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PPAP Package for:

Customer Name: Newark Electronics
Customer Part Number: 98X2192
(TE Connectivity Part Number): 2-1703498-1
Date: August 2021

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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.

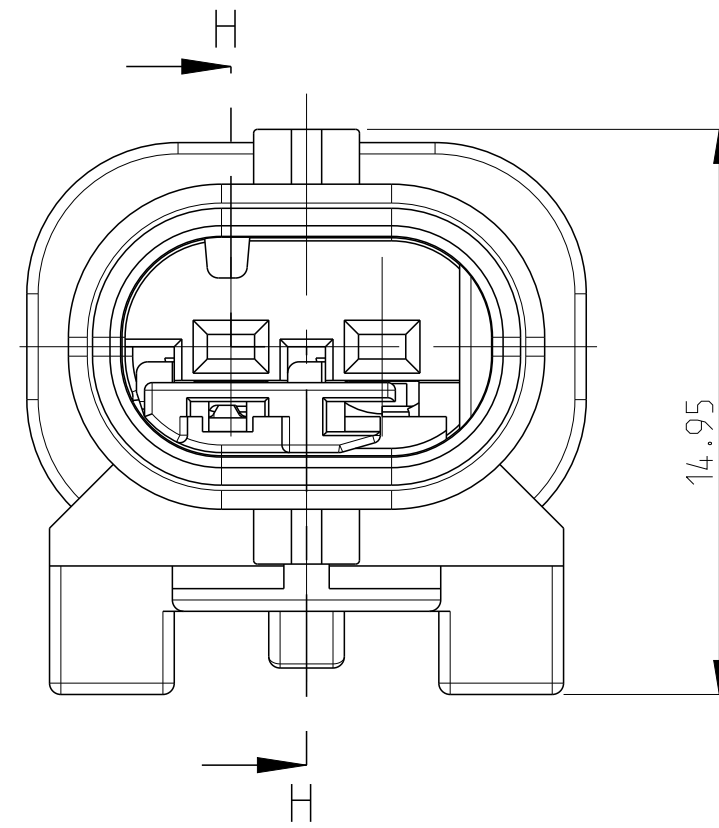
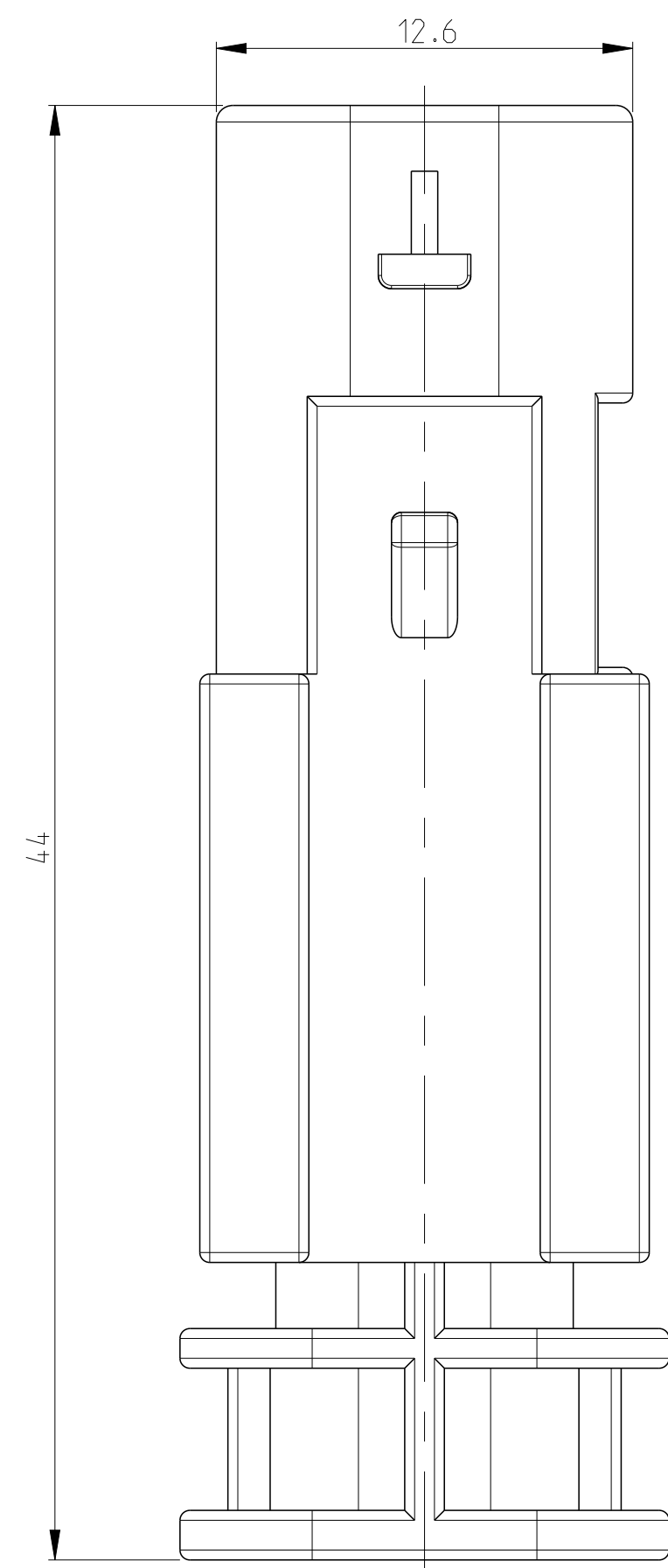
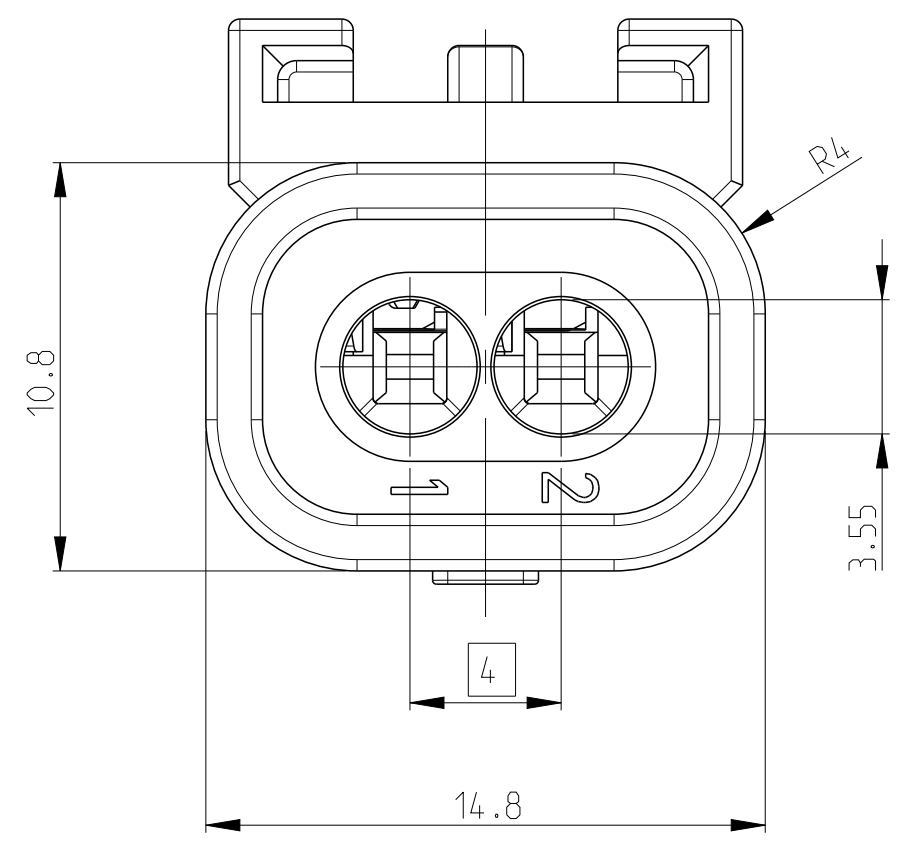


Section 1

Design Records

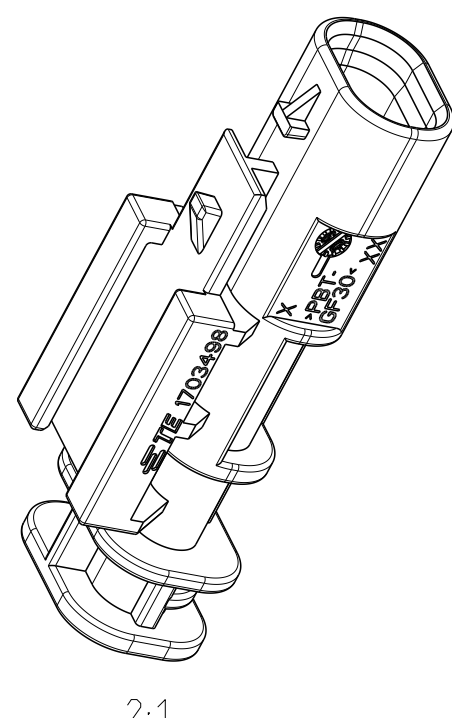
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1-1703498-1



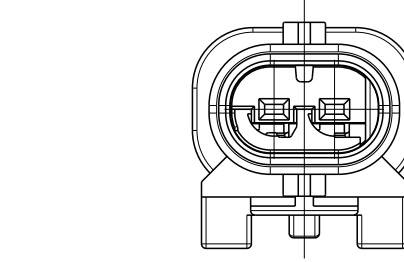
CODINGS

2:1



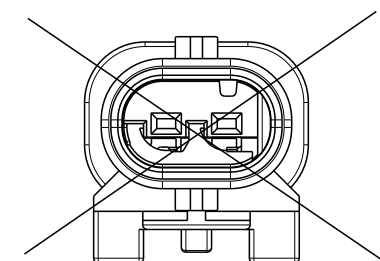
A

1-1703498-1



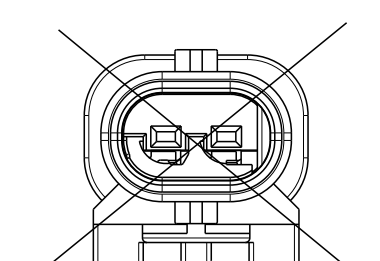
B

2-1703498-1



C

3-1703498-1

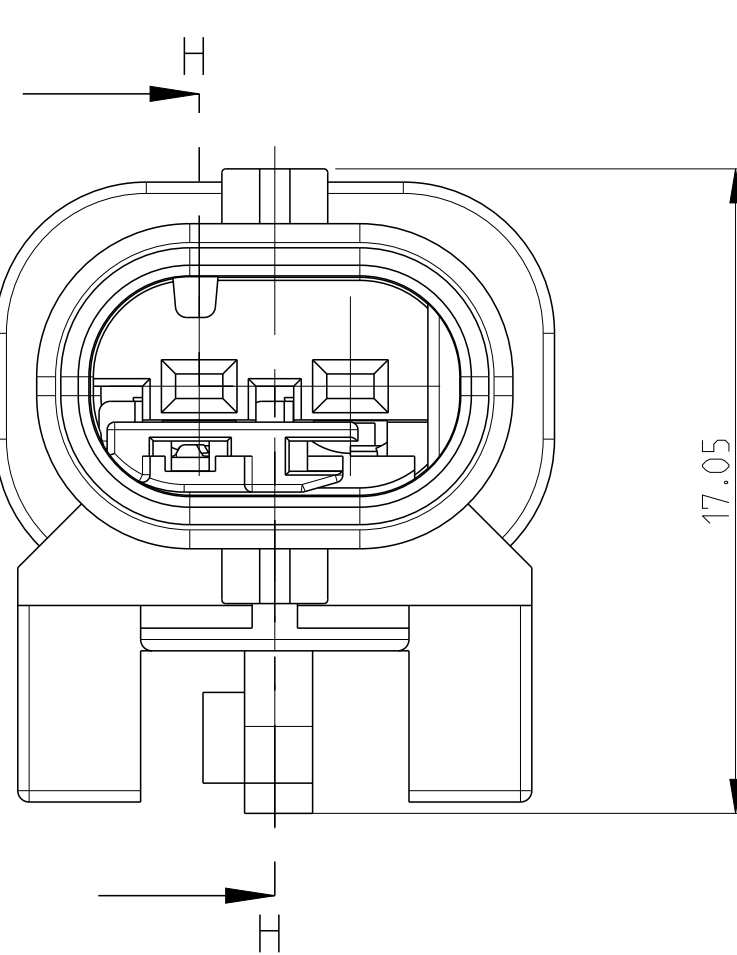
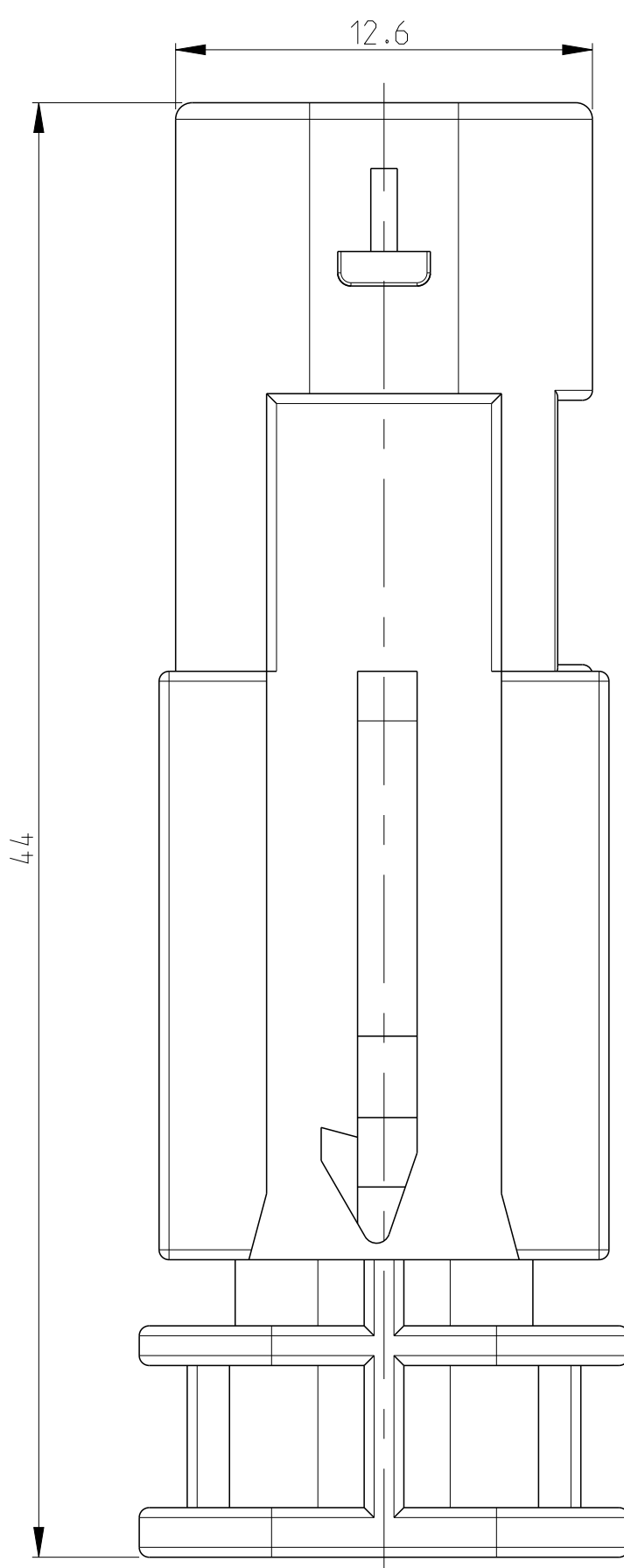
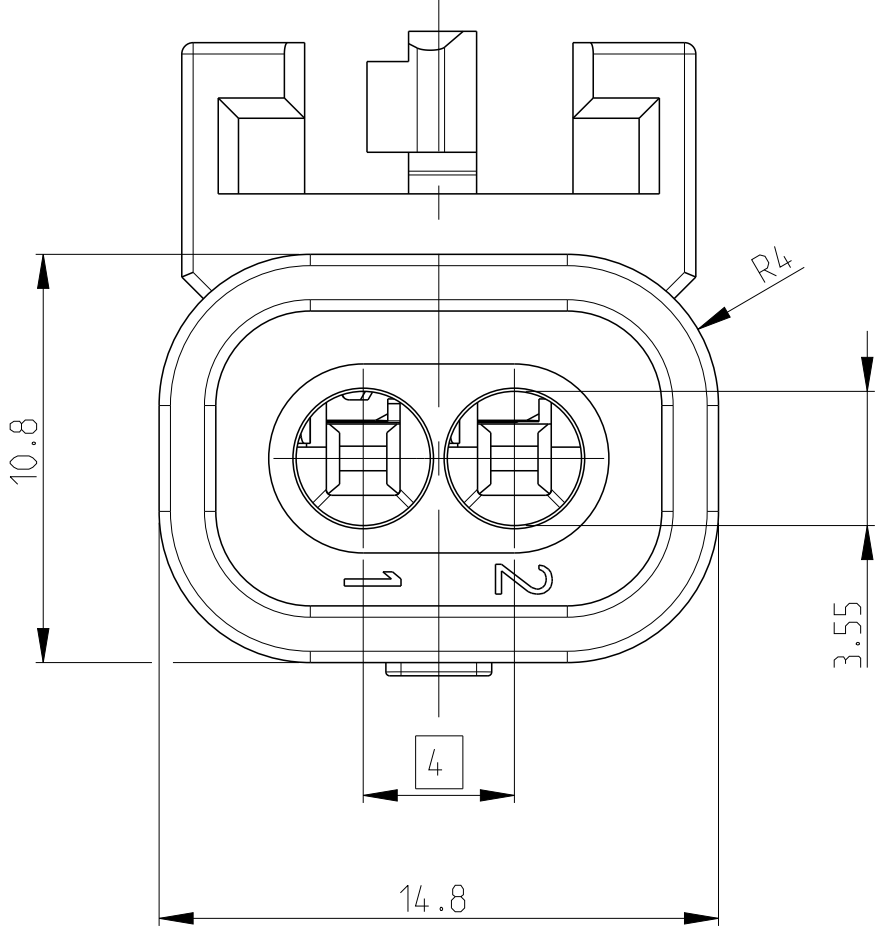


Z

4-1703498-1

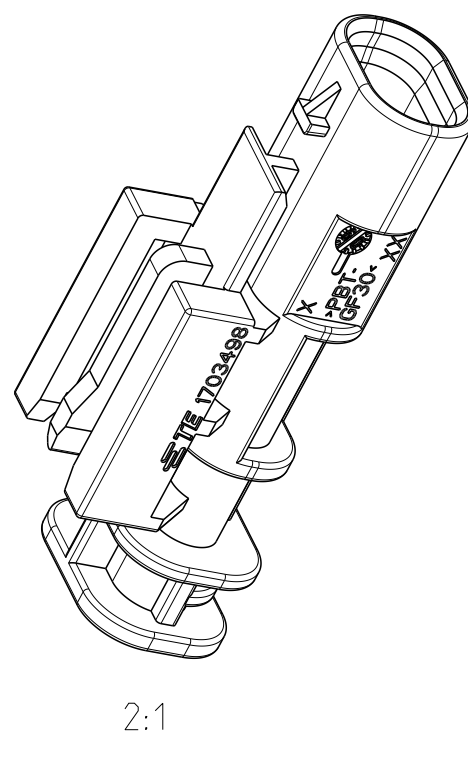
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1-1703498-2



CODINGS

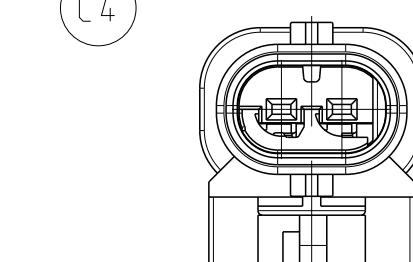
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A

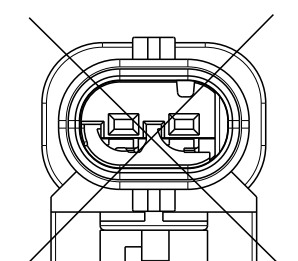
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1-1703498-5 (VW)



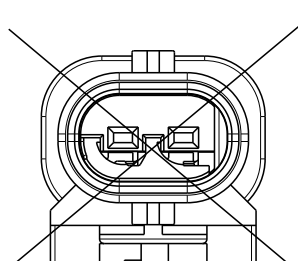
B

2-1703498-2



C

3-1703498-2

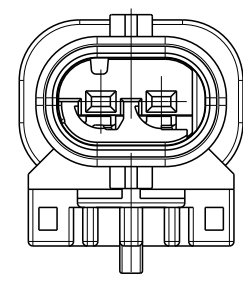
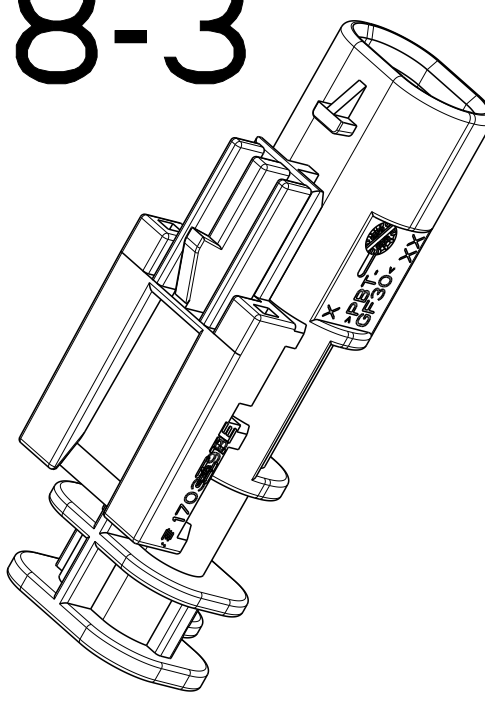
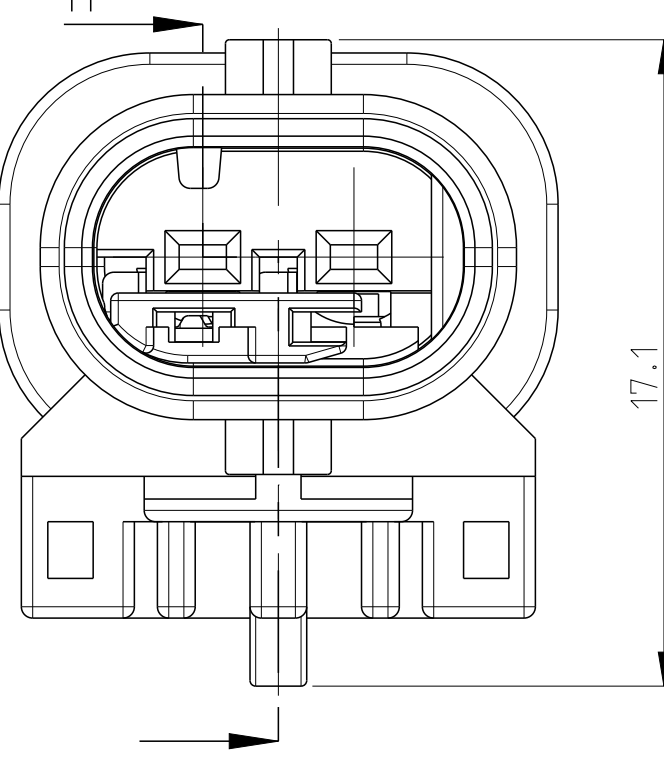
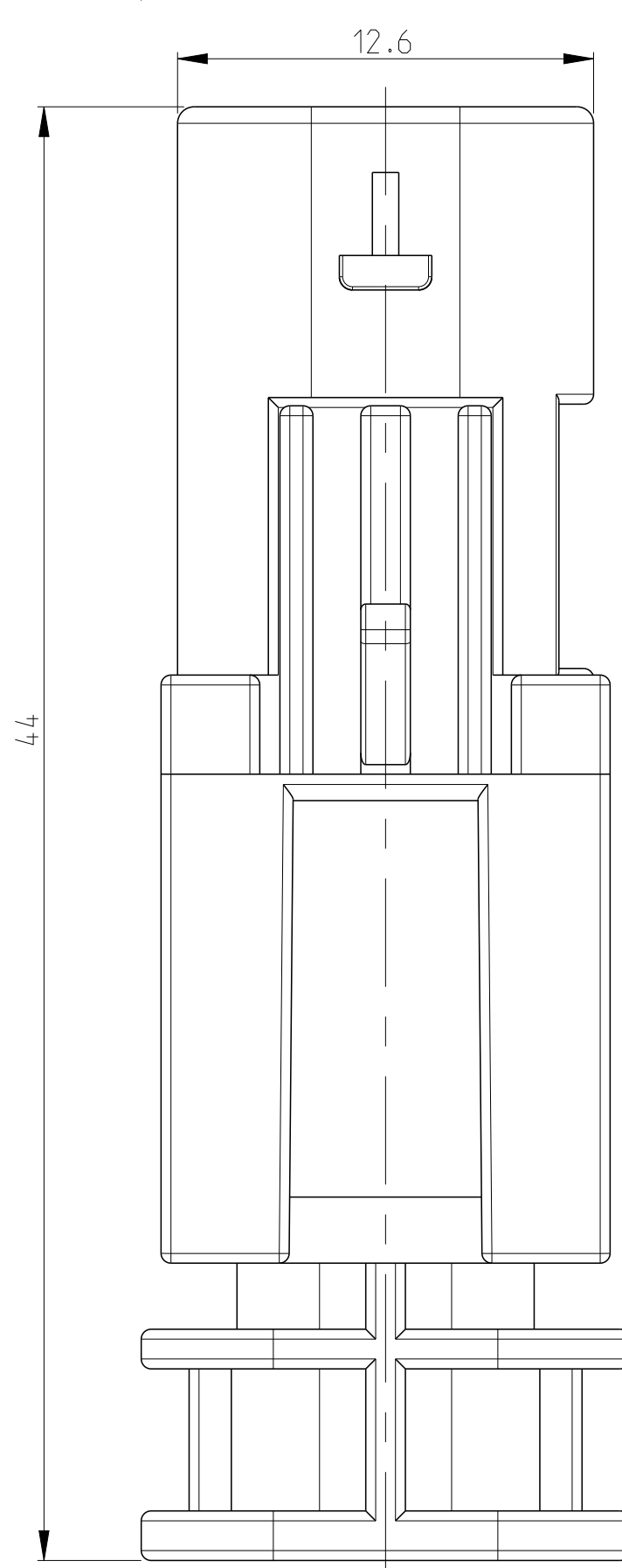
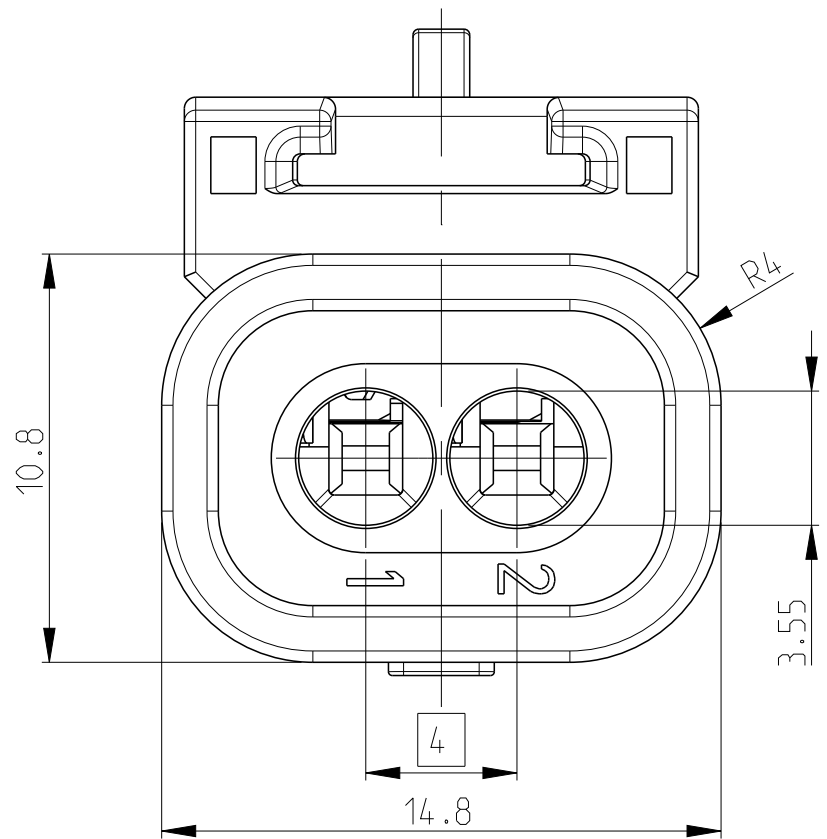


Z

4-1703498-2

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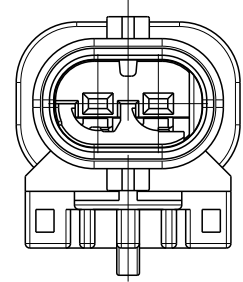
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A

1-1703498-3 (BLACK)

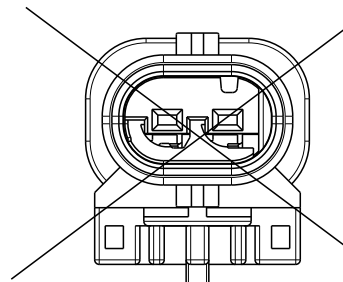
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B

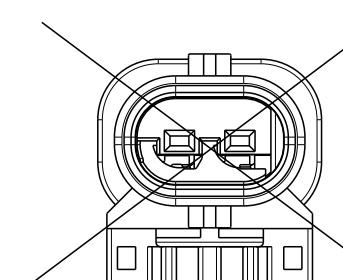
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2-1703498-4 (YELLOW)



C

3-1703498-3

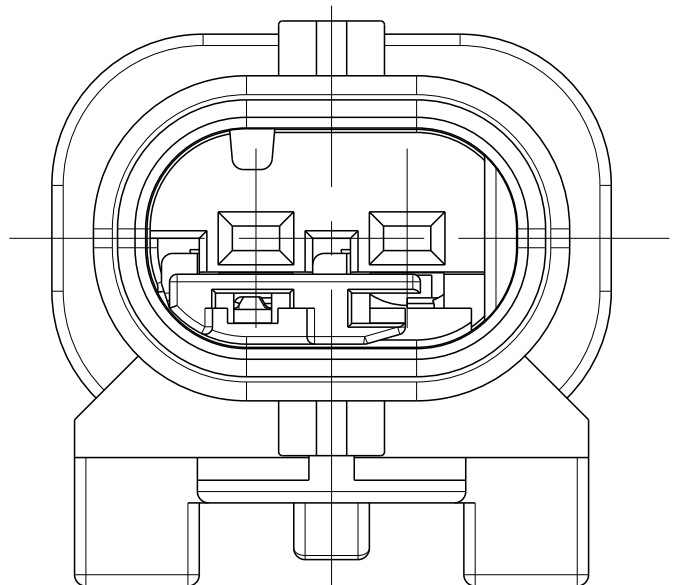


Z

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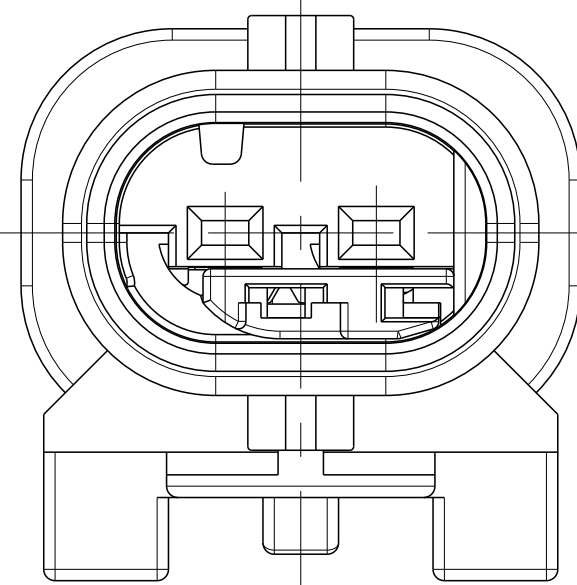
RETAINER IN PRE LOCKED POSITION

2. Kontaktsicherung in Vorraststellung



RETAINER IN FINAL LOCKED POSITION

2. Kontaktsicherung in Endraststellung



RETAINER MOVING DIRECTION

2. Kontaktsicherung Verschiebeweg

USED MCON 1.2mm LL MALE TERMINALS AND SEALS			
TE-PN TERMINALS	WIRE RANGE	TE-PN SINGLE WIRE SEAL	TE-PN BLIND PLUG
2141868	0.08 - 0.22mm ²	967067-2	967056-1
1718758	0.25 - 0.35mm ²	967067-2	
1718760	0.5 - 0.75mm ²	967067-1	
1718762	1mm ²	967067-1	
TERMINAL TE-APPLICATION SPEC.: 114-18464			

REGRIND MAX. 25%

THIS DRAWING IS A CONTROLLED DOCUMENT.		DATE 19JUN2007	
DIMENSIONS: (mm)		DRAWN BY: H. RIPPER	
TOLERANCES UNLESS OTHERWISE SPECIFIED:		CHECKED BY: G. MUMFORD	
0 PLG ±0.5		PRODUCT SPEC 108-34.177	
2 PLG ±0.5		APPLICATION SPEC 114-18910-1	
3 PLG ±0.5		WEIGHT 4.48g	
4 PLG ±0.5		CUSTOMER DRAWING	
MATERIAL -		SCALE 5:1	
FINISH -		SHEET 1 OF 1	
REV C6		REV C6	

2-1670916-1	C	2-1703498-4	B	Stiftgehaeuse 2pol. MALE HOUSING 2POS.	1	Kontaktsicherung RETAINER	PA66-GF35	violett/VIOLET	2
1-1670916-1	C	1-1703498-4	A	Stiftgehaeuse 2pol. MALE HOUSING 2POS.	1	Stiftgehaeuse 2pol. MALE HOUSING 2POS.	PBT-GF30	gelb/YELLOW	1b
-	C	4-1703498-3	Z	Stiftgehaeuse 2pol. MALE HOUSING 2POS.	1	Kontaktsicherung RETAINER	PA66-GF35	violett/VIOLET	2
-	C	3-1703498-3	C	Stiftgehaeuse 2pol. MALE HOUSING 2POS.	1	Kontaktsicherung RETAINER	PA66-GF35	schwarz/BLACK	1a
2-1670916-1	C	2-1703498-3	B	Stiftgehaeuse 2pol. MALE HOUSING 2POS.	1	Kontaktsicherung RETAINER	PBT-GF30	schwarz/BLACK	1c
1-1670916-1	C	1-1703498-3	A	Stiftgehaeuse 2pol. MALE HOUSING 2POS.	1	Kontaktsicherung RETAINER	PA66-GF35	violett/VIOLET	2
TE SUITABLE FEMALE HSG. PASSENDE BUCHSENGEH.	ASSY REV.	TE Bestell-Nr. ORDER-NO.	CODE	Benennung TITLE	QTY	Benennung Einzelteil TITLE	Werkstoff MATERIAL	Oberflaeche/Farbe SURFACE/C OLOUR	Pos. ITEM

-	C	1-1703498-5	A	Stiftgehaeuse 2pol. MALE HOUSING 2POS.	1	Kontaktsicherung RETAINER	PA66-GF35	violett/VIOLET	2
-	C	4-1703498-2	Z	Stiftgehaeuse 2pol. MALE HOUSING 2POS.	1	Kontaktsicherung RETAINER	PBT-GF30	schwarz/BLACK	1a
-	C	3-1703498-2	C	Stiftgehaeuse 2pol. MALE HOUSING 2POS.	1	Kontaktsicherung RETAINER	PA66-GF35	violett/VIOLET	2
2-1670916-1	C	2-1703498-2	B	Stiftgehaeuse 2pol. MALE HOUSING 2POS.	1	Kontaktsicherung RETAINER	PBT-GF30	schwarz/BLACK	1c
1-1670916-1	C	1-1703498-2	A	Stiftgehaeuse 2pol. MALE HOUSING 2POS.	1	Kontaktsicherung RETAINER	PA66-GF35	violett/VIOLET	2
TE SUITABLE FEMALE HSG. PASSENDE BUCHSENGEH.	ASSY REV.	TE Bestell-Nr. ORDER-NO.	CODE	Benennung TITLE	QTY	Benennung Einzelteil TITLE	Werkstoff MATERIAL	Oberflaeche/Farbe SURFACE/C OLOUR	Pos. ITEM

-	C	4-1703498-1	Z	Stiftgehaeuse 2pol. MALE HOUSING 2POS.	1	Kontaktsicherung RETAINER	PA66-GF35	violett/VIOLET	2
-	C	3-1703498-1	C	Stiftgehaeuse 2pol. MALE HOUSING 2POS.	1	Kontaktsicherung RETAINER	PBT-GF30	schwarz/BLACK	1a
2-1670916-1	C	2-1703498-1	B	Stiftgehaeuse 2pol. MALE HOUSING 2POS.	1	Kontaktsicherung RETAINER	PA66-GF35	violett/VIOLET	2
1-1670916-1	C	1-1703498-1	A	Stiftgehaeuse 2pol. MALE HOUSING 2POS.	1	Kontaktsicherung RETAINER	PBT-GF30	schwarz/BLACK	1a
TE SUITABLE FEMALE HSG. PASSENDE BUCHSENGEH.	ASSY REV.	TE Bestell-Nr. ORDER-NO.	CODE	Benennung TITLE	QTY	Benennung Einzelteil TITLE	Werkstoff MATERIAL	Oberflaeche/Farbe SURFACE/C OLOUR	Pos. ITEM

STE TE Connectivity



Section 2

Engineering Change Documents



Product Change Notification

Current Date: 20-Aug-2021

TE Connectivity

Product Change Notification: P-21-020919

PCN Date: 12-MAY-21

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:

2POS, MCON 1.2 LL TAB SEALED COD A

Description of Changes

New mold tool for retainer 1703500-1

Reason for Changes:

Product improvement. New mold tool built to cover customer demand. Current source is overloaded and we need the additional capacity.

Estimated Dates:

Last Order Date (Obsolete Parts Only):

First Date To Ship (Changed Parts Only):

31-MAY-2021

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
1-1703498-1	NO					
1-1703498-2	NO					
1-1703498-3	NO					
1-1703498-4	NO					
1557304-1	NO					
1557404-1	NO					
1557407-2	NO					
1557407-3	NO					
1557408-2	NO					
1557408-3	NO					
1557409-3	NO					
1557409-4	NO					
1557410-3	NO					
1557410-4	NO					
2-1703498-1	NO					
2-1703498-3	NO					
2-1703498-4	NO					
2324336-1	NO					



Section 3

Customer Engineering Approval

GMW 3191 (2019) - Sealed Connector

Testing Purpose: Product Validation Report

EWO Number: N/A - TE Capacity Tools

Model Year: N/A

First Using Program: N/A

Application: Inline Applications

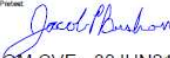
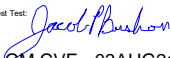
Notes

This PV report is to obtain final approval for the following:

1) Validate a new 2P MCON LL TPA mold (Mold 21-1936317)

2) Validate a 2P MCON LL Male Housing transfer mold (M1075051) from EMEA to Polygon

- Validation per USCAR 2, Rev 4 per original validation.

Customer Information				Supplier Information						Connector Information				GM Approval						
GM Connector Part Number(s) 13505751, 13505427, 13580142, 13505428, 13580143				Connector Supplier Name: TE Connectivity Supplier Part Number(s) 1-1703498-2, 1-1703498-3, 1-1703498-4, 2-1703498-3, 2-1703498-4, X-1703498-X						Connector Type: Sealed X Unsealed Connector Size: 2 POSN				Pretest:  GM CVE - 30JUN21						
				Terminal Information						Part Description: 2 POSN, Sealed, LL SWS, Tab Housing				Post Test:  GM CVE - 03AUG21						
				Primary Terminal		Secondary Terminal														
GM Terminal Part Number				Terminal Supplier	Terminal Type	Terminal Part No	Terminal Supplier	Terminal Type	Terminal Part No											
Other Information				TE	1.2MCON	1718758-3	NA	NA	NA											
Wire Type				TE	1.2MCON	1718760-3														
Tool Number: 21-1936317				TE	1.2MCON	1718762-3														
Tool Revision Number: M1075051																				
Tool Location: Housing - Polygon (China); Retainer - TE GSO; Assembly - TE EMP																				
Primary Terminal or Connector (****)										Secondary Terminal/Connector (****)										
Sample Description		Test Number	Test Start Date	Test Completion Date	Test Results				Sample Description		Test Number	Test Start Date	Test Completion Date	Test Results				Notes		
Terminal Size (mm)	Wire Size				Minimum	Maximum	Average	Standard Deviation	Pass/Fail	Terminal Size (mm)	Wire Size				Minimum	Maximum	Average	Standard Deviation	Pass/Fail	
Terminal to Connector Engagement Force (Section 4.2.4) Test Sequence 29A																				
									PASS											
1.2	0.75				5.51N	6.17N	5.93N	0.23	PASS											USCAR acceptance criteria: 30N Max
1.2	0.35				3.74N	4.61N	4.27N	0.37	PASS											USCAR acceptance criteria: 30N Max
1.2	0.75				Wire buckled	Wire buckled	Wire buckled		PASS											For info only, not part of original validation
1.2	0.35	20210653 ACL	7/19/2021	7/20/2021	Wire buckled	Wire buckled	Wire buckled		PASS											For info only, not part of original validation
											</									

		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 System Mechanical Tests	TPA Pre Lock Position to TPA Removal from Connector Force (4.2.9.4.1)	Remove TPA from connector at a rate of 50mm/min	Unprotected TPA Removal Force ≤ 20N Protected TPA Removal Force ≥ 20N							3.82N	32.43N	17.98N	9.26	PASS* See Notes										For info only, not conducted as part of original validation.		
	Female Connector																									
	TPA Pre Lock Position to TPA Locked Position Force (4.2.9.4.1)	Insert TPA into the connector at a rate of 50mm/min	30N ≤ Unprotected TPA Removal Force ≤ 45N 20N ≤ Protected TPA Removal Force ≤ 45N							10.89N	26.27N	18.30N	5.21	PASS* See Notes										For info only, not conducted as part of original validation. Tool required. TPA requires a dual motion - downward push while moving to the side to actuate.		
	Female Connector																									
	TPA Closing Force at Properly Assembled Terminals (4.2.9.4.2)	With fully populated connector, insert TPA at a rate of 50mm/min	30N ≤ Unprotected TPA Removal Force ≤ 45N 20N ≤ Protected TPA Removal Force ≤ 45N	10 Female Connectors	1.2	0.5	20210653 ACL	07/19/21	07/20/21	5.80N	13.61N	8.91N	2.55	PASS* See Notes										For info only, not conducted as part of original validation. Tool required. TPA requires a dual motion - downward push while moving to the side to actuate.		
	Female Connector																							Not part of original validation.		
Connector System Mechanical Tests	TPA Closing Force at One Improperly Assembled Terminal (4.2.9.4.3)	With one improperly inserted terminal, insert TPA at a rate of 50mm/min	Unprotected TPA Removal Force ≥ 60N Protected TPA Removal Force ≥ 60N																							
	Female Connector																									
	Retention Force of Sealing TPA (4.2.9.4.4)	With TPA in the closed position, pull TPA to the pre-stage position at a rate of 50mm/min	30N ≤ Unprotected TPA Removal Force ≤ 45N 20N ≤ Protected TPA Removal Force ≤ 45N							11.41N	21.19N	15.30N	2.85	PASS* See Notes										For info only, not conducted as part of original validation. Tool required. 4P was tested and deviation granted for 10N Min and 35N Max.		
	Female Connector																									
	Post Test Visual Examination (3.4)	Visually examine each test specimen after testing, note any observable 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 Position Assurance (Section 4.2.15) Test Sequence 29L																										
Connector System Mechanical Tests	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 appearance																							
	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																						
	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																						
	CPA Closing Force Unmated Connector (4.2.15.4.2)	Using an unmated connector, close the CPA at a rate of 50mm/min	Force to close CPA > 80N	10 Female Connectors																						
	Female Connector																									
	CPA Extraction Force Unmated Connector (4.2.15.4.3)	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																						
Connector System Mechanical Tests	Female Connector	Visually examine each test specimen after testing, note any observable 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																							
	Post Test Visual Examination (3.4)																									
	Locked Connector Disengagement 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 appearance											PASS												
	Locked Connector Disengagement Force (4.2.18)	Put connectors apart at a rate of 50mm/min	Disengagement Force(Terminal size .5mm - 1.2mm) ≥ 80N Disengagement Force(Terminal size > 1.2mm) ≥ 120N	10 Connector Pairs			20210653 ACL	07/19/21	07/20/21	122.29N	128.65N	126.16N	1.94	PASS												
	Post Test Visual Examination (3.4)	Visually examine each test specimen after testing, note any observable 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											
Unlocked Connector Disengagement Force (Section 4.2.19) Test Sequence 29Q																										
Connector System Mechanical Tests	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 appearance											PASS												
	Unlocked Connector Disengagement Force (With Locking Feature Disengaged) (4.2.19)	With mated connectors, put connectors apart at a rate of 50mm/min	Disengagement Force < 100N	5 Connector Pairs						18.11N	20.66N	19.50N	1.15	PASS												
	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			20210653 ACL	07/19/21	07/20/21	17.41N	25.24N	22.13N	3.01	PASS												
	Post Test Visual Examination (3.4)	Visually examine each test specimen after testing, note any observable 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												
Thermal Aging (Section 4.4.1) Test Sequence 31A																										
Sealed Connector Environmental Tests	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 appearance											PASS												
	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		1.2	0.35				>50GΩ	>50GΩ	>50GΩ		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		1.2	0.35				No ingress of water or bubbles				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		1.2	0.35				>50GΩ	>50GΩ	>50GΩ		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 examination requirements and all mechanical assists and/or other elements required to separate connectors for service shall function without breakage		1.2	0.35	20210654 ACL	7/19/2021	7/23/2021	ENVIRO 70HRS @ 125°C				PASS												

				Primary Terminal or Connector (****)												Secondary Terminal/Connector (****)												Notes
Test Item	Test Requirement	Acceptance Criteria	Minimum Sample Size	Sample Description		Test Number	Test Start Date	Test Completion Date	Test Results					Sample Description		Test Number	Test Start Date	Test Completion Date	Test Results									
				Terminal Size (mm)	Wire Size				Minimum	Maximum	Average	Standard Deviation	Pass/Fail	Terminal Size (mm)	Wire Size				Minimum	Maximum	Average	Standard Deviation	Pass/Fail					
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		1.2	0.35				No ingress of water or bubbles					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		1.2	0.35				>50GΩ	>50GΩ	>50GΩ		PASS															
Post Test Visual Examination (3.4)	Visually examine each test specimen after testing, note any observable 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														

Test	USCAR req't	Deviation	Orig Val	Transfer Hsg Mold New TPA Mold
Terminal - Connector Insertion Force - TPA in Open Position, Max Wire Size	30 N Max. 50 N Min. PT		Not Conducted	Min: 5.51 Max: 6.17 Avg: 5.83 St Dev: 0.23
Terminal - Connector Insertion Force - TPA in Open Position, Min Wire Size	30 N Max. 50 N Min. PT		Min: 4.10 Max: 5.9	Min: 3.74 Max: 4.61 Avg: 4.27 St Dev: 0.37
Terminal - Connector Extraction Force - TPA in Open Position, Max Wire Size	30 N Min.		Min: 50.60 Max: 72.60	Min: 52.43 Max: 66.15 Avg: 58.80 St Dev: 4.66
Terminal - Connector Extraction Force - TPA in Closed Position, Max Wire Size	75 N Min.		Min: 108.00 Max: 127.00	Min: 90.79 Max: 143.21 Avg: 111.22 St Dev: 19.44
Terminal - Connector Extraction Force - TPA in Closed Position, Max Wire Size, Moisture Conditioned	60 N Min.		Not Conducted	Min: 78.55 Max: 127.57 Avg: 98.09 St Dev: 14.25
Connector to Connector Mating Force, TPA engaged	75N Max		Min: 34.40 Max: 48.30	Min: 41.40 Max: 61.25 Avg: 53.26 St Dev: 5.18
Connector to Connector Un-Mating Force, TPA engaged, CPA not engaged	110 N Min.		Min: 121.00 Max: 132.00	Min: 122.29 Max: 128.65 Avg: 126.16 St Dev: 1.94
Connector to Connector Un-Mating Force, TPA engaged, Primary Lock Disengaged	75 N Max.		Min: 15.10 Max: 22.10	Min: 18.11 Max: 20.66 Avg: 19.50 St Dev: 1.15
Connector to Connector Un-Mating Force, Primary Connector Lock Disengagement, CPA Disengaged	10N Min 70N Max		Not Conducted	Min: 17.41 Max: 25.24 Avg: 22.13 St Dev: 3.01
Connector to Connector Un-Mating Force, Primary Connector Lock Disengagement, CPA Engaged	50N Min		Not Conducted	Min: 70.04 Max: 70.07 Avg: 70.05 St Dev: 0.01
Misc Component Engage/Disengage Force - TPA, Pre-set to Full Install (Lock), No terminals	15N Min		Not Conducted Tool Required	Min: 10.89 Max: 26.27 Avg: 18.30 St Dev: 5.21
Misc Component Engage/Disengage Force - TPA, Pre-set to Full Install (Lock), With terminals	60N Max		Not Conducted Tool Required	Min: 5.80 Max: 13.61 Avg: 8.91 St Dev: 2.55
Misc Component Engage/Disengage Force - TPA, Full Install (Lock) to Pre-set, With terminals	60N Max		Not Conducted Tool Required	Min: 11.41 Max: 21.19 Avg: 15.30 St Dev: 2.85
Misc Component Engage/Disengage Force - TPA, Pre-set to Removal, without terminals	25 N Min.		Not Conducted Tool Required	Min: 3.82 Max: 32.43 Avg: 17.98 St Dev: 9.26

PF90012 Design Validation Plan & Report Document

Supplier:	TE Connectivity
Supplier Part Number:	X-1703498-X
Part Description	2P MCON LL Cap Assembly
Lead Application:	
Lead Carline	
Lead MY:	
PF90012 Temperature Class	T3
PF90012 Vibration Class	V2


Were There Failures on Testing?	Yes
<i>(If yes, please explain on Failure Analysis Page)</i>	

Prepared By:	Stacie Ice
Date:	7/24/2021

Comments:	
<p>This PV Report is to validate the transfer of mold M1075051 from TE Hungary to Polygon in China for NA localized volumes. This report is to also validate a new retainer mold (M21-1936317) which will be located at TE GSO for NA localized volumes. Assembly will remain at TE EMP. Original validation was performed to AK specifications. Further capacity validations were performed to USCAR 2, Rev 4. Capacity testing will follow the USCAR 2, Rev 4 validation.</p>	



Date:	Rev.	Content of Revision

FCA CoC Approval		
Laura Borthwick		8/5/2021
Paul Dang		

DESIGN VERIFICATION PLAN AND REPORT							Date:	7/24/2021
Assembly/Part Number: X-1703498-X		Component Description: 2P MCON LL Cap Assembly				Design Engineer:		
System N/A			Subsystem N/A			DVP&R Level:		<input type="checkbox"/> Prototype
Specifications: Chrysler PF90012 (Class <u>TBD</u>) Change Level B; USCAR 2, Rev 4							<input checked="" type="checkbox"/> Production	

Test Type	Test Sub-Category	Acceptance Criteria	Test Results				Minimum Required Data Points	Timing		Notes Original DV values were translated from the AK spec requirements.
			DV		PV			Sched	Actual	
			Pass/Fail	Result	Pass/Fail	Result		Start / End	Start / End	
Connector - Mechanical	Terminal - Connector Insertion/Retention Force PF90012.6.4.2 A-B									
	Insertion Force 6.4.2.A	Insertion effort must be smooth with no stalling or false lock-up. Maximum Insertion Force (by wire cross section): < 1 mm ² : ≤ 15N = 1mm ² : ≤ 20N > 1mm ² : ≤ 30N	PASS	5.9N Max	PASS PASS	0.75: Min: 5.51, Max: 6.17 0.35: Min: 3.74, Max: 4.61	10 Lg Data Points 10 Sm Data Points See Sec. 6.4.2.A.B Notes 1 & 2	7/19/2021	7/20/2021	Test Request: 20210653ACL
		Forward stop must withstand a push-through force of: (By Terminal Size) 0.50mm: > 35N > 0.50mm: > 50N	N/A		N/A					
		Mating of a terminal with ISL fully seated shall not be possible.	TBD	TBD	TBD	TBD				
		A minimum load of at least twice the limits of maximum Insertion Force above is required for seated PLR's.	TBD	TBD	TBD	TBD				
Retention Force w/o Secondary Lock 6.4.2.B	Terminal retention w/o secondary lock: Terminal Size: ≤0.64: 30 N Min ≤ 1.5mm 45N Min ≤ 2.8mm 60N Min ≤ 6.3mm 80N Min ≤9.5mm 100N Min	PASS	50.60N Min	PASS	Min: 52.43, Max: 66.15	10 Data Points Each Test	7/19/2021	7/20/2021		
Retention Force w/ Secondary Lock 6.4.2.B	Post Moisture Conditioning Terminal Size: ≤0.64: 60 N Min ≤ 1.5mm 70N Min ≤ 2.8mm 100N Min ≤ 6.3mm 130N Min ≤9.5mm 150N Min >9.5mm 200N Min	PASS	108.00N Min Note: No Moisture Cond	PASS	No Moisture Min: 90.79, Max: 143.21 Moisture Min: 78.55, Max: 127.57	10 Data Points Each Test	TBD	TBD	NOTE 1: Includes connectors not designed for use with secondary lock.	
Mechanical	Connector to Connector Mating/Unmating Force (Non-mechanical Assist Connectors) -- PF90012 6.4.2 D									
	Mating Force 6.4.2.D	Conn mating force shall adhere to USCAR-25: Small grip area < 22 N Medium grip area < 45 N					15 Data Points	7/19/2021	7/20/2021	Test Request: 20210653ACL See Notes 1,2,3 in acceptance criteria

DESIGN VERIFICATION PLAN AND REPORT										Date:	7/24/2021		
Assembly/Part Number: X-1703498-X			Component Description: 2P MCON LL Cap Assembly					Design Engineer:					
System N/A				Subsystem N/A				DVP&R Level:			<input type="checkbox"/> Prototype		
Specifications: Chrysler PF90012 (Class <i>TBD</i>) Change Level B; USCAR 2, Rev 4										<input checked="" type="checkbox"/> Production			
Test Type	Test Sub-Category	Acceptance Criteria	Test Results				Minimum Required Data Points	Timing		Notes Original DV values were translated from the AK spec requirements.			
			DV		PV			Sched	Actual				
			Pass/Fail	Result	Pass/Fail	Result		Start / End	Start / End				
Connector - Mechanical	Unmating Force 6.4.2.D	Large grip area < 75 N.	PASS	48.30N Max	PASS	Min: 41.40, Max: 61.25	10 Data Points w/o terminals 5 Data Points w/ Terminals	7/19/2021	7/20/2021	See Note in Acceptance Criteria regarding latches with difficult service locations.			
		Disengage force<75N with lock disabled, w/o CPA	PASS	22.10N Max	PASS	Min: 18.11, Max: 20.66							
		Disengage force >110N with lock enabled, w/o CPA	PASS	121.00N Min	PASS	Min: 122.29, Max: 128.65							
		Force to Service: 6N ≤ F ≤ 51N w/o CPA	N/A	N/A	PASS	Min: 17.41, Max: 25.24							
	Miscellaneous Component Engage/Disengage Force -- PF90012 6.4.2 I-J												
	Engage/Disengage Force TPA/ISL 6.4.2 I	Pre-set to Full Install: 20N < F < 40N without terminals 20N < F < 40N with terminals (properly installed)	N/A N/A	Not Tested Not Tested	FAIL FAIL	Min: 10.89, Max: 26.27 Min: 5.80, Max: 13.61	10 Data Points Each Test	7/19/2021	7/20/2021	Test Request: 20210653ACL Force (F): Add 40N to the maximum force required to seat the device when all terminals are located properly. The minimum force is 80N for ≥1.5mm nominal size terminals and 60N for <1.5mm terminals.			
		With Improperly Installed Terminals (1) ISL/TPA must not seat when force (F) is applied (2) Terminal Retention meets 6.4.2.B	TBD	TBD	TBD	TBD							
		Full Install to Pre-set: 20N < F < 45N	N/A	Not Tested	FAIL	Min: 11.41, Max: 21.19							
		Removal from Housing: 20N Min	N/A	Not Tested	FAIL	Min: 3.82, Max: 32.43							
		Connection Mating Force with ISL/TPA Improperly Assembled: Minimum 2x the mating force of the connector pair	TBD	TBD	TBD	TBD							
	Engage/Disengage Force CPA 6.4.2 J	Pre-set to Full Install: 60N Min unmated connector 10N Min -25N Max mated connector	TBD	TBD	TBD	TBD	10 Data Points Each Test	TBD	TBD	This test is required for connectors with CPAs only. See Note 1 for Squib Connections and Active CPA's			
		Full Install to Pre-set: 10N Min-25N Max	TBD	TBD	TBD	TBD							
		Removal from housing: 60N Min	TBD	TBD	TBD	TBD							
	Engage/Disengage Force Wire Shield	Insertion Force 60N Max Extraction Force 110N Min	TBD	TBD	TBD	TBD	10 Data Points Each Test	TBD	TBD	This test is required for connectors with wire shields only			
	Pressure/Vacuum Leak Stand Alone -- PF90012 Section 5.2.7												
		Visual Examination 6.2.1	There shall be no corrosion, discoloration, cracks, etc., which could affect the functionality of the part Swelling or physical distortion shall not exceed the tolerances specified on the part drawing.	PASS	PASS	PASS	PASS	10 Connector Pairs	7/19/2021	7/23/2021	Test Request: 20210654ACL		

DESIGN VERIFICATION PLAN AND REPORT				Date:	7/24/2021
Assembly/Part Number: X-1703498-X		Component Description: 2P MCON LL Cap Assembly		Design Engineer:	
System N/A		Subsystem N/A		DVP&R Level: <input type="checkbox"/> Prototype <input checked="" type="checkbox"/> Production	
Specifications: Chrysler PF90012 (Class <u>TBD</u>) Change Level B; USCAR 2, Rev 4					

Test Type	Test Sub-Category	Acceptance Criteria	Test Results				Minimum Required Data Points	Timing		Notes Original DV values were translated from the AK spec requirements.
			DV		PV			Sched	Actual	
			Pass/Fail	Result	Pass/Fail	Result		Start / End	Start / End	
Connector-Environmental Testing USCAR 5.9.8	Connector Conditioning 1.8.2	Conditioning Step Only	N/A	N/A	N/A	N/A	10 Connector Pairs	7/19/2021	7/23/2021	
	Insulation Resistance 6.3.7 A	Resistance between every combination of two adjacent terminals in the CUT must exceed 100MΩ at 500VDC.	PASS	≥ 100MΩ	PASS	≥ 100MΩ	10 Data Points	7/19/2021	7/23/2021	
	Pressure/Vacuum Leak 5.2.7	Pass/Fail via 5.2.7A (96kPa pressure / 48 kPa vacuum)	PASS	No ingress	PASS	No ingress	10 Connectors Pass/Fail	7/19/2021	7/23/2021	
	Insulation Resistance 6.3.7 A	Resistance between every combination of two adjacent terminals in the CUT must exceed 100MΩ at 500VDC.	PASS	≥ 100MΩ	PASS	≥ 100MΩ	10 Data Points	7/19/2021	7/23/2021	
	70 Hour Heat Soak	Conditioning Step Only	N/A	N/A	N/A	N/A	N/A	N/A	N/A	125°C
	Pressure/Vacuum Leak 5.2.7	Pass/Fail via 5.2.7A (48kPa pressure / 28 kPa vacuum)	PASS	No ingress	PASS	No ingress	10 Connectors Pass/Fail	7/19/2021	7/23/2021	
	Insulation Resistance 6.3.7 A	Resistance between every combination of two adjacent terminals in the CUT must exceed 100MΩ at 500VDC.	PASS	≥ 100MΩ	PASS	≥ 100MΩ	10 Data Points	7/19/2021	7/23/2021	
	Pressure/Vacuum Leak 5.2.7	TEST TO FAILURE	N/A	Record Values Reference Only	N/A	Record Values Reference Only	10 Data Points	TBD	TBD	

Supplier:	TE Connectivity
Supplier Part Number:	X-1703498-X
Part Description	2P MCON LL Cap Assembly
Date	7/24/2021



Test Failure Analysis


Number	Component	Test Name	Acceptance Criteria	Measured Value	Countermeasure	Results
6.4.2 I	TPA	Pre-set to Full Install - no term	20N < F < 40N	Min: 10.89, Max: 26.27	Never tested on original DVPR. TPA requires a specialized tool which has a dual motion.	PASS
6.4.2 I	TPA	Pre-set to Full Install - w/term	20N < F < 40N	Min: 5.80, Max: 13.61	Never tested on original DVPR. TPA requires a specialized tool which has a dual motion.	PASS
6.4.2 I	TPA	Full Install to Pre-set	20N < F < 45N	Min: 11.41, Max: 21.19	Never tested on original DVPR. TPA requires a specialized tool.	PASS
6.4.2 I	TPA	Removal from Housing	20N Min	Min: 3.82, Max: 32.43	Never tested on original DVPR. TPA requires a specialized tool.	PASS
<p>Note: TPA actuation requires a dual simultaneous motion (down and side). Testing cannot accurately depict this. To test the parts, a window has to be cut out of the side of the connector and the tester can only push in the side direction. This is not representative of how it would be actuated in production. Additionally, a tool is required to seat the TPA.</p>						

Comments:	
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Please note, all failures must have definitive analysis reports determining root cause and corresponding countermeasure investigations

TE Hungary Transfer Mold

Test	USCAR req't	Deviation	Orig Val	New Retainer Mold
Terminal - Connector Insertion Force - TPA in Open Position, Max Wire Size	30 N Max. 50 N Min. PT		Not Conducted	Min: 5.51 Max: 6.17 Avg: 5.83 St Dev: 0.23
Terminal - Connector Insertion Force - TPA in Open Position, Min Wire Size	30 N Max. 50 N Min. PT		Min: 4.10 Max: 5.9	Min: 3.74 Max: 4.61 Avg: 4.27 St Dev: 0.37
Terminal - Connector Extraction Force - TPA in Open Position, Max Wire Size	30 N Min.		Min: 50.60 Max: 72.60	Min: 52.43 Max: 66.15 Avg: 58.80 St Dev: 4.66
Terminal - Connector Extraction Force - TPA in Closed Position, Max Wire Size	75 N Min.		Min: 108.00 Max: 127.00	Min: 90.79 Max: 143.21 Avg: 111.22 St Dev: 19.44
Terminal - Connector Extraction Force - TPA in Closed Position, Max Wire Size, Moisture Conditioned	60 N Min.		Not Conducted	Min: 78.55 Max: 127.57 Avg: 98.09 St Dev: 14.25
Connector to Connector Mating Force, TPA engaged	75N Max		Min: 34.40 Max: 48.30	Min: 41.40 Max: 61.25 Avg: 53.26 St Dev: 5.18
Connector to Connector Un-Mating Force, TPA engaged, CPA not engaged	110 N Min.		Min: 121.00 Max: 132.00	Min: 122.29 Max: 128.65 Avg: 126.16 St Dev: 1.94
Connector to Connector Un-Mating Force, TPA engaged, Primary Lock Disengaged	75 N Max.		Min: 15.10 Max: 22.10	Min: 18.11 Max: 20.66 Avg: 19.50 St Dev: 1.15
Connector to Connector Un-Mating Force, Primary Connector Lock Disengagement, CPA Disengaged	10N Min 70N Max		Not Conducted	Min: 17.41 Max: 25.24 Avg: 22.13 St Dev: 3.01
Connector to Connector Un-Mating Force, Primary Connector Lock Disengagement, CPA Engaged	50N Min		Not Conducted	Min: 70.04 Max: 70.07 Avg: 70.05 St Dev: 0.01
Misc Component Engage/Disengage Force - TPA, Pre-set to Full Install (Lock), No terminals	15N Min		Not Conducted Tool Required	Min: 10.89 Max: 26.27 Avg: 18.30 St Dev: 5.21
Misc Component Engage/Disengage Force - TPA, Pre-set to Full Install (Lock), With terminals	60N Max		Not Conducted Tool Required	Min: 5.80 Max: 13.61 Avg: 8.91 St Dev: 2.55
Misc Component Engage/Disengage Force - TPA, Full Install (Lock) to Pre-set, With terminals	60N Max		Not Conducted Tool Required	Min: 11.41 Max: 21.19 Avg: 15.30 St Dev: 2.85
Misc Component Engage/Disengage Force - TPA, Pre-set to Removal, without terminals	25 N Min.		Not Conducted Tool Required	Min: 3.82 Max: 32.43 Avg: 17.98 St Dev: 9.26



ENGINEERING SAMPLE EVALUATION REPORT

PART NAME: 2POSN CONNECTOR, SEALED, MALE 1.2 MM, Lance Lock		PART NO.: See table below in "Change Details"																									
		CHANGE TYPE:	CHECK APPLICABLE:																								
SUBMITTED BY: Stacie Ice	CURRENT MANUFACTURING SITE: TE EMEA	TOOL MOVE: PROCESS CHANGE: MATERIAL/MATERIAL SUPPLIER CHANGE: CAPACITY TOOL: <table><tr><td>X</td></tr><tr><td></td></tr><tr><td></td></tr><tr><td>X</td></tr></table>		X			X																				
	X																										
X																											
	FUTURE MANUFACTURING SITE: Polygon China (Housing), TE GSO (Retainer) TE EMP (Assembly)																										
SUPPLIER: TE Connectivity		24-Jul-21	MADE TO DRAWING DATED:																								
CHANGE DETAILS: Housing Tool transfer for additional capacity & Release of new retainer mold for additional capacity Transfer housing mold from TE Hungary to Polygon in China to increase capacity for NA volumes. Release new retainer mold at TE GSO to increase capacity for NA volumes. Assembly will continue to take place at TE in EMP Mexico. This document is intended to obtain final approval for the importing of components. <table><tr><th>Ford Part Number</th><th>TE Part Number (Parent)</th><th>Component</th><th>Mold/Die Number</th></tr><tr><td>7V6T-14A624-AA</td><td>1-1703498-1</td><td>X-1703499-X</td><td>Housing = M1075051 Retainer = M21-1936317</td></tr><tr><td>GU5T-14A624-DA</td><td>2-1703498-1</td><td>X-1703499-X</td><td>Housing = M1075051 Retainer = M21-1936317</td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>				Ford Part Number	TE Part Number (Parent)	Component	Mold/Die Number	7V6T-14A624-AA	1-1703498-1	X-1703499-X	Housing = M1075051 Retainer = M21-1936317	GU5T-14A624-DA	2-1703498-1	X-1703499-X	Housing = M1075051 Retainer = M21-1936317												
Ford Part Number	TE Part Number (Parent)	Component	Mold/Die Number																								
7V6T-14A624-AA	1-1703498-1	X-1703499-X	Housing = M1075051 Retainer = M21-1936317																								
GU5T-14A624-DA	2-1703498-1	X-1703499-X	Housing = M1075051 Retainer = M21-1936317																								
APPROVED: REJECTED:	<table><tr><td><input checked="" type="checkbox"/></td></tr><tr><td></td></tr></table>	<input checked="" type="checkbox"/>		PRODUCT ENGINEERING SIGNATURE*: 																							
<input checked="" type="checkbox"/>																											
		DATE: Aug 12, 2021																									
IDENTIFY WITH REMARKS AFFECTING PRODUCT ENGINEERING CRITICAL REQUIREMENTS																											
*By signing this document, you state that you have verified the physical part/s with the drawing/s and agree with key dimensional data, notes and appearance.																											

[illegible]

Test	USCAR req't	Deviation	Orig Val	TE Hungary Transfer Mold New Retainer Mold	
Terminal - Connector Insertion Force - TPA in Open Position, Max Wire Size	30 N Max. 50 N Min. PT		Not Conducted	Min: 5.51 Max: 6.17 Avg: 5.83 St Dev: 0.23	
Terminal - Connector Insertion Force - TPA in Open Position, Min Wire Size	30 N Max. 50 N Min. PT		Min: 4.10 Max: 5.9	Min: 3.74 Max: 4.61 Avg: 4.27 St Dev: 0.37	
Terminal - Connector Extraction Force - TPA in Open Position, Max Wire Size	30 N Min.		Min: 50.60 Max: 72.60	Min: 52.43 Max: 66.15 Avg: 58.80 St Dev: 4.66	
Terminal - Connector Extraction Force - TPA in Closed Position, Max Wire Size	75 N Min.		Min: 108.00 Max: 127.00	Min: 90.79 Max: 143.21 Avg: 111.22 St Dev: 19.44	
Terminal - Connector Extraction Force - TPA in Closed Position, Max Wire Size, Moisture Conditioned	60 N Min.		Not Conducted	Min: 78.55 Max: 127.57 Avg: 98.09 St Dev: 14.25	
Connector to Connector Mating Force, TPA engaged	75N Max		Min: 34.40 Max: 48.30	Female LL 2pc Conn Silver Terminals Min: 41.40 Max: 61.25 Avg: 53.26 St Dev: 5.18	Female CB 1pc Conn Silver Terminals Min: 27.42 Max: 41.55 Avg: 36.24 St Dev: 4.10
Connector to Connector Un-Mating Force, TPA engaged, CPA not engaged	110 N Min.		Min: 121.00 Max: 132.00	Min: 122.29 Max: 128.65 Avg: 126.16 St Dev: 1.94	
Connector to Connector Un-Mating Force, TPA engaged, Primary Lock Disengaged	75 N Max.		Min: 15.10 Max: 22.10	Min: 18.11 Max: 20.66 Avg: 19.50 St Dev: 1.15	
Connector to Connector Un-Mating Force, Primary Connector Lock Disengagement, CPA Disengaged	10N Min 70N Max		Not Conducted	Min: 17.41 Max: 25.24 Avg: 22.13 St Dev: 3.01	
Connector to Connector Un-Mating Force, Primary Connector Lock Disengagement, CPA Engaged	50N Min		Not Conducted	Min: 70.04 Max: 70.07 Avg: 70.05 St Dev: 0.01	
Misc Component Engage/Disengage Force - TPA, Pre-set to Full Install (Lock), No terminals	15N Min		Not Conducted Tool Required	Min: 10.89 Max: 26.27 Avg: 18.30 St Dev: 5.21	
Misc Component Engage/Disengage Force - TPA, Pre-set to Full Install (Lock), With terminals	60N Max		Not Conducted Tool Required	Min: 5.80 Max: 13.61 Avg: 8.91 St Dev: 2.55	
Misc Component Engage/Disengage Force - TPA, Full Install (Lock) to Pre-set, With terminals	60N Max		Not Conducted Tool Required	Min: 11.41 Max: 21.19 Avg: 15.30 St Dev: 2.85	
Misc Component Engage/Disengage Force - TPA, Pre-set to Removal, without terminals	25 N Min.		Not Conducted Tool Required	Min: 3.82 Max: 32.43 Avg: 17.98 St Dev: 9.26	

Connector to Connector Mate Force

2P 1pc MCON Clean Body Female Assem
Silver Terminals

Sample	Max Force(N)
1	35.91
2	41.55
3	40.33
4	27.42
5	33.68
6	36.65
7	38.87
8	37.6
9	32.87
10	37.49

Min 27.42

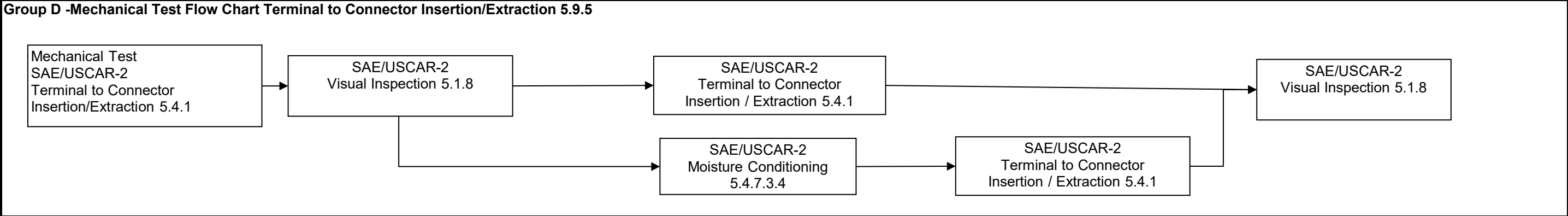
Max 41.55

Avg 36.24



Design Verification Plan and Report

System: CPSC 18.01.07 Connectors			Ford part number (s): 7V6T-14A624-AA GU5T-14A624-DA			Model Year and Program: Various			Ford Design Engineer: Joe Chapelle <i>Joe Chapelle</i>		
Temperature Class	T3	T1, T2, T3, T4 T5	Supplier: TE Connectivity						Ford Design Engineer Approval		
Vibration Class	V2	V1, V2,V3, V4, V5	Reason for Validation:	Capacity Tool	Part Level:	PV - production		Plan:	24-Jul-21		
Sealing Class	S3	S1, S2,S2.5, S3									
Test Name/Source	Acceptance Criteria	Test Results	Design Level Tested	Sample Size		Timing		Validated to USCAR 2, Rev 4 per original validation.			
				Required	Tested	Sched.	Actual	Remarks			



D-1. Visual Inspection - SAE/USCAR-2 5.1.8 To document the physical appearance of test samples.	The connectors assemblies must not show , with the aid of 10X magnification, any evidence of deterioration, cracks, deformities, etc., that could affect their functionality or distort their appearance. Connector locking mechanism must function without breaking	PASS			PV	Determined thru Table 5.4.1.3.1		7/20/2021	TE Test Request: 20210653ACL
D-2. Insertion Force USCAR 2, 5.4.1.3 A	15N For terminals >/.5 and <1.2 20N for terminals >1.2 and </= 2.8 30N for terminals >2.8 (see procedure notes in Para. 5.4.1.3 A6)	Max	Min	Ave				7/20/2021	
	Largest Wire	6.17N	5.51N	5.83N					
	Smallest Wire	4.61N	3.74N	4.27N					
	The forward stop push-through force must be 35N or greater for 0.50 terminals and 50 N or greater for terminals larger than 0.50 mm blade width	Max	Min	Ave					
	Largest Wire	>50N	>50N	>50N					

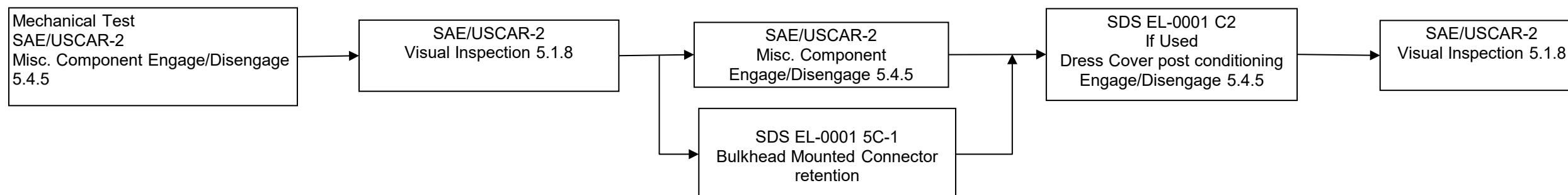


Design Verification Plan and Report

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System: CPSC 18.01.07 Connectors			Ford part number (s): 7V6T-14A624-AA GU5T-14A624-DA			Model Year and Program: Various			Ford Design Engineer: Joe Chapelle		
Temperature Class	T3	T1, T2, T3, T4 T5	Supplier: TE Connectivity						Ford Design Engineer Approval		
Vibration Class	V2	V1, V2,V3, V4, V5	Reason for Validation:	Capacity Tool	Part Level:	PV - production	Plan:	24-Jul-21			
Sealing Class	S3	S1, S2,S2.5, S3									
Test Name/Source	Acceptance Criteria	Test Results			Design Level Tested	Sample Size		Timing		Validated to USCAR 2, Rev 4 per original validation.	
						Required	Tested	Sched.	Actual	Remarks	
	Smallest Wire	Wire Buckled	Wire Buckled	Wire Buckled	PV	10					
D-3a. Extraction Force - With Primary Lock SAE/USCAR-2, 5.4.1.3 B	Acceptance Criteria found in USCAR 2 Table 5.4.1.4	Max	Min	Ave					7/20/2021		
	Largest Wire	66.15N	52.43N	58.80N							
D-3.b Extraction Force - With Primary and Secondary Locks - Before Moisture SAE/USCAR-2, 5.4.1.3 B	Acceptance Criteria found in USCAR 2 Table 5.4.1.4	Max	Min	Ave					7/20/2021		
	Largest Wire	143.21N	90.79N	111.22N							
D-3.c Extraction Force - With Primary and Secondary Locks - After Moisture SAE/USCAR-2, 5.4.1.3 B	Acceptance Criteria found in USCAR 2 Table 5.4.1.4	Max	Min	Ave					7/20/2021		
	Largest Wire	127.57N	78.55N	98.09N							
D-4. Visual Inspection - SAE/USCAR-2 5.1.8 To document the physical appearance of test samples.	The connectors assemblies must not show , with the aid of 10X magnification, any evidence of deterioration, cracks, deformities, etc., that could affect their functionality or distort their appearance. Connector locking mechanism must function without breaking	PASS			PV	10		7/20/2021			

Group E -Mechanical Test Misc. Component Engage/Disengage 5.9.5





Design Verification Plan and Report

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System: CPSC 18.01.07 Connectors			Ford part number (s): 7V6T-14A624-AA GU5T-14A624-DA			Model Year and Program: Various			Ford Design Engineer: Joe Chapelle		
Temperature Class	T3	T1, T2, T3, T4 T5	Supplier: TE Connectivity			Part Level: PV - production			Ford Design Engineer Approval		
Vibration Class	V2	V1, V2,V3, V4, V5	Reason for Validation:						Plan:		
Sealing Class	S3	S1, S2,S2.5, S3									
Test Name/Source	Acceptance Criteria	Test Results	Design Level Tested	Sample Size		Timing		Validated to USCAR 2, Rev 4 per original validation.			
				Required	Tested	Sched.	Actual	Remarks			
E-1. Visual Inspection - SAE/USCAR-2 5.1.8 To document the physical appearance of test samples.	The connectors assemblies must not show , with the aid of 10X magnification, any evidence of deterioration, cracks, deformities, etc., that could affect their functionality or distort their appearance. Connector locking mechanism must function without breaking	PASS	PV	10			7/20/2021	TE Test Request: 20210653ACL			
E-2.d Misc. Component Engage/Disengage 5.4.5	Acceptance Criteria found in USCAR 2 Table 5.4.5.2.4	Max	Min	Ave							
E-2.m TPA/PLR Engage (Pre-set to Lock) without terminals SAE/USCAR-2, 5.4.5.2.3 A	Acceptance Criteria found in USCAR 2 Table 5.4.5.2.4	26.27N	10.89N	18.30N			7/20/2021	For Info Only. Tool Required. Retainer requires a dual motion. Test was not part of original validation. See Summary Sheet			
E-2.n TPA/PLR Engage (Pre-set to Lock) with terminals SAE/USCAR-2, 5.4.5.2.3 A	Acceptance Criteria found in USCAR 2 Table 5.4.5.2.4	13.61N	5.80N	8.91N			7/20/2021	For Info Only. Tool Required. Retainer requires a dual motion. Test was not part of original validation. See Summary Sheet			
E-2.o TPA/PLR Disengage (Lock to preset) with terminals SAE/USCAR-2, 5.4.5.2.3 B	Acceptance Criteria found in USCAR 2 Table 5.4.5.2.4	21.19N	11.41N	15.30N			7/20/2021	For Info Only. Tool Required. Test was not part of original validation.			
E-2.p61 TPA/PLR Disengage (Lock to preset) After 2 cycles without terminals SAE/USCAR-2, 5.4.5.2.3 B	Acceptance Criteria found in USCAR 2 Table 5.4.5.2.4							Not part of original validation			
E-2.q TPA/PLR Disengage (Remove) SAE/USCAR-2, 5.4.5.2.3 B	Acceptance Criteria found in USCAR 2 Table 5.4.5.2.4	32.43N	3.82N	17.98N			7/20/2021	For Info Only. Tool Required. Test was not part of original validation.			



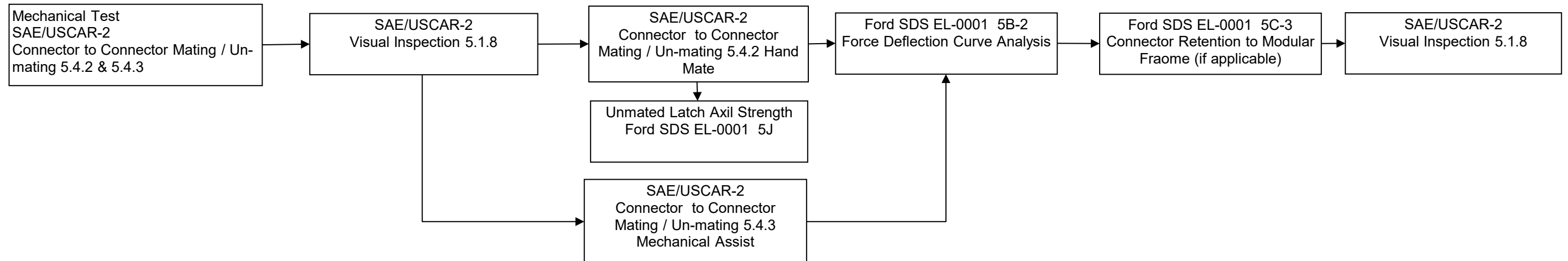
Design Verification Plan and Report

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System: CPSC 18.01.07 Connectors			Ford part number (s): 7V6T-14A624-AA GU5T-14A624-DA			Model Year and Program: Various			Ford Design Engineer: Joe Chapelle		
Temperature Class	T3	T1, T2, T3, T4 T5	Supplier: TE Connectivity						Ford Design Engineer Approval		
Vibration Class	V2	V1, V2,V3, V4, V5	Reason for Validation:	Capacity Tool	Part Level:	PV - production	Plan:			24-Jul-21	
Sealing Class	S3	S1, S2,S2.5, S3									

Test Name/Source	Acceptance Criteria	Test Results			Design Level Tested	Sample Size		Timing		Validated to USCAR 2, Rev 4 per original validation.
						Required	Tested	Sched.	Actual	Remarks
E-6. Visual Inspection - SAE/USCAR-2 5.1.8 To document the physical appearance of test samples.	The connectors assemblies must not show , with the aid of 10X magnification, any evidence of deterioration, cracks, deformities, etc., that could affect their functionality or distort their appearance. Connector locking mechanism must function without breaking	PASS			PV	10			7/20/2021	

Group G -Mechanical Test Connector to Connector Mating / Un-mating 5.9.5



G-1. Visual Inspection - SAE/USCAR-2 5.1.8 To document the physical appearance of test samples.	The connectors assemblies must not show , with the aid of 10X magnification, any evidence of deterioration, cracks, deformities, etc., that could affect their functionality or distort their appearance. Connector locking mechanism must function without breaking	PASS			PV				7/20/2021	TE Test Request: 20210653ACL
Connector to Connector Mating / Un-mating - Hand mated USCAR-2, 5.4.2	See Below	Max	Min	Ave						



Design Verification Plan and Report

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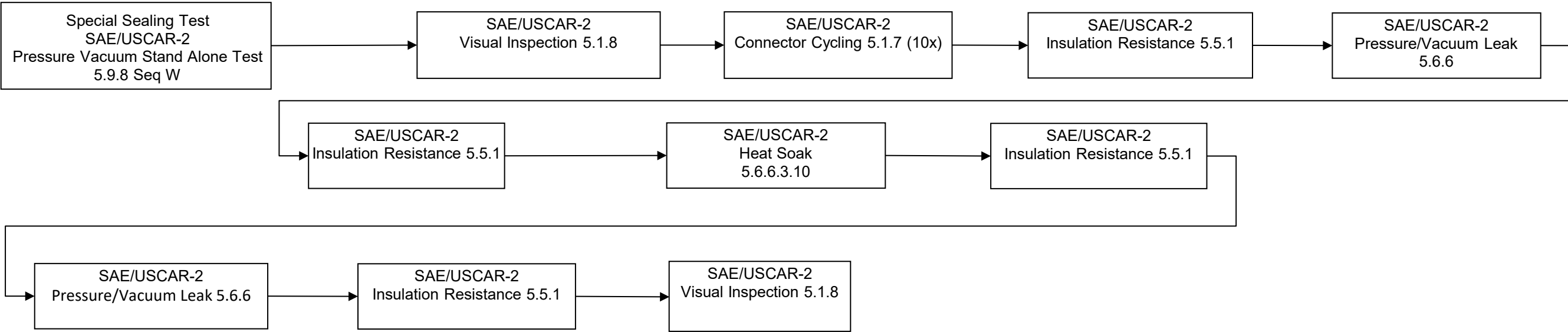
System: CPSC 18.01.07 Connectors			Ford part number (s): 7V6T-14A624-AA GU5T-14A624-DA			Model Year and Program: Various			Ford Design Engineer: Joe Chapelle		
Temperature Class	T3	T1, T2, T3, T4 T5	Supplier: TE Connectivity						Ford Design Engineer Approval		
Vibration Class	V2	V1, V2,V3, V4, V5	Reason for Validation:	Capacity Tool	Part Level:	PV - production	Plan:		24-Jul-21		
Sealing Class	S3	S1, S2,S2.5, S3									
Test Name/Source	Acceptance Criteria	Test Results			Design Level Tested	Sample Size		Timing		Validated to USCAR 2, Rev 4 per original validation.	
						Required	Tested	Sched.	Actual	Remarks	
G-2.a) Connector-to Connector Mating Force (Hand Mated) USCAR-2, 5.4.2.3 A	Mating (engage) force must meet 75N Max and/or SAE/USCAR-25 USCAR-2, 5.4.2.4.1	61.25N 41.55N	41.40N 27.42N	53.26N 36.24N	PV	15		7/20/2021 8/10/2021	Test Request: 20210653ACL (LL Female 2pc Conn, Silver Term) Test Request: 20211058ACL (CB Female 1pc Conn, Silver Term)		
G-2.b) Connector-to Connector w/primary lock engaged- Un-mating Force (Hand Mated) USCAR-2, 5.4.2.3 B	110N or greater USCAR-2, 5.4.2.4.2	128.65N	122.29N	126.16N		5		7/20/2021			
G-2.c) Lock Deflection w/o CPA engaged (Hand Mate) USCAR-2, 5.4.2.3 C1	51N or less USCAR-2, 5.4.2.4.4	25.24N	17.41N	22.13N		5		7/20/2021			
G-2.d) Lock Deflection w/CPA engaged (Hand Mate) USCAR-2, 5.4.2.3 C2	70N USCAR-2, 5.4.2.4.4	PASS				5		7/20/2021			
G-2.f) Connector-to Connector Un-mating Force w/primary lock disengaged (Hand Mated) USCAR-2, 5.4.2.3 C1	75N or less USCAR-2, 5.4.2.4.3	20.66N	18.11N	19.50N		5		7/20/2021			
G-5. Visual Inspection - SAE/USCAR-2 5.1.8 To document the physical appearance of test samples.	The connectors assemblies must not show , with the aid of 10X magnification, any evidence of deterioration, cracks, deformities, etc., that could affect their functionality or distort their appearance. Connector locking mechanism must function without breaking	PASS			PV			7/20/2021			



Design Verification Plan and Report

System: CPSC 18.01.07 Connectors			Ford part number (s): 7V6T-14A624-AA GU5T-14A624-DA			Model Year and Program: Various			Ford Design Engineer: Joe Chapelle		
Temperature Class	T3	T1, T2, T3, T4 T5	Supplier: TE Connectivity						Ford Design Engineer Approval		
Vibration Class	V2	V1, V2,V3, V4, V5	Reason for Validation:	Capacity Tool	Part Level:	PV - production	Plan:		24-Jul-21		
Sealing Class	S3	S1, S2,S2.5, S3									
Test Name/Source	Acceptance Criteria	Test Results	Design Level Tested	Sample Size		Timing		Validated to USCAR 2, Rev 4 per original validation.			
				Required	Tested	Sched.	Actual	Remarks			

Group W Pressure/Vacuum Stand Alone 5.9.8



W-1. Visual Inspection - SAE/USCAR-2 5.1.8 To document the physical appearance of test samples.	The connectors assemblies must not show , with the aid of 10X magnification, any evidence of deterioration, cracks, deformities, etc., that could affect their functionality or distort their appearance. Connector locking mechanism must function without breaking	PASS	PV	10			7/23/2021	TE Test Request: 20210654ACL
W-1a. Sample preparation must have terminal crimp angles as defined by: Ford SDS EL-0001 5G	Crimp angle as defined on terminal drawing, typically +/-3°	Sample Preparation Step	PV				7/23/2021	
W-2. Connector and/or Terminal Cycling USCAR-2, 5.1.7 Revised February 17, 2020	10 mate/unmate cycles	Conditioning Step					7/23/2021	FAP03-149



Design Verification Plan and Report

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System: CPSC 18.01.07 Connectors			Ford part number (s): 7V6T-14A624-AA GU5T-14A624-DA			Model Year and Program: Various			Ford Design Engineer: Joe Chapelle											
Temperature Class	T3	T1, T2, T3, T4 T5	Supplier: TE Connectivity			Part Level: PV - production			Ford Design Engineer Approval											
Vibration Class	V2	V1, V2,V3, V4, V5	Reason for Validation:						Plan:	24-Jul-21										
Sealing Class	S3	S1, S2,S2.5, S3																		
Test Name/Source	Acceptance Criteria	Test Results	Design Level Tested	Sample Size		Timing		Validated to USCAR 2, Rev 4 per original validation.												
				Required	Tested	Sched.	Actual	Remarks												
W-3 Insulation Resistance USCAR-2, 5.6.5	Resistance between every combination of two adjacent terminals must exceed 100MΩ at 500 VDC (Includes terminals that may be separated by one or move vacant terminal cavities) USCAR-2, 5.5.1	<table><tr><td>Max</td><td>Min</td><td>Ave</td></tr><tr><td>>100MΩ</td><td>>100MΩ</td><td>>100MΩ</td></tr></table>	Max	Min	Ave	>100MΩ	>100MΩ	>100MΩ	PV	10			7/23/2021							
Max	Min	Ave																		
>100MΩ	>100MΩ	>100MΩ																		
W-4. Pressure/Vacuum Leak USCAR-2, 5.6.6.3 (7 Psi)	Pressure = There must be no loss in the applied pressure and no bubbles visible exiting any test samples Vacuum = see Isolation Resistance	PASS		7/23/2021																
W-5 Insulation Resistance USCAR-2, 5.6.5	Resistance between every combination of two adjacent terminals must exceed 100MΩ at 500 VDC (Includes terminals that may be separated by one or move vacant terminal cavities) USCAR-2, 5.5.1	<table><tr><td>Max</td><td>Min</td><td>Ave</td></tr><tr><td>>100MΩ</td><td>>100MΩ</td><td>>100MΩ</td></tr></table>				Max	Min	Ave							>100MΩ	>100MΩ	>100MΩ		7/23/2021	
Max	Min	Ave																		
>100MΩ	>100MΩ	>100MΩ																		
W-8. Heat Soak USCAR-2, 5.6.6.3.10	70 hours at Temperature Class Conditioninf Step	Conditioning Step					7/23/2021													
W-9. Pressure/Vacuum Leak USCAR-2, 5.6.6.3 (4 Psi)	Pressure = There must be no loss in the applied pressure and no bubbles visible exiting any test samples Vacuum = see Isolation Resistance	PASS								7/23/2021										
W-10. Insulation Resistance USCAR-2, 5.6.5	Resistance between every combination of two adjacent terminals must exceed 100MΩ at 500 VDC (Includes terminals that may be separated by one or move vacant terminal cavities) USCAR-2, 5.5.1	<table><tr><td>Max</td><td>Min</td><td>Ave</td></tr><tr><td>>100MΩ</td><td>>100MΩ</td><td>>100MΩ</td></tr></table>	Max	Min	Ave							>100MΩ	>100MΩ	>100MΩ		7/23/2021				
Max	Min	Ave																		
>100MΩ	>100MΩ	>100MΩ																		



Design Verification Plan and Report

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System: CPSC 18.01.07 Connectors			Ford part number (s): 7V6T-14A624-AA GU5T-14A624-DA			Model Year and Program: Various			Ford Design Engineer: Joe Chapelle		
Temperature Class	T3	T1, T2, T3, T4 T5	Supplier: TE Connectivity						Ford Design Engineer Approval		
Vibration Class	V2	V1, V2,V3, V4, V5	Reason for Validation:	Capacity Tool	Part Level:	PV - production	Plan:		24-Jul-21		
Sealing Class	S3	S1, S2,S2.5, S3									
Test Name/Source	Acceptance Criteria	Test Results	Design Level Tested	Sample Size		Timing		Validated to USCAR 2, Rev 4 per original validation.			
				Required	Tested	Sched.	Actual	Remarks			
W-11. Visual Inspection - SAE/USCAR-2 5.1.8 To document the physical appearance of test samples. & When disconnecting the samples, use care not to allow any residual solution to enter the interior of any connector half. Careful examination is required to d	The connectors assemblies must not show , with the aid of 10X magnification, any evidence of deterioration, cracks, deformities, etc., that could affect their functionality or distort their appearance. Connector locking mechanism must function without breaking	PASS	PV	10			7/23/2021				

Test Part Inventory Page

	Male Connector Test	Female Connector Test
Terminal Test Part Numbers	1718760-3 (0.50mm2 & 0.75mm2) 1718758-3 (0.35mm2)	
Seal Test Part Numbers	967067-1 967067-2	
Clip/Cover etc. Test Part Numbers	N/A	
Mating Device Used Part Numbers	1-1823608-5	



Design Verification Plan and Report

System: CPSC 18.01.07 Connectors			Ford part number (s): 7V6T-14A624-AA GU5T-14A624-DA			Model Year and Program: Various			Ford Design Engineer: Joe Chapelle		
Temperature Class	T3	T1, T2, T3, T4 T5	Supplier: TE Connectivity			Part Level: PV - production			Ford Design Engineer Approval		
Vibration Class	V2	V1, V2,V3, V4, V5	Reason for Validation:	Capacity Tool	Plan:				24-Jul-21		
Sealing Class	S3	S1, S2,S2.5, S3									
Test Name/Source	Acceptance Criteria	Test Results	Design Level Tested	Sample Size		Timing		Validated to USCAR 2, Rev 4 per original validation.			
				Required	Tested	Sched.	Actual	Remarks			
Terminal Test Part Numbers	7-1452668-3 (0.50mm2) 7-1452665-3 (0.35mm2)										
Connector Test Part Numbers	1-1703498-1 7V6T-14A624-AA										
Wire Gauge and Type	0.35mm2, 0.50mm2, 0.75mm2 XLPE										



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

General Sales Part,
MSA not included.



Section 8

Measurement System Analysis



DATA - GRR ATTRIBUTE STUDY

Empalme Site

DATE:	4-Dec-20
REQUEST:	Alberto Moreno
QUALITY ENGINEER:	Aldo Carlos
MANUFACTURE ENGINEER	Ventura Martinez
PLANT:	Plant 2
SPC TECHNICIAN:	Eliseo Cazarez
PART NUMBER:	1-1703498-1
COMMENT General:	Sistema de Vision

Work Center:	AS-8571 A
NUM. Gage-Fixture	AS-8571
OPERATOR 1	-OPERATOR 1
OPERATOR 2	-OPERATOR 2
OPERATOR 3	-OPERATOR 3
Standard Record	2020-1388

Known Population				-OPERATOR 1			Expert	-OPERATOR 2			Expert	-OPERATOR 3			Expert	OPER VS OPER	OPER VS SAMPLE
# ID	Num Sample	DETAILS	Standard	Try #1	Try #2	Try #3	Result	Try #1	Try #2	Try #3	Result	Try #1	Try #2	Try #3	Result	Agree	Agree
1	1	PIEZA BUENA	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
2	5	HOUSING LATCH INCORRECTO 2	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
3	6	TPA FALTANTE	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
4	7	TPA MAL ENSAMBLADO	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
5	4	HOUSING LATCH INCORRECTO 1	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
6	5	HOUSING LATCH INCORRECTO 2	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
7	4	HOUSING LATCH INCORRECTO 1	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
8	2	HOUSING COLOR INCORRECTO	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
9	3	HOUSING LLAVE INCORRECTA	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
10	5	HOUSING LATCH INCORRECTO 2	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
11	6	TPA FALTANTE	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
12	7	TPA MAL ENSAMBLADO	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
13	4	HOUSING LATCH INCORRECTO 1	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
14	1	PIEZA BUENA	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
15	2	HOUSING COLOR INCORRECTO	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
16	3	HOUSING LLAVE INCORRECTA	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
17	6	TPA FALTANTE	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
18	7	TPA MAL ENSAMBLADO	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
19	6	TPA FALTANTE	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
20	5	HOUSING LATCH INCORRECTO 2	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
21	4	HOUSING LATCH INCORRECTO 1	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
22	2	HOUSING COLOR INCORRECTO	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
23	3	HOUSING LLAVE INCORRECTA	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
24	2	HOUSING COLOR INCORRECTO	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
25	5	HOUSING LATCH INCORRECTO 2	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
26	1	PIEZA BUENA	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
27	6	TPA FALTANTE	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
28	5	HOUSING LATCH INCORRECTO 2	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
29	1	PIEZA BUENA	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
30	3	HOUSING LLAVE INCORRECTA	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
31	5	HOUSING LATCH INCORRECTO 2	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
32	7	TPA MAL ENSAMBLADO	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
33	6	TPA FALTANTE	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK



DATA - GRR ATTRIBUTE STUDY

Empalme Site

DATE:	4-Dec-20
REQUEST:	Alberto Moreno
QUALITY ENGINEER:	Aldo Carlos
MANUFACTURE ENGINEER	Ventura Martinez
PLANT:	Plant 2
SPC TECHNICIAN:	Eliseo Cazarez
PART NUMBER:	1-1703498-1
COMMENT General:	Sistema de Vision

Work Center:	AS-8571 A
NUM. Gage-Fixture	AS-8571
OPERATOR 1	-OPERATOR 1
OPERATOR 2	-OPERATOR 2
OPERATOR 3	-OPERATOR 3
Standard Record	2020-1388

Known Population				-OPERATOR 1			Expert	-OPERATOR 2			Expert	-OPERATOR 3			Expert	OPER VS OPER	OPER VS SAMPLE
# ID	Num Sample	DETAILS	Standard	Try #1	Try #2	Try #3	Result	Try #1	Try #2	Try #3	Result	Try #1	Try #2	Try #3	Result	Agree	Agree
34	1	PIEZA BUENA	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
35	2	HOUSING COLOR INCORRECTO	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
36	3	HOUSING LLAVE INCORRECTA	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
37	6	TPA FALTANTE	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
38	4	HOUSING LATCH INCORRECTO 1	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
39	7	TPA MAL ENSAMBLADO	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
40	6	TPA FALTANTE	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
41	1	PIEZA BUENA	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
42	3	HOUSING LLAVE INCORRECTA	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
43	1	PIEZA BUENA	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
44	4	HOUSING LATCH INCORRECTO 1	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
45	3	HOUSING LLAVE INCORRECTA	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
46	2	HOUSING COLOR INCORRECTO	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
47	1	PIEZA BUENA	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
48	3	HOUSING LLAVE INCORRECTA	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK
49	1	PIEZA BUENA	YES	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	YES	YES	YES	ACCEPTED	OK	OK
50	4	HOUSING LATCH INCORRECTO 1	NO	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	NO	NO	NO	ACCEPTED	OK	OK

Final comments of the study:

SPC Technician: Must be sent to answer to request, quality engineer and manufacture engineer.



REPORT GRR ATTRIBUTE

DATE	4-Dec-20	ID - EQUIPMENT
STANDAR RECORD	2020-1388	AS-8571
Work Center:	AS-8571 A	
RESULT	ACCEPTED	

% OPER VS OPER			% OPER VS SAMPLE		
-	-	-	-	-	-
OPERATO	OPERATOR	OPERATO	OPERATO	OPERATOR	OPERATO
R 1	2	R 3	R 1	2	R 3
50	50	50	50	50	50
50	50	50	50	50	50
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
94.18%	94.18%	94.18%	94.18%	94.18%	94.18%

Operators

Inspected total

Agreement

95% UCL

Calculated Score

95% LCL

Screen % Effective Score	
Total Inspected	50
coincidencias	50
95% UCL	100.0%
Calculated Score	100.0%
95% LCL	94.18%

Total Inspected

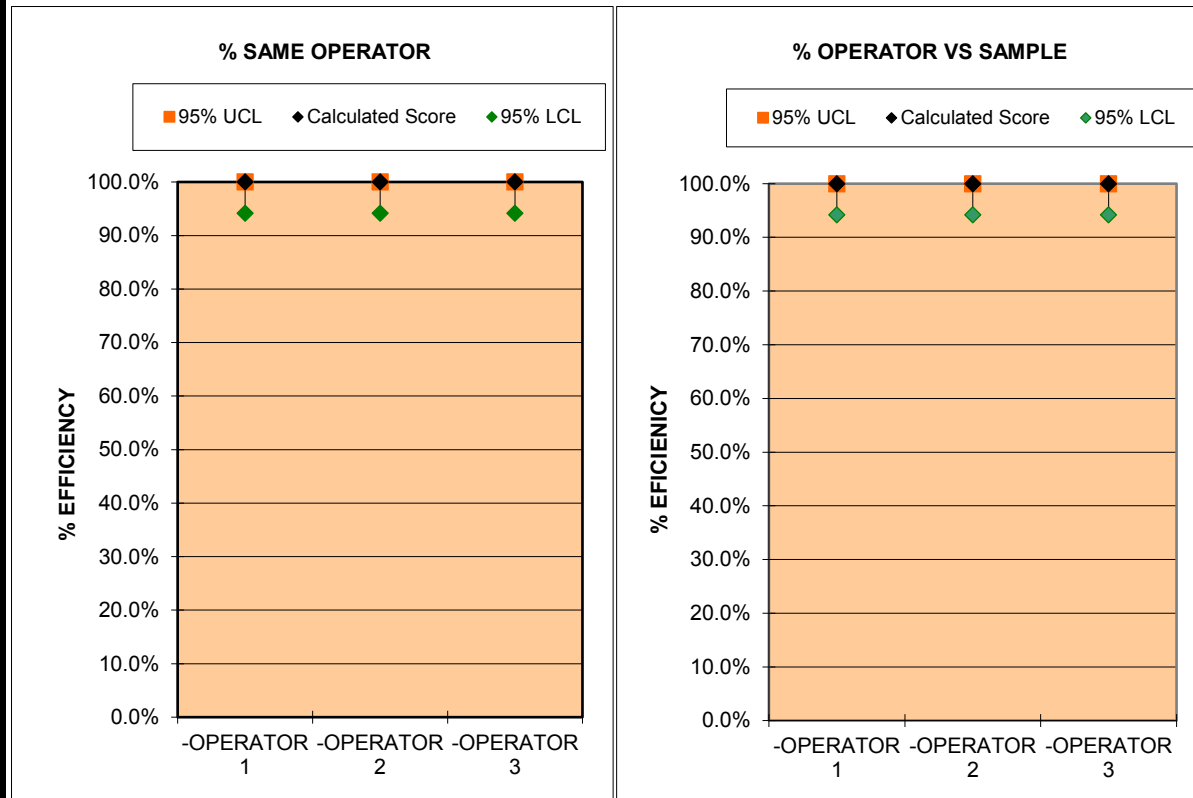
coincidencias

95% UCL

Calculated Score

95% LCL

Screen % Effective Score vs Standard	
Total Inspected	50
coincidencias	50
95% UCL	100.0%
Calculated Score	100.0%
95% LCL	94.18%



Section 9

Dimensional Results



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

[illegible]

2:1

[illegible]

2:1

TERMINAL TE-APPLICATION SPEC.: 114-18464

SHOWN
1-1703498-3

Technical drawing of a valve assembly (1-1703498-3) showing three views: front view, side view (H-H), and a detail view (2:1).

Dimensions (mm):

- Front View:
 - Overall Diameter: 19.8
 - Port Diameter: 16.8
 - Port Spacing: 13.55
 - Port Diameter: 6.3
- Side View (H-H):
 - Overall Height: 44
 - Stem Diameter: 8.2
- Detail View (2:1):
 - Valve Seat Diameter: 6.3
 - Stem Diameter: 6.3

Labels:

- 1**: Valve Body
- 2**: Valve Seat
- 3**: Valve Stem



TE
COPIA
CONTROLADA

Digitally signed
by Gladys Garcia
Date: 2021.08.13
12:08:23 -07'00'

[illegible]



Section 10

Material, Performance Test Results

TE Connectivity Corporation
8000 Piedmont Triad Pkwy
Greensboro NC 27409-9407

C e r t i f i c a t e o f A n a l y s i s

Date: 12/16/2020
Page: 1 / 2

Your order from 12/04/2020

Order No. : 2714355906

Material No. : 704402-3

Delivery no./Pos. : 52327054 / 900001

Order : 14815015

Material : GREY PBT NOVADUR 501

Old Material No. : 00028472

Material-no. : NB73766000

Batch No. : USPB028284

Quantity : 410.000 LB

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

Inspection characteristic/-method	Specification	Result
DE	0.00 - 2.00	0.59 CIELAB
L	Report	43.89 CIELAB
a	Report	-0.07 CIELAB
b	Report	-2.62 CIELAB
BULK DENSITY	-9999.00 - +9999.00	90.77 g/cm3
MELT FLOW INDEX	0.00 - 9999.00	41.34 g/10'
MOISTURE	0.00 - 9999.00	0.19 %
PELLET COUNT	50.00 - 70.00	53.00 Pel./g

Date of production: 12/14/2020

TE Connectivity Corporation
8000 Piedmont Triad Pkwy
Greensboro NC 27409-9407

C e r t i f i c a t e o f A n a l y s i s

Date: 12/16/2020
Page: 2 / 2

Material : GREY PBT NOVADUR 501
Material No. : NB73766000
Batch No. : USPB028284
Old Material No : 00028472

Inspection characteristic/-method	Specification	Result
-----------------------------------	---------------	--------

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

Certificate of Analysis

Customer:	Product Number	: 50287758
TE CONNECTIVITY CORPORATION	Product Name	: ULTRADUR® B 4300G6 HIGH SPEED UN
8350 E OLD VAIL RD		COLORED POLYBUTYLENE TEREPHTHALATE
TUCSON AZ 85747-9197		726KG FIBREBOARD IBC
	Vehicle	:
	Batch/Lot	: 0209572629
	Manuf.Date	: Feb-18-2021
Attention:	Shipped Date	:
FAX:	Shipped Quantity	: 6,402.224 LB
Cust Prod: 1573397-2	Delivery Date	: Apr-05-2021
Cust Prod Name: ULD.B4300G6 HSP UN 726KG 11G	Order Number	: 118002990 000010
Cust P.O.: 2715118519		
Cust P.O. Line: 1	Delivery Note	: 145371226 900001

Inspection Certificate 3.1 according to EN 10204

Characteristic	Result	UOM	-----Specification-----		
			Minimum	Maximum	Test Method
Ash / Filler Content	31.55	%	28.00	32.00	ASTM5630/ISO3451
Moisture Content	0.01	%		0.05	ASTM D6869 / ISO 15512B
Viscosity Number for PBT, PSU and PES	86	ml/g	85	95	ISO1628 (Phenol/Dichlorb.

Comments :

The data shown above are the test results as performed on the lot specified.

Certificate of Analysis

Customer:	Product Number	: 50287758
TE CONNECTIVITY CORPORATION	Product Name	: ULTRADUR® B 4300G6 HIGH SPEED UN
8350 E OLD VAIL RD		COLORED POLYBUTYLENE TEREPHTHALATE
TUCSON AZ 85747-9197		726KG FIBREBOARD IBC
	Vehicle	:
	Batch/Lot	: 0209572629
	Manuf.Date	: Feb-18-2021
Attention:	Shipped Date	:
FAX:	Shipped Quantity	: 4,801.668 LB
Cust Prod: 1573397-2	Delivery Date	: Apr-05-2021
Cust Prod Name: ULD.B4300G6 HSP UN 726KG 11G	Order Number	: 118002989 000010
Cust P.O.: 2715118509		
Cust P.O. Line: 1	Delivery Note	: 145368104 900001

Inspection Certificate 3.1 according to EN 10204

Characteristic	Result	UOM	-----Specification-----		Test Method
			Minimum	Maximum	
Ash / Filler Content	31.55	%	28.00	32.00	ASTM5630/ISO3451
Moisture Content	0.01	%		0.05	ASTM D6869 / ISO 15512B
Viscosity Number for PBT, PSU and PES	86	ml/g	85	95	ISO1628 (Phenol/Dichlorb.

Comments :

The data shown above are the test results as performed on the lot specified.



Section 11

Initial Process Studies



Capability Study

Part Number TE:

1-1703498-4

NP Customer:

1-1703498-4

Folio Metrologia:

52222

Name NP:

MALE HOUSING, 2POS MCON 1.2MM LL SEALED ASSY

DATE:

November 12, 2020

Standard Record:

2020-1282

Machine:

TBD

Nombre de la Estacion:

Ensamble

Name Characteristic:

DISTANCIA

Work
Center

AS-8571

Units

MM

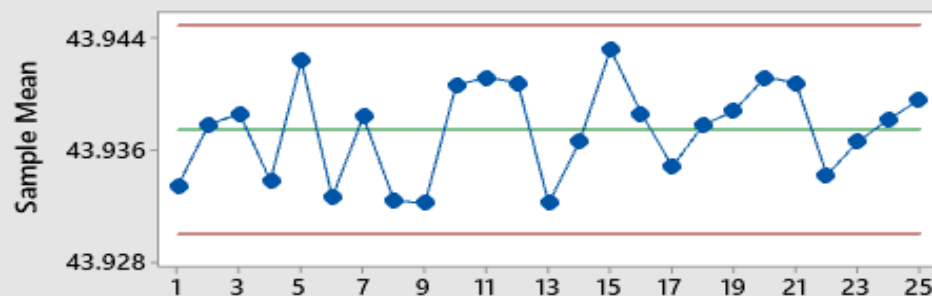
Special Note / Comments:

Cpk

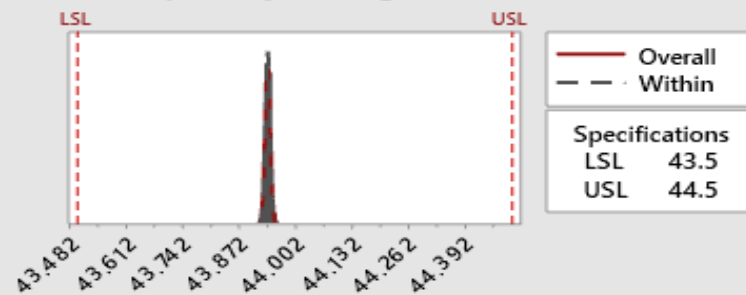
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Capability Study For NP 1-1703498-4 WC AS-8571 Characteristic DIM. 1

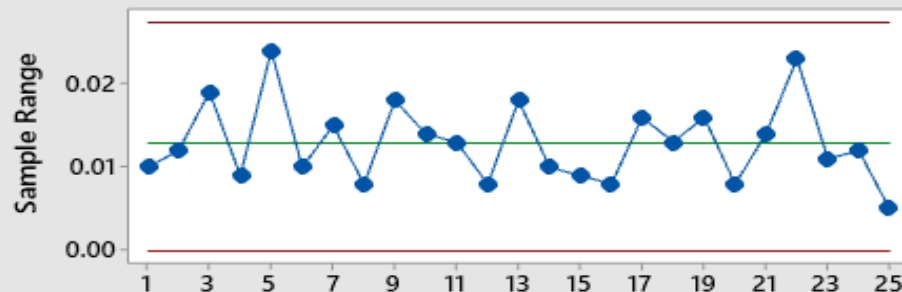
Xbar Chart



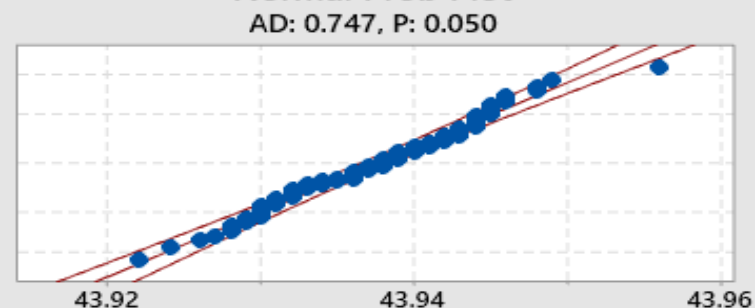
Capability Histogram



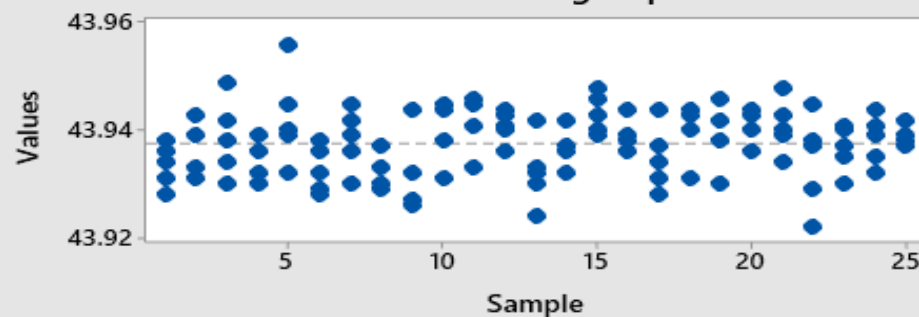
R Chart



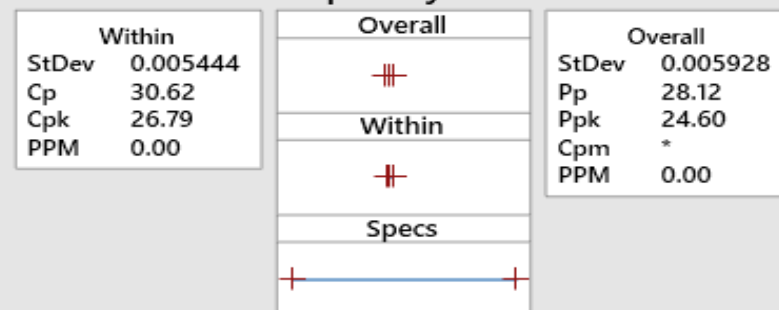
Normal Prob Plot



Last 25 Subgroups



Capability Plot





Capability Study

Part Number TE: 1-1703498-4

NP Customer: 1-1703498-4

Folio Metrologia: 52281

Name NP:

MALE HOUSING 2 POS MCON 1.2MM SEALED ASSY

DATE: November 20, 2020

Standard Record: 2020-1331

Machine: AS-8571

Nombre de la Estacion:

Ensamble

Name Characteristic:

DISTANCIA

Work
Center

AS-8571 B

Units

MM

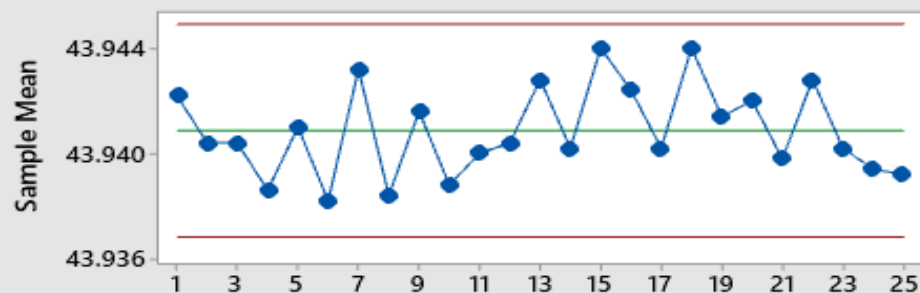
Special Note / Comments:

Cpk

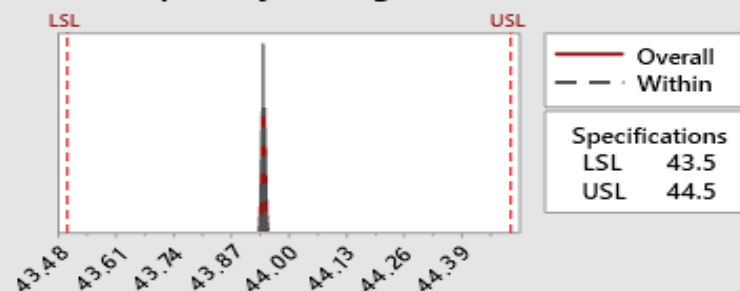
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Capability Study For NP 1-1703498-4 MAQ. AS-8571 B DIM. 1 DISTANCE

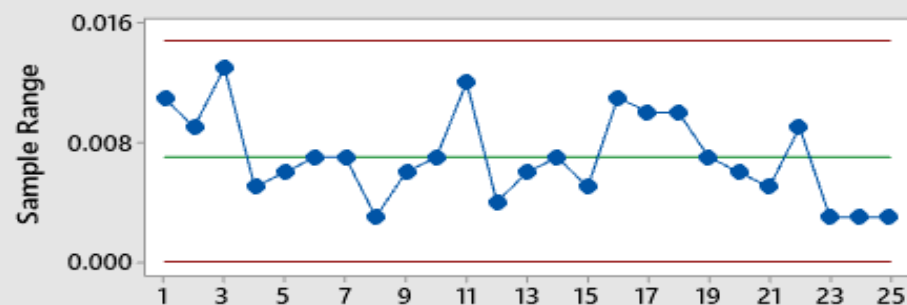
Xbar Chart



Capability Histogram

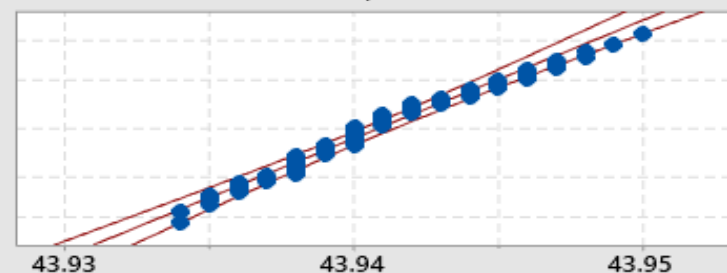


R Chart

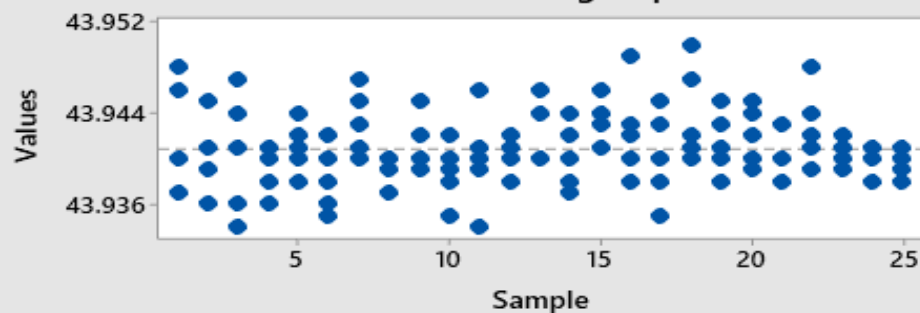


Normal Prob Plot

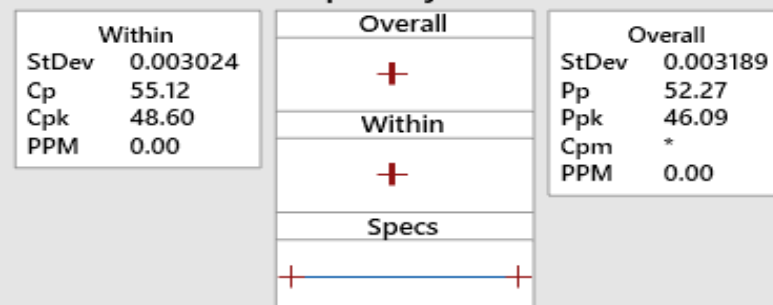
AD: 1.506, P: < 0.005



Last 25 Subgroups



Capability Plot



Section 12

Qualified Laboratory Documentation

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



Page: 1 of 3

Certification Date: 2018-07-11

Latest Issue: 2020-10-27

Expiry Date: 2022-01-09

...making excellence a habit.™

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

An electronic certificate can be authenticated [online](https://www.bsigroup.com/ClientDirectory). Printed copies can be validated at www.bsigroup.com/ClientDirectory

To be read in conjunction with the scope above or the attached appendix.

Further clarifications regarding the scope of this certificate and the applicability of IATF 16949 requirements may be obtained by consulting the organization.

IATF Contracted Office: BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.

Americas Headquarters: BSI Group America Inc., 12950 Worldgate Drive, Suite 800, Herndon, VA 20170-6007 USA
A Member of the BSI Group of Companies.

Location

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

Registered Activities

Manufacture of interconnecting devices.

Including the following remote support functions:

TE Connectivity
Global Automotive Division Americas North
3800 Reidsville Road
Winston-Salem
North Carolina
27102
USA
Calibration, Contract review, Product design, Purchasing,
Sales, Supplier management, Testing

TE Connectivity
Global Automotive Division Americas North
20 Esna Park Drive
Markham
Ontario
L3R 1E1
Canada
Product design, Testing

TE Connectivity
Global Automotive Division Americas North
2901 Fulling Mill Road
Middletown
Pennsylvania
17057
USA
Customer service, Product design, Testing

TE Connectivity
Global Automotive Division Americas North
900 Wilshire Boulevard
Suite 150
Troy
Michigan
48084
USA
Product design

BSI Certificate Number: 514458-003

IATF Number: 0315420



Certification Date: 2018-07-11

Latest Issue: 2020-10-27

Expiry Date: 2022-01-09

Page: 2 of 3

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IATF Contracted Office: BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.

Location

Registered Activities

TE Connectivity
Global Automotive Division Americas North
2100 Paxton Street
Harrisburg
Pennsylvania
17111
USA
Testing

TE Connectivity
North Carolina Distribution Center
8000 Piedmont Triad Parkway
Greensboro
North Carolina
27409
USA
Distribution, Logistics, Warehousing

TE Connectivity
Global Automotive Division Americas North
32 Celerity Wagon St.
El Paso
Texas
79906
USA
Distribution, Logistics, Packaging, Warehousing

TE Connectivity
West Coast Distribution Center
1643 South Parco Avenue
Ontario
California
91761
USA
Distribution, Logistics, Packaging, Warehousing

TE Connectivity Global Logistics
Blvd. Industrial Norte #23 y Blvd. Solidaridad
Col. Parque Industrial Hermosillo
Hermosillo
Sonora
83118
Mexico
Warehousing, Distribution

BSI Certificate Number: 514458-003

IATF Number: 0315420



Certification Date: 2018-07-11

Latest Issue: 2020-10-27

Expiry Date: 2022-01-09

Page: 3 of 3

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IATF Contracted Office: BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.

Americas Headquarters: BSI Group America Inc., 12950 Worldgate Drive, Suite 800, Herndon, VA 20170-6007 USA

A Member of the BSI Group of Companies.

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

This report is for internal Automotive industry use only. Distribution to non-Automotive clients is a violation of the Terms of Use, and is not permitted unless a written permission was given by DXC Technology. Parsing is not allowed.

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.: **2-1703498-1**
Description: **Assy Male Housing, 2
Pos., MCON 1.2, Sealed**
Report No.: **-**
Date of Report: **-**
Purchase Order No.: **-**
Bill of Delivery No.: **-**
Preliminary MDS: **No**
Multi Sourced: **No**
IMDS ID / Version: **108149959 / 12**
Node ID: **977911067**
MDS Status (Change Date): **Internally released
(12/03/2020)**

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.: 2-1703498-1
Description: Assy Male Housing, 2 Pos., MCON 1.2, Sealed

Report No.: -
IMDS ID / Version: 108149959 / 12
Node ID: 977911067

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	Assy Male Housing, 2 Pos., MCON 1.2, Sealed	2-1703498-1	108149959 / 12		4.49				
└2	MALE HOUSING, 2POS. MCON 1.2mm LL SEALED GRAY	2-1703499-1	873157623 / 1	1	4.43				Yes
└3	PBT-GF30	1573397- 2+704402-3			4.43			5.1.a	No
└4	PBT-GF30	1573397-2				96		5.1.a	



























IMDS ID / Version: **108149959 / 12**
 User: **Lara, Alejandra**

Page: **3 / 4**
 Date: **8/20/21 9:13:15 PM**


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]
└5	GF-Fibre	-				30			
└5	Further Additives, not to declare	system				1.5			
└5	PBT	-				68.5			
└4	PBT Colorant Masterbatch	704402-3				4		5.1.b	
└5	PBT	-				68.026022	61 - 71		
└5	Titanium-dioxide	13463-67-7				27.055762	20.1 - 30		
└5	Confidential Substances	*****				4.918216			
└2	Retainer For Male Hsg 2Pos.. MCON 1.2mm LL Sealed - Traffic Purple	1703500-1	72355101 / 15	1	0.06				Yes
└3	PA66-GF35	702661-2 + 705185-1	361993845 / 4		0.06			5.1.a	No
└4	PA66-GF35	702661-2	1330960 / 4			97.5		5.1.a	
└5	Further Additives, not to declare	system				1			
└5	GF-Fibre	-				35			
└5	PA66	-				64			
└4	PA Colour Masterbatch	705185-1	631485140 / 2			2.5	2 - 3	5.1.b	
└5	PA	-				61			
└5	Pigment portion, not to declare	system				6			
└5	Titanium-dioxide	13463-67-7				16			
└5	Limestone	1317-65-3				17			

IMDS ID / Version: **108149959 / 12**
User: **Lara, Alejandra**

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Date: **8/20/21 9:13:15 PM**

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

Legend

 Multi Sourced Component



Section 18

Part Submission Warrant

Part Submission Warrant

Part Name	2POS, MCON 1.2 LL TAB SEALED COD B	Cust. Part Number	98X2192
Shown on Drawing No.	C-1703498	Org. Part Number	2-1703498-1
Engineering Change Level	C6	Dated	06-Apr-2017
Additional Engineering Changes	N / A	Dated	N / A
Safety and/or Government Regulation	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Purchase Order No.	N / A
Weight (kg)	0.00449		
Checking Aid Number	N / A	Checking Aid Engineering Change Level	N / A
Dated	N / A		

ORGANIZATION MANUFACTURING INFORMATION

TE Connectivity

Supplier Name & Supplier/Vendor Code

Carretera Internacional, KM 1969 Guadalajara-Nogales Km2

Street Address

Emplame	Sonora	85340	Mexico
City	Region	Postal Code	Country

CUSTOMER SUBMITTAL INFORMATION

Newark Electronics

Customer Name/Division

N/A

Buyer/Buyer Code

Various

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:

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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

Assembly process

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 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-21-020919 y P-21-020920**

Is each Customer Tool properly tagged and numbered?

☐ Yes ☐ No ☒ N/A

Organization Authorized Signature

Alejandra Lara H.

Date

20/08/2021

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)

March
2006**CFG-1001**Optional customer
tracking number:



Section 18a

Bulk Material Requirements



Not Applicable