	Test Number	Test Start Date	Test Completion Date	Minimum	Maximum	Average	Standard Deviation	Pass/Fail		Terminal Size (mm)	Wire Size	Test Number	Test Start Date	Test Completion Date	Minimum	Maximum	Average	Standard Deviation	Pass/Fail	
Connector Mechanical	Connector to Connector Engangement Force (4.2.8) and (USCAR25)	Engage fully populated connectors at a rate of 50mm/min	Connector Class 1, Force ≤ 20N Connector Class 2, Force ≤ 45N Connector Class 3, Force ≤ 75N	10 Connector Pairs	1.2	0.5	20200750 ACL	07/03/20	07/07/20	32.79N	37.33N	35.38N	1.26	PASS													
	Post Test Visual Examination (3.4)	Visually examine each test specimen after testing, note any obsevable changes, such as swelling, corrosion, discoloration, physical distortion, cracks, etc.	There shall be no corrosion, discoloration, cracks, etc which could affect the functionality of the part											PASS												
Connector System Mechanical Tests	**Terminal Position Assurance (Section 4.2.9) Test Sequence 29E**																										
	Pre Test Visual Examination (3.4)	Visually examine each test specimen before testing or conditioning	There shall not exhibit any evidence of deterioration, cracks and/or other deformities that could affect performance, function and/or appeearance	10 Female Connectors			20200750 ACL	07/03/20	07/07/20					PASS													
	TPA Pre Lock Position to TPA Removal from Connector Force (4.2.9.4.1) **Female Connector**	Remove TPA from connector at a rate of 50mm/min	Unprotected TPA Removal Force ≥ 20N Protected TPA Removal Force ≥ 20N																								
	TPA Pre Lock Position to TPA Locked Postition Force (4.2.9.4.1) **Female Connector**	Insert TPA into the connector at a rate of 50mm/min	30N ≤ Unprotected TPA Removal Force ≤ 45N 20N ≤ Protected TPA Removal Force ≤ 45N							14.09N	20.36N	17.65N	1.92	PASS* See Notes												Original DVP&R Deviation to 10N Min
	TPA Closing Force w/ Properly Assembled Terminals (4.2.9.4.2) **Female Connector**	With fully populated connector, insert TPA at a rate of 50mm/min	30N ≤ Unprotected TPA Removal Force ≤ 45N 20N ≤ Protected TPA Removal Force ≤ 45N																								
	TPA Closing Force w/ One Improperly Assembled Terminal (4.2.9.4.3) **Female Connector**	With one improperly inserted terminal, insert TPA at a rate of 50mm/min	30N ≤ Unprotected TPA Removal Force ≤ 45N 20N ≤ Protected TPA Removal Force ≤ 45N																								
	Retention Force of Seated TPA (4.2.9.4.4) **Female Connector**	With TPA in the closed position, pull TPA to the pre-stage position at a rate of 50mm/min	Unprotected TPA Removal Force ≥ 60N Protected TPA Removal Force ≥ 60N																								
	Post Test Visual Examination (3.4)	Visually examine each test specimen after testing, note any obsevable changes, such as swelling, corrosion, discoloration, physical distortion, cracks, etc.	There shall be no corrosion, discoloration, cracks, etc which could affect the functionality of the part											PASS													
Connector System Mechanical Tests	**Connector Position Assurance (Section 4.2.15) Test Sequence 29L**																										
	Pre Test Visual Examination (3.4)	Visually examine each test specimen before testing or conditioning	There shall not exhibit any evidence of deterioration, cracks and/or other deformities that could affect performance, function and/or appeearance				20200750 ACL	7/3/2020	7/7/2020					PASS													
	CPA Locking Force Mated Connector (4.2.15.4.1)	Using a mated connector, close the CPA at a rate of 50mm/min	Force to close CPA ≤ 22N	10 Connector Pairs						7.39N	9.93N	8.80N	0.85	PASS													
	CPA Unlocking Force Mated Connector (4.2.15.4.1)	Using a mated connector, open the CPA at a rate of 50mm/min	10N ≤ Force to Open CPA ≤ 30N	10 Connector Pairs						11.07N	12.43N	11.92N	0.45	PASS* See Notes													
	CPA Closing Force Unmated Connector (4.2.15.4.2) **Female Connector**	Using an unmated connector, close the CPA at a rate of 50mm/min	Force to close CPA > 80N	10 Female Connectors						123.77N	131.80N	127.22N	2.99	PASS													
	CPA Extraction Force Unmated Connector (4.2.15.4.3) **Female Connector**	Using an unmated connector, apply force in the direction opposite the closing direction to the CPA at a rate of 50mm/min	CPA Extraction Force ≥ 60N	10 Female Connectors						109.09N	116.67N	112.85N	2.42	PASS													
	Post Test Visual Examination (3.4)	Visually examine each test specimen after testing, note any obsevable changes, such as swelling, corrosion, discoloration, physical distortion, cracks, etc.	There shall be no corrosion, discoloration, cracks, etc which could affect the functionality of the part											PASS													
Connector System Mechanical Tests	**Locked Connector Disengagment Force (Section 4.2.18) Test Sequence 29P**																										
	Pre Test Visual Examination (3.4)	Visually examine each test specimen before testing or conditioning	There shall not exhibit any evidence of deterioration, cracks and/or other deformities that could affect performance, function and/or appeearance	10 Connector Pairs			20200750 ACL	07/03/20	07/07/20					PASS													
	Locked Connector Disengagement Force (4.2.18)	Pull connectors apart at a rate of 50mm/min	Disengagement Force(Terminal size .5mm - 1.2mm) > 80N Disengagement Force(Terminal size > 1.2mm) > 120N							134.53N	140.51N	137.71N	2.18	PASS													
	Post Test Visual Examination (3.4)	Visually examine each test specimen after testing, note any obsevable changes, such as swelling, corrosion, discoloration, physical distortion, cracks, etc.	There shall be no corrosion, discoloration, cracks, etc which could affect the functionality of the part											PASS													
Connector System Mechanical Tests	**Unlocked Connector Disengagment Force (Section 4.2.19) Test Sequence 29Q**																										
	Pre Test Visual Examination (3.4)	Visually examine each test specimen before testing or conditioning	There shall not exhibit any evidence of deterioration, cracks and/or other deformities that could affect performance, function and/or appeearance																								
	Unlocked Connector Disengagement Force (With Locking Feature Disengaged) (4.2.19)	With mated connectors, pull connectors apart at a rate of 50mm/min	Disengagement Force < 100N	5 Connector Pairs																							
	Unlocked Connector Disengagement Force (Lock Feature Disengagement) (4.2.19)	With mated connectors, pull the primary locking feature at a rate of 50mm/min until lock is disengaged	Disengagement Force < 70N	5 Connector Pairs																							
	Post Test Visual Examination (3.4)	Visually examine each test specimen after testing, note any obsevable changes, such as swelling, corrosion, discoloration, physical distortion, cracks, etc.	There shall be no corrosion, discoloration, cracks, etc which could affect the functionality of the part																								
	Thermal Aging (Section 4.4.1) Test Sequence 31A																										
	Pre Test Visual Examination (3.4)	Visually examine each test specimen before testing or conditioning	There shall not exhibit any evidence of deterioration, cracks and/or other deformities that could affect performance, function and/or appeearance											PASS													

				Primary Terminal or Connector (****)											Secondary Terminal/Connector (****)											Notes
				Sample Description					Test Results						Sample Description					Test Results							
	Test Item	Test Requirement	Acceptance Criteria	Minimum Sample Size	Terminal Size (mm)	Wire Size	Test Number	Test Start Date	Test Completion Date	Minimum	Maximum	Average	Standard Deviation	Pass/Fail	Terminal Size (mm)	Wire Size	Test Number	Test Start Date	Test Completion Date	Minimum	Maximum	Average	Standard Deviation	Pass/Fail	
Sealed Connector Environmental Tests	Pre Test Isolation Resistance (4.3.5)	With mated connector pairs, apply 500VDC to adjacent terminal pairs, measure resistance 15s of stabilized reading. If the connector is equipped with a shorting bar, measure the resistance between the 2 terminal that are connected to the shorting bar	Isolation Resistance ≥ 100MΩ	10 Connector Pairs			20200747 ACL	7/2/2020	7/6/2020	**> 100MΩ**	**> 100MΩ**	**> 100MΩ**		PASS											
	Pre Test Pressure/Vacuum Leak (Sealing Class 2 & 3) (4.4.10)	Submerge test sample 300mm - 400mm in the salt water solution. Apply 7psig of pressure for 15 seconds. Switch the regulator source to vacuum 48kPa (7psig) for 15s.	Pressure - There shall be no loss of applied pressure and no bubbles visible exiting any test sample Vacuum - must meet isolation resistance acceptance criteria There must be no signs water inside the connector											PASS											
	Post Test Isolation Resistance (4.3.5)	With mated connector pairs, apply 500VDC to adjacent terminal pairs, measure resistance 15s of stabilized reading. If the connector is equipped with a shorting bar, measure the resistance between the 2 terminal that are connected to the shorting bar	Isolation Resistance ≥ 100MΩ							**> 100MΩ**	**> 100MΩ**	**> 100MΩ**		PASS											
	Thermal Aging (4.4.1)	Place samples in chamber at the maximum temperature specified in GMW 3191 Table 2 for a duration of 1008 hours.	Test samples shall meet visual exmination requirements and all mechanical assists and/or other elements required to separate connectors for service shall function without breakage											ENVIRON											70 hours @ 150°
	Post Test Pressure/Vacuum Leak (Sealing Class 2 & 3) (4.4.10)	Submerge test sample 300mm - 400mm in the salt water solution. Apply 4psig of pressure for 15 seconds. Switch the regulator source to vacuum 28kPa (4psig) for 15s.	Pressure - There shall be no loss of applied pressure and no bubbles visible exiting any test sample Vacuum - must meet isolation resistance acceptance criteria There must be no signs water inside the connector											PASS											
	Post Test Isolation Resistance (4.3.5)	With mated connector pairs, apply 500VDC to adjacent terminal pairs, measure resistance 15s of stabilized reading. If the connector is equipped with a shorting bar, measure the resistance between the 2 terminal that are connected to the shorting bar	Isolation Resistance ≥ 100MΩ							**> 100MΩ**	**> 100MΩ**	**> 100MΩ**		PASS											
	Post Test Visual Examination (3.4)	Visually examine each test specimen after testing, note any obsevable changes, such as swelling, corrosion, discoloration, physical distortion, cracks, etc.	There shall be no corrosion, discoloration, cracks, etc which could affect the functionality of the part											PASS											

	GMW3191	Deviation	Original Tool Cap	**GMW3191 Ptoject Titan**
Terminal to Connector Engagement Force TPA in open position	15N Max		Min Wire: Min 7.29 Max 10.85 Avg 8.89 St Dev 0.92	Max Wire: Min 7.97 Max 14.39 Avg 9.89 St Dev 1.85
Terminal from Connector Extraction Force Primary Lock Only	50N Min		Min 59.40 Max 77.02 Avg 67.25 St Dev 4.58	Min 58.98 Max 68.37 Avg 63.63 St Dev 2.99
Terminal from Connector Extraction Force Primary & Secondary Locks	80N Min		Min 111.64 Max 124.64 Avg 120.58 St Dev 2.35	Min 138.37 Max 147.82 Avg 143.59 St Dev 2.90
Connector to Connector Engagement Force	75N Max		Min 35.60 Max 48.80 Avg 42.78 St Dev 3.80	Min 32.79 Max 37.33 Avg 35.38 St Dev 1.26
TPA Pre Lock Position to TPA Locked Position Force	30N Min 45N Max	10N Min	Min 13.49 Max 19.82 Avg 16.07 St Dev 2.00	Min 14.09 Max 20.36 Avg 17.65 St Dev 1.92
CPA Locking Force Mated Connector	22N Max		Min 6.40 Max 8.73 Avg 7.15 St Dev 0.82	Min 7.39 Max 9.93 Avg 8.80 St Dev 0.85
CPA Unlocking Force Mated Connector	10N Min 30N Max	7N Min	Min 8.88 Max 10.48 Avg 9.89 St Dev 0.54	Min 11.07 Max 12.43 Avg 11.92 St Dev 0.45
CPA Locking Force Un-Mated Connector	80N Min		Min 113.03 Max 129.87 Avg 122.06 St Dev 5.89	Min 123.77 Max 131.80 Avg 127.22 St Dev 2.99
CPA Extraction Force	60N Min		Min 89.11 Max 116.81 Avg 101.52 St Dev 11.01	Min 109.09 Max 116.67 Avg 112.85 St Dev 2.42
Locked Connector Disengagement Force	80N Min		Min 95.07 Max 100.82 Avg 98.27 St Dev 1.85	Min 134.53 Max 140.51 Avg 137.71 St Dev 2.18
Pre Test Isolation Resistance			>100 MOhm	>100 MOhm
Pre Test Pressure/Vacuum Leak - 7psi			PASS	PASS
Post Test Isolation Resistance			>100 MOhm	>100 MOhm
Post Test Pressure/Vacuum Leak - 4 psi			PASS	PASS
Post Test Isolation Resistance			>100 MOhm	>100 MOhm

	GM Part Number	TE Part Number
CPA	13512365	1-2296694-1
	13512366	1-2296694-2
	13512367	1-2296694-3
	13515048	2296698-1
	13515049	2296698-2
	13515050	2296698-3
	13514238	1-2296704-1
	13514239	1-2296704-2
	13514240	1-2296704-3
	13515613	1-2296702-1
	13515614	1-2296702-2
		1-2296702-3
	13515615	1-2297114-1
		1-2297114-2
		1-2297114-3
	13514590	1-2296695-1
	13514591	1-2296695-2
	13514592	1-2296695-3
		1-2296695-4
	13515950	2296699-1
	13515951	2296699-2
	13515952	2296699-3

	GM Part Number	TE Part Number
CPA	13514090	1-2296696-1
	13514087	1-2296696-2
	13514088	1-2296696-3
		1-2296696-4
		1-2296696-5
	13514091	1-2296696-6
	13514089	1-2296696-7
		2296700-1
		2296700-2
	13515953	2296700-3
		2296700-4
		2296700-5
	13515956	2296700-6
	13515957	2296700-7
	13515044	1-2296697-1
	13515045	1-2296697-2
	13515046	1-2296697-3
		1-2296697-4
		1-2296697-5
	13515047	1-2296697-6
		1-2296697-7
		2296701-1
	13515954	2296701-2
	13515955	2296701-3
		2296701-4
		2296701-5
	13515958	2296701-6
		2296701-7

	GM Part Number	TE Part Number
5P Housing		2296697-1
		2296697-2
		2296697-3
		2296697-4
		2296697-5
		2296697-6
		2296697-7
	13515044	1-2296697-1
	13515045	1-2296697-2
	13515046	1-2296697-3
		1-2296697-4
		1-2296697-5
	13515047	1-2296697-6
		1-2296697-7
		2296701-1
	13515954	2296701-2
	13515955	2296701-3
		2296701-4
		2296701-5
	13515958	2296701-6
		2296701-7

Section 11

Initial Process Studies

Not Applicable

Section 12

Qualified Laboratory Documentation

By Royal Charter

Certificate of Registration

QUALITY MANAGEMENT SYSTEM - IATF 16949:2016

This is to certify that:

TE Connectivity
Global Automotive Division
Americas North
Carretera Internacional, KM 1969
Guadalajara-Nogales Km 2
Empalme
Sonora
85340
Mexico

operates a Quality Management System which complies with the requirements of IATF 16949:2016 for the following scope:

Design and manufacture of electrical interconnecting devices.

For and on behalf of BSI:

Carlos Pitanga, Chief Operating Officer Assurance – Americas

BSI Certificate Number: 514458-003
IATF Number: 0315420

...making excellence a habit.™

Certification Date: 2018-07-11 Latest Issue: 2018-07-11 Expiry Date: 2021-07-10

Location	Registered Activities
TE Connectivity Global Automotive Division Americas North Carretera Internacional, KM 1969 Guadalajara-Nogales Km 2 Empalme Sonora 85340 Mexico	Manufacture of interconnecting devices. Including the following remote support functions: TE Connectivity Global Automotive Division Americas North 900 Wilshire Boulevard Suite 150 Troy, MI 48084 Design and Development. TE Connectivity Global Automotive Division Americas North Fulling Mill Road Middletown, PA 17057 Design and Development, Product Testing and Customer Service. TE Connectivity Global Automotive Division Americas North 3800 Reidsville Road Winston-Salem, NC 27102 Design and Development, Product Testing and Calibration, Business Office (Quote Process) and Purchasing. TE Connectivity Global Automotive Division Americas North 20 Esna Park Drive Markham, Ontario L3R 1E1 Canada Design and Development and product testing (optics lab) TE Connectivity Global Automotive Division Americas North 2100 Paxton Street Harrisburg, PA 17111 Provision of Product Testing to TE Connectivity Manufacturing Sites. TE Connectivity North Carolina Distribution Center 8000 Piedmont Triad Parkway Greensboro, North Carolina 27409 Receiving Inspection, Storage / Inventory.

BSI Certificate Number: 514458-003

IATF Number: 0315420

Certification Date: 2018-07-11 Latest Issue: 2018-07-11 Expiry Date: 2021-07-10

Section 13

Appearance Approval Report

Not Applicable

Section 14

Sample Product

Sent in separate package
(if required)

Section 15

Master Sample

Retained at manufacturing location

Section 16

Checking Aids

Not Applicable

Section 17

Records of Compliance with Customer-Specific Requirements

MDS Report
Substances of assemblies and materials

1. Company and Product Name

1.1 Supplier Data

Name [ID]:	**Tyco Electronics GAD [913]**
DUNS Number:	**-**
Street/Postal Code:	**Amperestr. 12-14**
Nat./ZipCode/City:	**DE 64625 Bensheim**
Supplier Code:	**-**
Contact Person:	**IMDS Team (India) Engineering Services**
- Phone:	**-**
- Fax No.:	**-**
- E-Mail Address:	**imds@te.com**

1.2 Product Identification

Part/Item No.:	**1-2296696-1**
Description:	**4 Position MCON Plug Assembly**
Report No.:	**-**
Date of Report:	**-**
Purchase Order No.:	**-**
Bill of Delivery No.:	**-**
Preliminary MDS:	**No**
IMDS ID / Version:	**626978106 / 10**
Node ID:	**923179486**
MDS Status (Change Date):	**Internally released (04/23/2020)**

MDS Report

Substances of assemblies and materials

Materials which are subject to legal prohibitions must not be included!
Dangerous substances formed or released during use must also be declared
Please note: GADSL list for substances that require declaration

2. Characterization of the Component

Part/Item No.:	**1-2296696-1**	Report No.:	**-**
Description:	**4 Position MCON Plug Assembly**	IMDS ID / Version:	**626978106 / 10**
		Node ID:	**923179486**

Tree Level	Description Article Name Name Substance name	Part/Item No. Item- /Mat.-No. Material-No. CAS No.	IMDS ID / Version	Quantity	Weight [g]	Portion [%]	Portion (from - to) [%]	Classif. GADSL, SVHC	Parts Marking Recyclate (Indust./Consumer) Application [ID]
1	4 Position MCON Plug Assembly	1-2296696-1	626978106 / 10		5.418				
├2	4P Sealed MCON Plug Housing - Black	2303905-1	618137487 / 3	1	4.312				Yes
├3	PBT-GF30	1573435-2	448749639 / 4		4.312			5.1.a	No
├4	GF-Fibre	-				30			

Tree Level	Description / Article Name / Name / Substance name	Part/Item No. / Item- /Mat.-No. / Material-No. / CAS No.	IMDS ID / Version	Quantity	Weight [g]	Portion [%]	Portion (from - to) [%]	Classif. / GADSL, SVHC	Parts Marking / Recyclate (Indust./Consumer) / Application [ID]
4	Further Additives, not to declare	system				5.5			
4	PBT	-				64			
4	Carbon black	1333-86-4				0.5			
2	4P MCON Sealed Fenmale ISL-Blue	2303906-8	626978295 / 3	1	0.789				Yes
3	PBT-GF15	704734-4 + 1-704402-1	309409743 / 5		0.789			5.1.a	No
4	PBT-GF15	704734-4	98895942 / 3			97.5		5.1.a	
5	GF-Fibre	-				15			
5	Further Additives, not to declare	system				1			
5	PBT	-				84			
4	PBT Colorant Masterbatch	1-704402-1	309095175 / 5			2.5	2 - 3	5.1.b	
5	PBT	-				56.428571	50 - 60		
5	Zinc sulphide	1314-98-3				36.428571	30 - 40	D / P	
5	Confidential Substances	*********				7.142857			
2	4 P PERIMETER SEAL	2203528-1	653954202 / 1	1	0.137				Not Applicable
3	_VMQ	A2900RR			0.137			5.3	No
4	VMQ	-				63.8			
4	Siloxanes and Silicones, di-Me, Me vinyl, vinyl group-terminated	68083-18-1				27			
4	Silicon dioxide	7631-86-9				1.6			

Tree Level	Description Article Name Name Substance name	Part/Item No. Item- /Mat.-No. Material-No. CAS No.	IMDS ID / Version	Quantity	Weight [g]	Portion [%]	Portion (from - to) [%]	Classif. GADSL, SVHC	Parts Marking Recyclate (Indust./Consumer) Application [ID]
4	Siloxanes and silicones, di-Me, Me Ph	63148-52-7				1.8			
4	Dimethylsilicone	63148-62-9				0.2			
4	Cerium-tetrahydroxide	12014-56-1				0.4			
4	Nepheline syenite	37244-96-5				4.5			
4	Synthetic iron oxide (Fe2O3)	1332-37-2				0.7			
2	Front Loaded Sealed CPA - Red	2138343-1	320209481 / 13	1	0.18				Not Applicable
3	PBT-GF30	17669-1 + 3-1573497-5	668311786 / 3		0.18			5.1.a	No
4	PBT-GF30	17669-1	48049287 / 6			97.5		5.1.a	
5	GF-Fibre	-				30			
5	Further Additives, not to declare	system				1			
5	PBT	-				69			
4	PBT Masterbatch RAL3002 CARMINE RED	3-1573497-5	668231210 / 1			2.5	2 - 3	5.1.b	
5	PBT	-				95.263158	90 - 100		
5	Confidential Substances	*********				4.736841			

This is an uncontrolled copy of a document created by IMDS. End of the report.

Section 18

Part Submission Warrant

DaimlerChrysler Ford GM

Part Submission Warrant

Part Name: 4POS, MCON 1.2 CB REC 1p TL SEALED | Cust. Part Number: 1-2296696-1

Shown on Drawing No.: C-2296696 | Org. Part Number: 1-2296696-1

Engineering Change Level: A | Dated: 07-Nov-2016

Additional Engineering Changes: N / A | Dated: N / A

Safety and/or Government Regulation: ☐ Yes ☑ No | Purchase Order No.: N / A | Weight (kg): 0.0054

Checking Aid Number: N / A | Checking Aid Engineering Change Level: N / A | Dated: N / A

ORGANIZATION MANUFACTURING INFORMATION

TE Connectivity / 588115092
Supplier Name & Supplier/Vendor Code

Carretera Int. Km. 1969 Guadalajara-Nogales
Street Address

Empalme | | 85340 | Mexico
City | Region | Postal Code | Country

CUSTOMER SUBMITTAL INFORMATION

Newark Electronics
Customer Name/Division

N/A
Buyer/Buyer Code

GM
Application

MATERIALS REPORTING

Reporting of all materials, not just Substances of Concern, may be required by certain OEMs or other customers.
Has customer-required Substances of Concern information been reported? ☑ Yes ☐ No

Submitted by IMDS or other customer format: 626978106 / 10

Are polymeric parts identified with appropriate ISO marking codes? ☑ Yes ☐ No ☐ N/A

REASON FOR SUBMISSION

- ☐ Initial submission
- ☐ Engineering Change(s)
- ☑ Tooling: Transfer, Replacement, Refurbishment, or additional
- ☐ Correction of Discrepancy
- ☐ Tooling Inactive > than 1 year
- ☐ Change to Optional Construction or Material
- ☐ Sub-Supplier or Material Source Change
- ☐ Change in Part Processing
- ☐ Parts produced at Additional Location
- ☐ Other - please specify

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 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 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 package
These results meet all design record requirements: ☑ YES ☐ NO (If "NO" - Explanation Required)
Mold / Cavity / Production Process: M1046669

DECLARATION

I affirm that the samples represented by this warrant are representative or our parts, which were made by a process that meets all Production Part Approval Process Manual 4th Edition Requirements. I further affirm the these samples were produced at a production rate of Proprietary /1 hour. I also certify that the documented evidence of such compliance is on file and available for review. I have noted any deviation from the declaration below.

EXPLANATION/COMMENTS: Production Rate is TE proprietary.
P-19-018198 & P-19-018199: Component 2138343-1.

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

Organization Authorized Signature: Alejandra Lara A. | Date: 21/07/2020

Print Name: Alejandra Lara | Phone No.: N/A | Fax No.: N/A

Title: PPAP Technician | E-mail: alejandra.lara@te.com

FOR CUSTOMER USE ONLY (IF APPLICABLE)

Part Warrant Disposition: ☐ Approved ☐ Rejected ☐ Other

Customer Signature | Date

Print Name | Customer Tracking Number (optional)

Section 18a

Bulk Material Requirements

Not Applicable