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### *PPAP Package for:*

**Customer Name: Newark Electronics**  
**Customer Part Number: 17R2481**  
**(TE Connectivity Part Number:1-968855-2**  
**Date: 3/3/2020**

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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.

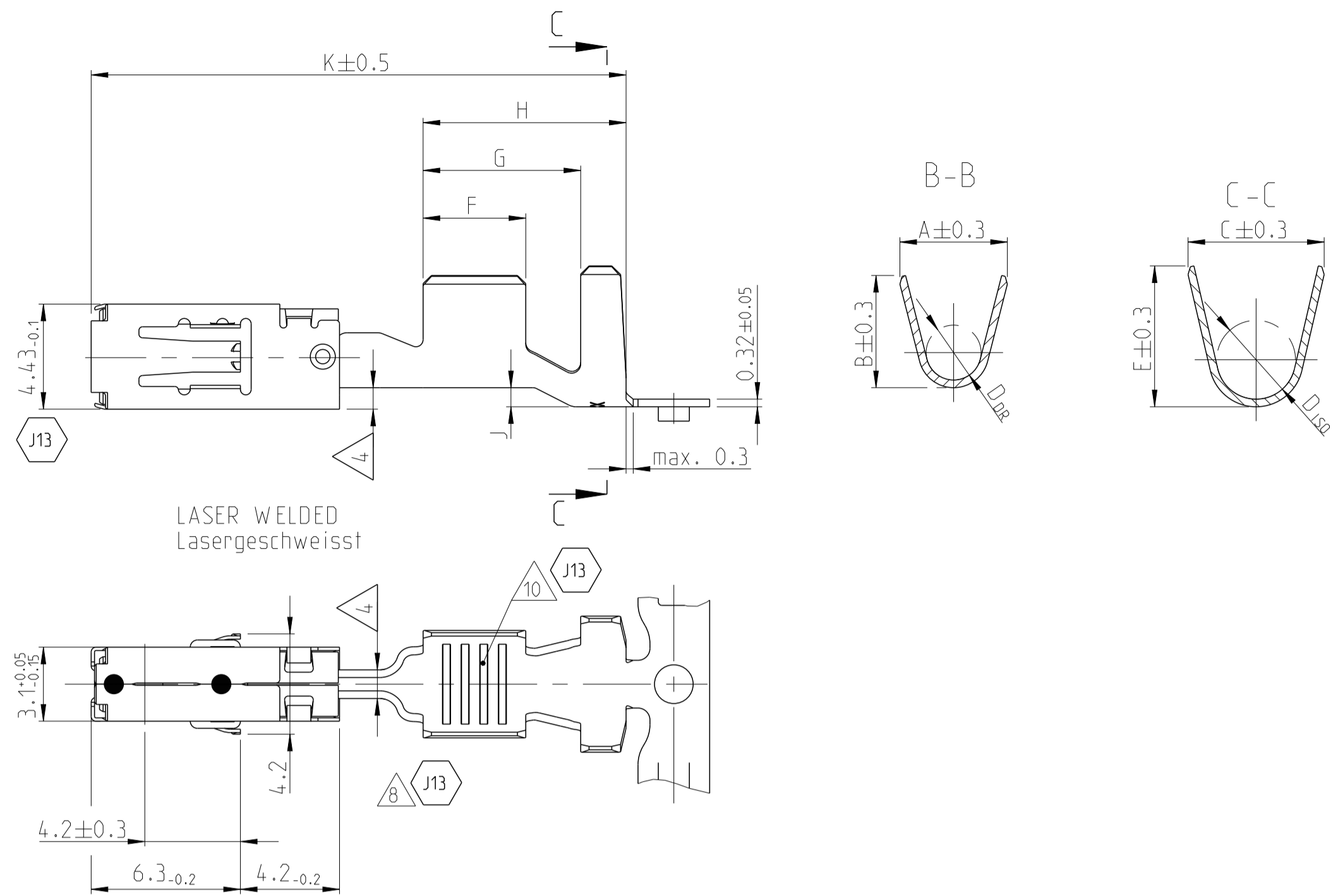
If a nondisclosure agreement HAS NOT been reached, certain documents deemed confidential by TE Connectivity will not be included in this PPAP package. These documents include but are not limited to the Design FMEA, the Process Flow Diagram, the Process FMEA and the Control Plan. These documents can be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



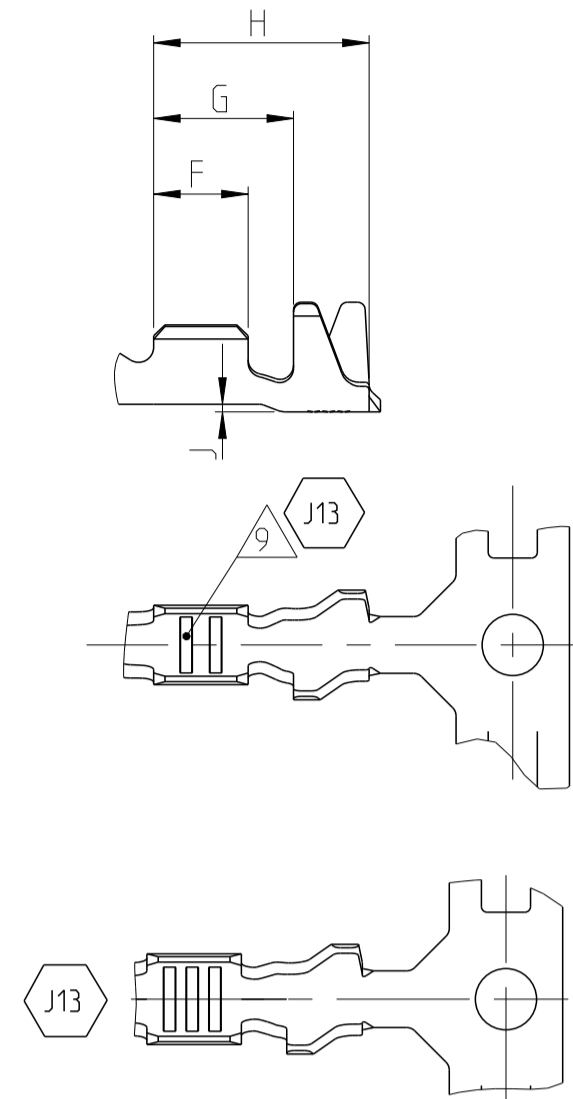
# Section 1

# Design Records

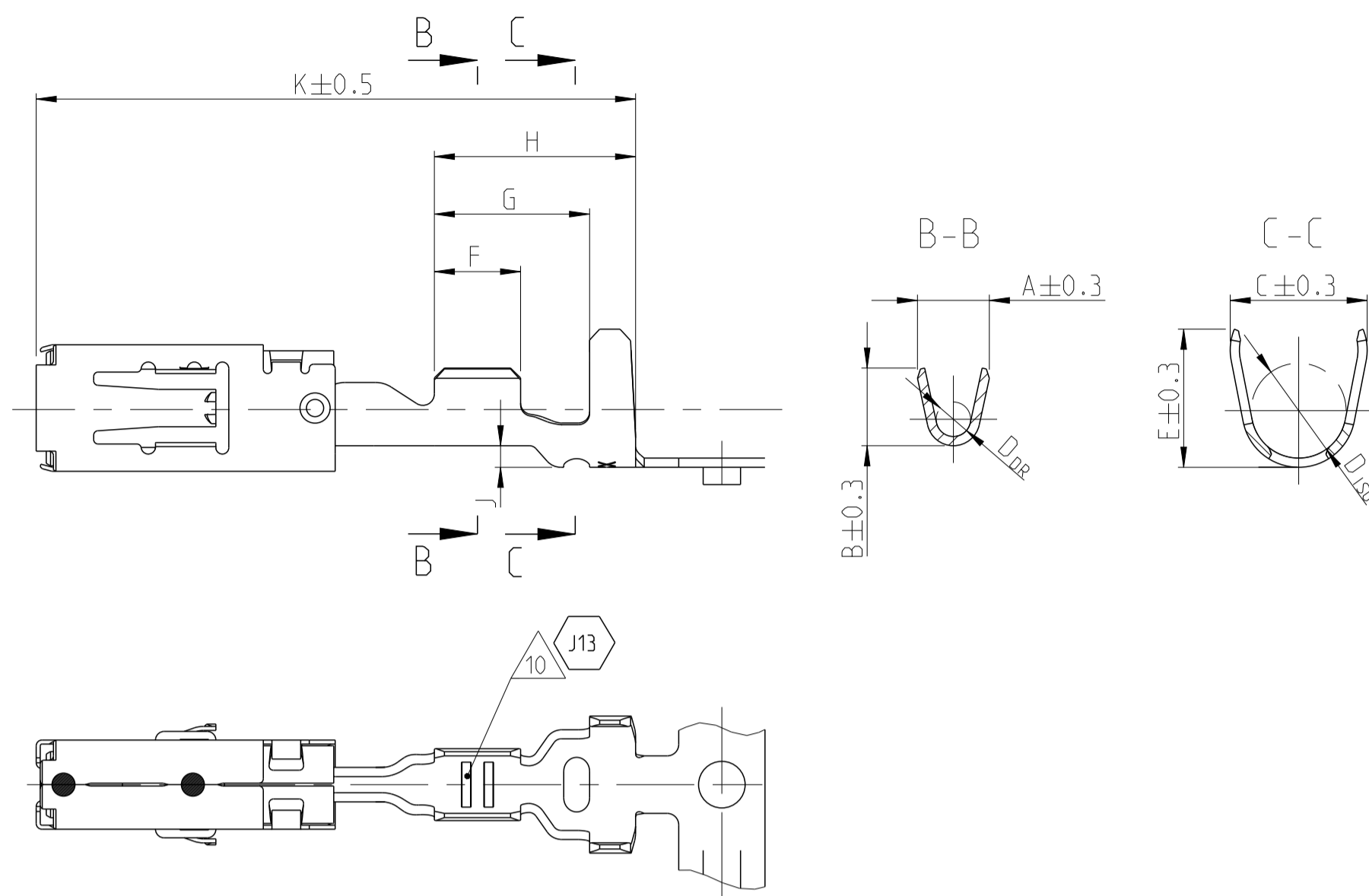
# STANDARD CRIMP



ONLY FOR WIRE SIZE RANGE  
Nur fuer DGB  
0.2 ... 0.5 mm<sup>2</sup>



# SINGLE WIRE SEAL Einzeldichtungssystem



REVISIONS				
P	LTN	DESCRIPTION	DATE	APVD
J10	ECR-14-010789		18JUL2014	Joas Leim
J11	NOTE B ADDED. TABLE UPDATE WITH PNs 1-...4		17MAY2017	MAH. SBEC
J12	PNs 1-968855-4, 1-968857-4, 1-968859-4 OBSOLETE ON DRW.		05MAY2018	MAH. SBEC
J13	Added PN 2-968851-3, 2-968853-3, 2-968857-3 and 2-968859-3		07MAY2018	FRAN BECK

VERSION Ausführung	ORDER-NO. STRIP-FORM Bestell-Nr. Bandware	REV	BODY Werkstoff	SURFACE Oberflaeche	WIRE SIZE RANGE Leiter- quer- schnitt mm <sup>2</sup>	INSULATION DIAMETER Isolations- durchmesser mm	CRIMP DIMENSIONS / Crimpabmessungen mm											WEIGHT Gewicht g	SINGLE WIRE SEAL Einzeldichtung	TE CONNECTIVITY NO. DEAD END PLUG Blindstopfen	TE CONNECTIVITY NO.	APPLICATION TOOLS Verarbeitungswerkzeuge
							A	B	D <sub>DR</sub>	C	E	D <sub>ISO</sub>	F	G	H	J	K					
1-1719506-3	A		SILVER PLATED versilbert	12 AWG	3.0 - 3.8	4.0	4.2	2.0	5.0	5.0	3.5	3.5	5.9	7.5	0.8	21.0	0.59	828905-1	828922-1			
1-1719506-1	A		PRE TIN PLATED verzinkt																			
2-968859-3	D		SILVER PLATED versilbert	4	3.4 - 3.7	4.5	4.7	2.3	6.0	6.0	4.3	4.3	7.0	8.5	1.25	22.6	0.65	828985-1	828986-1			
1-968859-3	E		SILVER PLATED versilbert																			
1-968859-1	E		PRE TIN PLATED verzinkt																			
2-968857-3	B		SILVER PLATED versilbert	1.5 - 2.5	2.2 - 3.0	3.6	3.8	1.7	5.0	5.0	3.5	3.5	6.0	7.6	0.8	21.0	0.58	828905-1	828922-1			
1-968857-3	E		SILVER PLATED versilbert																			
1-968857-2	D		GOLD PLATED vergoldet																			
1-968857-1	E		PRE TIN PLATED verzinkt																			
1-968855-3	E		SILVER PLATED versilbert	0.5 - 1.0	1.4 - 2.1	2.5	2.7	1.2	4.8	4.8	3.3	3.0	5.6	7.2	0.75	21.0	0.54	828904-1	828922-1			
1-968855-2	E		GOLD PLATED vergoldet																			
1-968855-1	E		PRE TIN PLATED verzinkt																			
1-2141859-3	A		SILVER PLATED versilbert	0.2 - 0.5	1.2 - 1.4	2.4	2.3	1.0	4.5	4.5	3.2	2.5	5.1	6.7	0.75	21.0	0.52	828904-1	828922-1			
1-2141859-2	A		GOLD PLATED vergoldet																			
1-2141859-1	A		PRE TIN PLATED verzinkt																			
1-968882-3	E		SILVER PLATED versilbert	0.2 - 0.5	1.2 - 1.4	2.1	2.1	0.8	4.5	4.5	3.2	2.5	5.1	6.7	0.75	21.0	0.52	828904-1	828922-1			
1-968882-2	E		GOLD PLATED vergoldet																			
1-968882-1	E		PRE TIN PLATED verzinkt																			
2-968853-3	D		SILVER PLATED versilbert	4	2.7 - 3.7	4.5	4.7	2.3	5.7	5.9	3.3	4.3	6.8	8.7	0.8	22.6	0.65	-	-			
1-968853-3	E		SILVER PLATED versilbert																			
1-968853-1	E		PRE TIN PLATED verzinkt																			
2-968851-3	D		SILVER PLATED versilbert	1.5 - 2.5	2.2 - 3.0	3.6	3.8	1.7	4.6	4.8	2.6	3.5	5.1	6.7	0.3	20.2	0.56	-	-			
1-968851-3	E		SILVER PLATED versilbert																			
1-968851-2	E		GOLD PLATED vergoldet																			
1-968851-1	E		PRE TIN PLATED verzinkt																			
1-968849-3	E		SILVER PLATED versilbert	0.5 - 1.0	1.4 - 2.1	2.5	2.7	1.2	3.3	3.5	1.8	3.0	4.6	6.2	0.2	20.2	0.51	-	-			
1-968849-2	E		GOLD PLATED vergoldet																			
1-968849-1	E		PRE TIN PLATED verzinkt																			
1-2141857-3	A		SILVER PLATED versilbert	0.2 - 0.5	1.2 - 1.4	2.4	2.3	1.0	2.9	2.9	1.4	2.5	3.8	5.7	0.2	20.2	0.48	-	-			
1-2141857-1	A		PRE TIN PLATED verzinkt																			
1-968880-3	E		SILVER PLATED versilbert	0.2 - 0.5	1.2 - 1.4	2.1	2.1	0.8	2.9	2.9	1.4	2.5	3.8	5.7	0.2	20.2	0.48	-	-			
1-968880-1	E		PRE TIN PLATED verzinkt																			

SEE APPLICATION SPECIFICATION 114-18148  
siehe Verarbeitungsspezifikation 114-18148

NOTES:  
Bemerkungen:

- MATING PART SEE INTERFACE DRAWING  
TE-NO.: 114-18230-002  
Gegenstecker nach Ausfuehrungsvorschrift  
TE-Nr.: 114-18230-002
- SURFACE:  
- PRE TIN PLATED 1 TO 3 µm  
- GOLD PLATED MIN. 2 µm (ONLY CONTACT AREA)  
- SILVER PLATED 3 TO 5 µm (ONLY CONTACT AREA)  
Oberflaeche:  
- verzinkt 1 bis 3 µm  
- vergoldet min. 2 µm (nur Kontaktzone)  
- versilbert 3 bis 5 µm (nur Kontaktzone)
- DOUBLE CRIMPS ARE ONLY POSSIBLE WITH  
APPLICATORS AUTHORIZED BY TE (NO HAND TOOL)  
SUITABLE TOOLS ON REQUEST  
Doppelanschlaege sind nur mit von TE zugelassenen  
Anschlagwerkzeugen moeglich (keine Handzangen)  
passende Werkzeuge auf Anfrage
- GAUGE INSPECTION  
Lehrenpruefung
- DETAILS OF DESIGN ARE LEFT TO MANUFACTURER  
Einzelheiten der Ausfuehrung bleiben dem Hersteller ueberlassen
- ONLY GERMAN LANGUAGE VERSION SHALL BE BINDING  
Massgebend ist der deutsche Text
- PUNCHING OIL RAZIOL CLF 11 SG  
Stanzoeel:  
"Ag+" MARKING ON SILVER PLATED VERSIONS FOR INCREASED LIMIT TEMPERATURE  
"Ag+" Markierung auf versilberten Versionen fuer erhoehte Grenztemperatur
- 968880 nicht fuer Neuanwendungen. wird ersetzt durch 2141857  
968882 nicht fuer Neuanwendungen. wird ersetzt durch 2141859  
968880 SUPERSEDED BY PN 2141857  
968880 SUPERSEDED BY PN 2141857
- Unterschiedliche Ausfuehrung und Anzahl der Rillen moeglich  
DIFFERENT FORM AND NUMBER OF THE SERRATIONS POSSIBLE

THIS DRAWING IS A CONTROLLED DOCUMENT.		OWN S. Blidar	22SEP97		TE Connectivity	
DIMENSIONS: mm		CHK G. Hotea	22SEP97		NAME PRODUCT GROUP DRAWING FOR Tabellenzeichnung fuer AMP MCP 2.8	
TOLERANCES UNLESS OTHERWISE SPECIFIED: ±0.2		APVD J. Woller	22SEP97	SIZE CAGE CODE DRAWING NO RESTRICTED TO		
MATERIAL		FINISH	WEIGHT	SCALE SHEET 1 OF 1 REV J13		
CUSTOMER DRAWING		SCALE 5:1		SHEET 1 OF 1 REV J13		



## **Section 2**

# **Engineering Change Documents**



# Product Change Notification

Current Date: 03-Mar-2020

## TE Connectivity

**Product Change Notification: E-18-006008**

**PCN Date: 14-AUG-18**

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:**  
 PRODUCT GROUP DRAWING FOR Tabellenzeichnung fuer AMP MCP 2.8

**Description of Changes**  
 New PNs added, 2-968851-3 with Revision D, 2-968853-3 with Revision D, 2-968857-3 with Revision B, 2-968859-3 with Revision D, 1-2141857-1 with Revision A, 1-2141857-3 with Revision A, 1-2141859-1 with Revision A, 1-2141859-2 with Revision A, 1-2141859-3 with Revision A. New Note 8, 9 and 10 added. Changed dimension from 4,4-0,1 to 4,43-0,1. Changed dimension G at PN 1-968880-1, PN 1-968880-2, PN 1-214857-1, PN 1-214857-3, PN 1-968859-1, PN 1-968859-3. Changed dimension G and F under PN 1-968853-1, PN 1-968853-3, PN 1-968882-1, PN 1-968882-2, PN 1-968882-3, PN 1-2141859-1, PN 1-2141859-2, PN 1-2141859-3, PN 1-968855-1, PN 1-968855-2, PN 1-968855-3, PN 1-968857-1 and PN 1-968857-3.  
**Other attachments:**  
[E-18-006008](#)  
[E-18-006008-PowerPoint](#)  
[E-18-006008](#)  
[E-18-006008-PowerPoint](#)

<b>Reason for Changes:</b>	
New Product. New Production Introduction.	
<b>Estimated Dates:</b>	
<b>Last Order Date</b> (Obsolete Parts Only):	<b>First Date To Ship</b> (Changed Parts Only):
<b>Last Ship Date</b> (Obsolete Parts Only):	<b>Last Date for Mixed Shipments:</b> (Changed Parts Only):
	No Mixed Shipments

The documents listed below are being modified. Related parts that are not explicitly listed on this PCN are not being modified or discontinued as per the PCN. The Last Order Date, Last Ship Date, First Date to Ship Changed Parts and last date for Mixed Shipments apply only to parts explicitly listed on this PCN.

**Note: This PCN contains only document changes, these changes do not affect the form, fit or function of the parts referenced.**

**Customer Drawing(s) Being Modified:**

Drawing Number	Current Revision	New Revision
<a href="#">1355036</a>	12	



## **Section 3**

# **Customer Engineering Approval**



**Not Applicable**





# 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.**



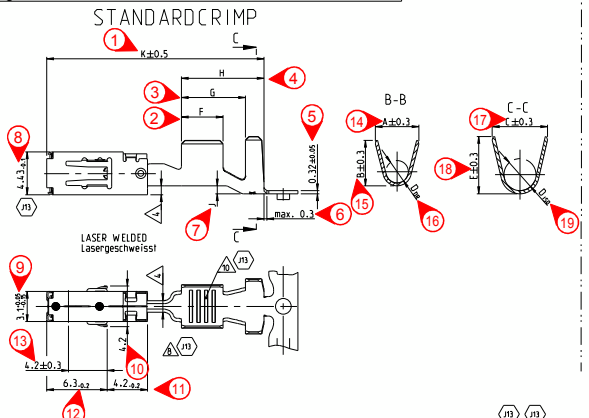
## **Section 8**

# **Measurement System Analysis**

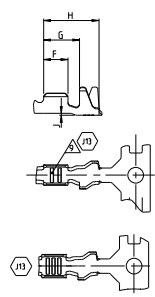
**Not Applicable**

# Section 9

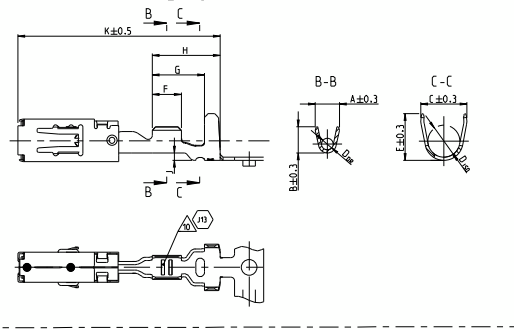
# Dimensional Results



ONLY FOR WIRE SIZE RANGE  
Nur fuer DGB  
0.2 ... 0.5 mm<sup>2</sup>



### SINGLE WIRE SEAL Einzeldichtungssystem



REVISIONS		DATE	BY	APPV
1	TE-NO. 114-18230-002	19.04.2014	joas	joas
2	TE-NO. 114-18230-002	19.04.2014	joas	joas
3	TE-NO. 114-18230-002	19.04.2014	joas	joas
4	TE-NO. 114-18230-002	19.04.2014	joas	joas

VERSION	Ausführung	ORDER-NO. / STRIP-FORM	Bestell-Nr. / Bandbreite	REV	MATERIAL	WIRE SIZE RANGE	INSULATION DIAMETER	WIRE CRIMP	INSULATION CRIMP	F	G	H	J	K	WEIGHT	TE CONNECTIVITY NO.	APPLICATION TOOLS	Verarbeitungswerkzeuge					
1-1719506-3	A	1-1719506-3		A	SILVER PLATED	12	3.0			4.0	4.2	2.0	5.0	5.0	3.5	3.5	5.9	7.5	0.8	21.0	0.59	828905-1	828922-1
1-1719506-1	A	1-1719506-1		A	PRE TIN PLATED	12	3.0			4.0	4.2	2.0	5.0	5.0	3.5	3.5	5.9	7.5	0.8	21.0	0.59	828905-1	828922-1
2-968859-3	D	2-968859-3		D	SILVER PLATED	4	3.4			4.5	4.7	2.3	6.0	6.0	4.3	4.3	7.0	8.5	1.25	22.6	0.65	828985-1	828986-1
1-968859-3	E	1-968859-3		E	SILVER PLATED	4	3.4			4.5	4.7	2.3	6.0	6.0	4.3	4.3	7.0	8.5	1.25	22.6	0.65	828985-1	828986-1
1-968859-1	E	1-968859-1		E	PRE TIN PLATED	4	3.4			4.5	4.7	2.3	6.0	6.0	4.3	4.3	7.0	8.5	1.25	22.6	0.65	828985-1	828986-1
2-968857-3	B	2-968857-3		B	SILVER PLATED	1.5	2.2			3.6	3.8	1.7	5.0	5.0	3.5	3.5	6.0	7.6	0.8	21.0	0.58	828905-1	828922-1
1-968857-3	D	1-968857-3		D	SILVER PLATED	1.5	2.2			3.6	3.8	1.7	5.0	5.0	3.5	3.5	6.0	7.6	0.8	21.0	0.58	828905-1	828922-1
1-968857-2	E	1-968857-2		E	GOLD PLATED	2.5	3.0			3.6	3.8	1.7	5.0	5.0	3.5	3.5	6.0	7.6	0.8	21.0	0.58	828905-1	828922-1
1-968857-1	E	1-968857-1		E	PRE TIN PLATED	2.5	3.0			3.6	3.8	1.7	5.0	5.0	3.5	3.5	6.0	7.6	0.8	21.0	0.58	828905-1	828922-1
1-968855-3	E	1-968855-3		E	SILVER PLATED	0.5	1.4			2.5	2.7	1.2	4.8	4.8	3.3	3.0	5.6	7.2	0.75	21.0	0.54	828904-1	828922-1
1-968855-2	E	1-968855-2		E	GOLD PLATED	1.0	2.1			2.5	2.7	1.2	4.8	4.8	3.3	3.0	5.6	7.2	0.75	21.0	0.54	828904-1	828922-1
1-968855-1	E	1-968855-1		E	PRE TIN PLATED	1.0	2.1			2.5	2.7	1.2	4.8	4.8	3.3	3.0	5.6	7.2	0.75	21.0	0.54	828904-1	828922-1
1-2141859-3	A	1-2141859-3		A	SILVER PLATED	0.2	1.2			2.4	2.3	1.0	4.5	4.5	3.2	2.5	5.1	6.7	0.75	21.0	0.52	828904-1	828922-1
1-2141859-2	A	1-2141859-2		A	GOLD PLATED	0.2	1.2			2.4	2.3	1.0	4.5	4.5	3.2	2.5	5.1	6.7	0.75	21.0	0.52	828904-1	828922-1
1-2141859-1	A	1-2141859-1		A	PRE TIN PLATED	0.2	1.2			2.4	2.3	1.0	4.5	4.5	3.2	2.5	5.1	6.7	0.75	21.0	0.52	828904-1	828922-1
1-968882-3	E	1-968882-3		E	SILVER PLATED	0.2	1.2			2.1	2.1	0.8	4.5	4.5	3.2	2.5	5.1	6.7	0.75	21.0	0.52	828904-1	828922-1
1-968882-2	E	1-968882-2		E	GOLD PLATED	0.2	1.2			2.1	2.1	0.8	4.5	4.5	3.2	2.5	5.1	6.7	0.75	21.0	0.52	828904-1	828922-1
1-968882-1	E	1-968882-1		E	PRE TIN PLATED	0.5	1.4			2.1	2.1	0.8	4.5	4.5	3.2	2.5	5.1	6.7	0.75	21.0	0.52	828904-1	828922-1
2-968853-3	D	2-968853-3		D	SILVER PLATED	4	2.7			4.5	4.7	2.3	5.7	5.9	3.3	4.3	6.8	8.7	0.8	22.6	0.65	-	-
1-968853-3	E	1-968853-3		E	PRE TIN PLATED	4	2.7			4.5	4.7	2.3	5.7	5.9	3.3	4.3	6.8	8.7	0.8	22.6	0.65	-	-
1-968853-1	E	1-968853-1		E	PRE TIN PLATED	4	2.7			4.5	4.7	2.3	5.7	5.9	3.3	4.3	6.8	8.7	0.8	22.6	0.65	-	-
2-968851-3	D	2-968851-3		D	SILVER PLATED	1.5	2.2			3.6	3.8	1.7	4.6	4.8	2.6	3.5	5.1	6.7	0.3	20.2	0.56	-	-
1-968851-3	E	1-968851-3		E	SILVER PLATED	1.5	2.2			3.6	3.8	1.7	4.6	4.8	2.6	3.5	5.1	6.7	0.3	20.2	0.56	-	-
1-968851-2	E	1-968851-2		E	GOLD PLATED	2.5	3.0			3.6	3.8	1.7	4.6	4.8	2.6	3.5	5.1	6.7	0.3	20.2	0.56	-	-
1-968851-1	E	1-968851-1		E	PRE TIN PLATED	2.5	3.0			3.6	3.8	1.7	4.6	4.8	2.6	3.5	5.1	6.7	0.3	20.2	0.56	-	-
1-968849-3	E	1-968849-3		E	SILVER PLATED	0.5	1.4			2.5	2.7	1.2	3.3	3.5	1.8	3.0	4.6	6.2	0.2	20.2	0.51	-	-
1-968849-2	E	1-968849-2		E	GOLD PLATED	1.0	2.1			2.5	2.7	1.2	3.3	3.5	1.8	3.0	4.6	6.2	0.2	20.2	0.51	-	-
1-968849-1	E	1-968849-1		E	PRE TIN PLATED	1.0	2.1			2.5	2.7	1.2	3.3	3.5	1.8	3.0	4.6	6.2	0.2	20.2	0.51	-	-
1-2141857-3	A	1-2141857-3		A	SILVER PLATED	0.2	1.2			2.4	2.3	1.0	2.9	2.9	1.4	2.5	3.8	5.7	0.2	20.2	0.48	-	-
1-2141857-1	A	1-2141857-1		A	PRE TIN PLATED	0.5	1.4			2.4	2.3	1.0	2.9	2.9	1.4	2.5	3.8	5.7	0.2	20.2	0.48	-	-
1-968880-3	E	1-968880-3		E	SILVER PLATED	0.2	1.2			2.1	2.1	0.8	2.9	2.9	1.4	2.5	3.8	5.7	0.2	20.2	0.48	-	-
1-968880-1	E	1-968880-1		E	PRE TIN PLATED	0.5	1.4			2.1	2.1	0.8	2.9	2.9	1.4	2.5	3.8	5.7	0.2	20.2	0.48	-	-

SEE APPLICATION SPECIFICATION 114-18148  
siehe Verarbeitungsspezifikation 114-18148

NOTES:

- 1 MATING PART SEE INTERFACE DRAWING  
TE-NO.: 114-18230-002  
Gegensiecker nach Auslieferungsvorschrift  
TE-Nr.: 114-18230-002
- 2 SURFACE:  
- PRE TIN PLATED 1 TO 3 µm  
- GOLD PLATED MIN. 2 µm (ONLY CONTACT AREA)  
- SILVER PLATED 3 TO 5 µm (ONLY CONTACT AREA)  
Oberfläche:  
- verzinkt 1 bis 3 µm  
- verguldet min. 2 µm (nur Kontaktzone)  
- versilbert 3 bis 5 µm (nur Kontaktzone)
- 3 DOUBLE CRIMPS ARE ONLY POSSIBLE WITH APPLICATORS AUTHORIZED BY TE (NO HAND TOOL) SUITABLE TOOLS ON REQUEST.  
Doppelanschlüsse sind nur mit von TE zugelassenen Anschlagwerkzeugen möglich (keine Handzangen) passende Werkzeuge auf Anfrage
- 4 GAUGE INSPECTION  
Lehrprüfung
- 5 DETAILS OF DESIGN ARE LEFT TO MANUFACTURER  
Einzelheiten der Ausfuehrung bleiben dem Hersteller ueberlassen
- 6 ONLY GERMAN LANGUAGE VERSION SHALL BE BINDING  
Massgebend ist der deutsche Text
- 7 PUNCHING OIL RAZIOL CLF 11 55  
Stanzeöl:  
\*Ag- MARKING ON SILVER PLATED VERSIONS FOR INCREASED LIMIT TEMPERATURE  
\*Ag- Markierung auf versilberten Versionen fuer erhoehte Grenztemperatur
- 8 968880 nicht fuer Neuanwendungen, wird ersetzt durch 2141857  
968882 nicht fuer Neuanwendungen, wird ersetzt durch 2141859  
968880 SUPERSEDED BY PN 2141857  
968882 SUPERSEDED BY PN 2141859
- 9 Unterschiedliche Ausfuehrung und Anzahl der Rillen moeglich  
DIFFERENT FORM AND NUMBER OF THE SERRATIONS POSSIBLE

THIS DRAWING IS A CONTROLLED DOCUMENT.		REV. 2252997	DATE 19.04.2014	BY joas	APPV joas
DESCRIPTION	114-18230-002	REV. 2252997	DATE 19.04.2014	BY joas	APPV joas
REVISION	114-18230-002	REV. 2252997	DATE 19.04.2014	BY joas	APPV joas
DATE	19.04.2014	REV. 2252997	DATE 19.04.2014	BY joas	APPV joas
BY	joas	REV. 2252997	DATE 19.04.2014	BY joas	APPV joas
APPV	joas	REV. 2252997	DATE 19.04.2014	BY joas	APPV joas
TE CONNECTIVITY NO.	114-18230-002	REV. 2252997	DATE 19.04.2014	BY joas	APPV joas
APPLICATION TOOLS	114-18230-002	REV. 2252997	DATE 19.04.2014	BY joas	APPV joas
Verarbeitungswerkzeuge	114-18230-002	REV. 2252997	DATE 19.04.2014	BY joas	APPV joas





# Production Part Approval Dimension Test Results

18/68277

ORGANIZATION: SUPPLIER/VENDOR COE <b>TYCO ELECTRONICS LOGISTICS AG</b>					PART NUMBER: 1-968855-2					
INSPECTION FACILITY: <b>STEINACH</b>					PART NAME: AMP MCP 2.8					
					DESIGN RECORD CHANGE LEVEL: C-1355036					
					ENGINEERING CHANGE DOCUMENT J13					
ITEM	DIMENSION/SPECIFICATIO	SPECIFICATION/ LIMITS		TEST DATE	QTY. TESTED	ORGANIZATION MEASUREMENT RESULT (DATA)			OK	NOT OK
1	K= 21.00	0.5	- 0.5			21.21			x	
2	F= 3.00	0.2	-0.2			3.01			x	
3	G= 5.60	0.2	-0.2			5.60			x	
4	H= 7.20	0.2	-0.2			7.26			x	
5	0.32	± 0.05	± 0.05			0.32			x	
6	0.30	max.				on strip not measureable				
7	J= 0.75	0.2	-0.2			0.73			x	
8	4.43		-0.1			4.36			x	
	view bottom									
9	3.10	0.05	-0.15			3.06			x	
10	4.20	0.2	-0.2			4.15			x	
11	4.20		-0.2			4.21			x	
12	6.30		-0.2			6.23			x	
13	4.20	0.3	-0.3			4.19			x	
	section B-B									
14	A= 2.50	0.3	-0.3			2.57			x	
15	B= 2.70	0.3	-0.3			2.78			x	
16	DDr= 1.20	0.2	-0.2			1.20			x	
	section C-C									
17	C= 4.80	0.3	-0.3			4.72			x	
18	E= 4.80	0.3	-0.3			4.78			x	
19	Diso= 3.30	0.2	-0.2			3.30			x	

Blanked statements of conformance are unacceptable for any test results

SIGNATURE	TITEL	DATE
Veda Kulkarni	Quality Engineering	24.09.2018



# Production Part Approval Material Test Results

18/68277

ORGANIZATION: SUPPLIER/VENDOR COD <b>TYCO ELECTRONICS LOGISTICS</b>					PART NUMBER 1-968855-2 PART NAME AMP MCP 2.8					
INSPECTION FACILITY <b>STEINACH</b>					DESIGN RECORD CHANGE LEVEL: C-1355036 ENGINEERING CHANGE DOCUMENT J13					
ITEM	DIMENSION/SPECIFICATION	SPECIFICATION / LIMITS	TEST DATE	QTY. TESTED	ORGANIZATION MEASUREMENT RESULT (DATA)				OK	NOT OK
	<b>Material :</b>									
	<b>AMP MCP2.8 Flat Type Receptacle</b>									
<b>1</b>	<b>Body</b>									
	High Copper Alloy				High Copper Alloy				x	
	e-plate Ni				e-plate Ni				x	
	e-plate Au				e-plate Au				x	
<b>2</b>	<b>Spring AMP MCP 2.8mm Flat Type Receptacle</b>									
	X10CrNi18-8				X10CrNi18-8				x	

Blanked statements of conformance are unacceptable for any test results

SIGNATURE	TITEL	DATE
Veda Kulkarni	Quality Engineering	24.09.2018



## **Section 10**

# **Material, Performance Test Results**

<b>INSPECTION CERTIFICATE</b>	
<b>1000519641</b>	
(according to DIN EN 10204, type 3.1)	
<b>Manufacturer:</b>	<b>SC Otelinox SA</b>
<b>Address:</b>	16, Gaesti Street, Targoviste, 130087, Romania

Member of CISQ Federation



CERTIFIED MANAGEMENT SYSTEM  
**IATF 16949**  
Member of CISQ Federation



CERTIFIED MANAGEMENT SYSTEM  
**ISO 9001**



LABORATORY ACCREDITED BY  
**RENAR**  
DPO/CEI 12025  
Cert. no. U/007

**IDENTITY**

<b>Product:</b>	CRC/Slit1.4310 HT5 2H 0.14x15.5mm MULTICOIL	
<b>Customer:</b>	TE Connectivity Germany GmbH	
<b>SO No. / Cust PO.</b>	1000324779 / PO 2550146684	
<b>Customer Art No:</b>	705410-4 REV A	
<b>Otx Art No:</b>	N13717M	
<b>Spec No:</b>	EN 10088-2 ; TEC-100-309-2 rev U ; ID 875 Version A1	
<b>Pallet No.</b>	1000519641	
<b>Coil No.</b>	PE24/32-198007/A/4 / 11 12 13 14 15	/
	PE24/32-198007/A/5 / 10 11 12 13 14 15	/
<b>Net Weight [kg]</b>	1,138	
<b>Heat Treatment</b>	Without	

**CHEMICAL ANALYSIS(%) Heat No: S683936**

**Melting Process: E**

xxx	<b>C</b>	<b>Mn</b>	<b>Si</b>	<b>P</b>	<b>S</b>	<b>Cr</b>	<b>Ni</b>
<b>Req. (min-max)</b>	0.05-0.15	MAX 2.0	MAX 2.0	MAX 0.045	MAX 0.015	16.00-19.00	6.00-9.50
<b>Measured</b>	0.1267	1.6510	0.5040	0.03080	0.00570	16.7700	6.1500
<b>Element</b>	<b>Mo</b>	<b>Ti</b>	<b>N</b>	<b>Al</b>	<b>Cu</b>	<b>Co</b>	
<b>Req. (min-max)</b>	MAX 0.8	xxx	MAX 0.10	xxx	xxx	xxx	
<b>Measured</b>	0.0700	xxx	0.0758	xxx	xxx	xxx	

**TEST RESULTS**

<b>Test Direction</b>	Longitudinal						
<b>Position/Test No:</b>	<b>T/ 234</b>	<b>B/ 235</b>					
<b>Requirement</b>	<b>Rp02(MPa)</b>	<b>Rm(MPa)</b>	<b>Elong(A80%)</b>	<b>HV2</b>	<b>Ra(um)</b>	<b>Bending Test</b>	
<b>min-max</b>	min 1,000	1,350-1,500	min 13.0	xxx	max 0.20		
<b>T</b>	1,163	1,455	21.0	442	0.11	Ok	
<b>B</b>	1,183	1,452	20.5	440	0.12	Ok	

**GEOMETRY MEASUREMENTS**

<b>Requirement</b>	<b>Thick[mm]</b>	<b>Width[mm]</b>	<b>Burr[%]</b>
<b>Nominal Value</b>	0.140	15.50	
<b>min/max</b>	-0.010/0.007	-0.05/0.05	max 5%
<b>Min</b>	0.138	15.490	2.9
<b>Max</b>	0.139	15.490	3.6

**Other Test Results**

PN-International 0-0705410-4/Rev.O PN-Germany 1-1262050-0/Rev.A
--

Surface and dimensional control, material identity test : OK

Marking: Producer Trade Mark, Material, Heat No., Coil No.

Delivered product is in conformity with order requirements.

TE WERK STEINACH/CH  
 LAGER SCHENKER CRAILSHEIM  
 LUDWIG ERHARD STRASSE 100

74564 CRAILSHEIM  
 GERMANY

Seite 1

<b>Abnahmeprüfzeugnis 3.1</b>		Coil	Herst.	Packliste	Auftrag	Kunde
EN 10204:2005		223975S	KM	165623	2108951 - 2	03004755
Anzahl	1	Gewicht netto			877,00 KG	
Packstuecke WC366351						
Ihre Bestellung		2710965271 H. LUTTENBERG				
Kunden-Material-Nummer		2-704060-2 Rev M		Artikel	7802581	
STOL76 0,320 x 26,00		100-1230 REV R				
		"NOV-BEHANDELT"				
<b>Mechanische Prüfung</b>		Soll		Ist		
		min.	max.	min.	max.	
Dicke	mm	0,31	0,322	0,31	0,313	
Breite	mm	25,9	26,1	26,02	26,04	
Zugfestigkeit	RM N/mm <sup>2</sup>	580	650	627	631	
Streckgrenze	RP N/mm <sup>2</sup>	540		575	576	
Bruchdehnung	A 50mm    %	8		10,8	12	
Biegebarkeit	90° r= 0.48mm BK =			rissfrei	rissfrei	
Biegebarkeit	180° r= 1.12mm BK :			rissfrei	rissfrei	
Biegebarkeit	+ 90° r= 0.32mm BK =			rissfrei	rissfrei	
Biegebarkeit	+ 180° r= 0.80mm BK :			rissfrei	rissfrei	
Leitfähigkeit	m/(Omm <sup>2</sup> )	29		31,4	31,4	
Säbelförmigkeit	mm/ 900		1,6	0,24	0,33	
Ausbiegung	mm/ 900		225	3	6	
Querwölbung	mm/ 26		0,052	0,001	0,002	
Schneidgrat	mm		0,032	0,006	0,011	
Oberflächenrautiefe Ra	Ra µm		0,2	0,09	0,14	
Korngröße	µm		25	15	15	
Drall-Grad	°/ 900		10	1	1	
<b>Chemische Zusammensetzung %</b>		bleifrei				
NI						1.4815
SI						0.2532
ANDERE						Rest
Alle Elemente, die nicht explizit aufgelistet sind, entsprechen in ihren jeweiligen Anteilen der Spezifikation aus Ihrer o.g. Bestellung.						
Werkstoffprüfung				Telefon	:+49 2402 105-516	
Abnahmebeauftragter: Herr Fuchs				Fax	:+49 2402 105-279	
(Dieses Schreiben wurde maschinell erstellt und ist auch ohne Unterschrift gültig.)				Email	:andreas.fuchs@kmdgroup.cor	



# **Section 11**

# **Initial Process Studies**

**Not Applicable**



## **Section 12**

# **Qualified Laboratory Documentation**





# CERTIFICATE



This is to certify that

## TE Connectivity Solutions GmbH

Plant Steinach

Amperestr. 3  
9323 Steinach  
Switzerland

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

Scope:

Design and manufacturing of electronic and mechatronic components and connector systems

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

## IATF 16949:2016

(with product design)

Certificate registration no.	515113 IATF16
Main certificate registration no.	515099 IATF16
Issuing date	2018-05-19
This certificate is valid until	2021-05-18
IATF No.	0306141



2-IAO-QMC-01001

### For and on behalf of DQS

Stefan Heinloth  
Managing Director, DQS GmbH

Michael Drechsel  
Managing Director, DQS Holding GmbH



**Annex to certificate registration no.: 515113 IATF16**  
**IATF-No.: 0306141**

**TE Connectivity Solutions GmbH**

Plant Steinach

Amperestr. 3  
9323 Steinach  
Switzerland



2-IAO-QMC-01001

**Remote Location**

**Scope**

**515099**

**TE Connectivity Germany GmbH**  
**Amperestr. 12-14**  
**64625 Bensheim**  
**Germany**

Continuous Improvement, Customer Service,  
Human Resource, Internal Audit Management,  
Management Review, Policy making,  
Production Equipment Development,  
Process Design, Product Design, Purchasing,  
Quality System Management, Sales,  
Supplier Management

**515116**

**TE Connectivity Germany GmbH**  
**Amperestr. 12-14**  
**73499 Wört**  
**Germany**

Process Design, Warehousing

**515103**

**TE Connectivity Germany GmbH**  
**Amperestr. 11**  
**91550 Dinkelsbühl**  
**Germany**

Production Equipment Development,  
Process Design

**515110**

**Tyco Electronics France SAS**  
**1 rue Ampère**  
**95300 Pontoise**  
**France**

Customer Service, Product Design, Sales

**515514**

**Tyco Electronics AMP Italia Products S.r.l.**  
**Corso Fratelli Cervi 15**  
**10093 COLLEGNO TORINO**  
**Italy**

Customer Service, Sales



**Annex to certificate registration no.: 515113 IATF16**  
**IATF-No.: 0306141**

## **TE Connectivity Solutions GmbH**

Plant Steinach

Amperestr. 3  
9323 Steinach  
Switzerland



2-IAO-QMC-01001

### **Remote Location**

### **Scope**

**525517**

**TE Connectivity Morocco**  
**I Lot 60, Zone Franche Tangier**  
**90 000 Tangier**  
**Morocco**

Warehousing

**525515**

**TE Connectivity Tunisia office**  
**Immeuble Lake Forum,**  
**4 ème étage 5 rue de la feuille d'érable**  
**1053 Tunis**  
**Tunisia**

Warehousing



## **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.: **1-968855-2**  
Description: **AMP MCP2.8 Flat Type Receptacle**  
Report No.: **-**  
Date of Report: **-**  
Purchase Order No.: **-**  
Bill of Delivery No.: **-**  
Preliminary MDS: **No**  
IMDS ID / Version: **4998450 / 12**  
Node ID: **776707348**  
MDS Status (Change Date): **Internally released (10/11/2018)**

# 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.: **1-968855-2**  
 Description: **AMP MCP2.8 Flat Type Receptacle**

Report No.: **-**  
 IMDS ID / Version: **4998450 / 12**  
 Node ID: **776707348**

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	AMP MCP2.8 Flat Type Receptacle	1-968855-2	4998450 / 12		0.4995				
├2	Body			1	0.3795				
├3	High Copper Alloy		158414641 / 4		0.3773		3.2	No	
├4	Copper	7440-50-8				98.12	D		

IMDS ID / Version:  
User:

**4998450 / 12**  
**Mendivil, Norma**

Page:  
Date:

**3 / 4**  
**3/3/20 7:42:40 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]
└4	Nickel	7440-02-0				1.3	0.8 - 1.8	D	Not applicable [34]
└4	Phosphorus	7723-14-0				0.03	0.01 - 0.05		
└4	Silicon	7440-21-3				0.25	0.15 - 0.35		
└4	Misc., not to declare	system				0.25	0 - 0.5		
└4	Silver	7440-22-4				0.05	0 - 0.1	D	
└3	e-plate Ni (bright) (electrodeposited Nickel bright)		749088 / 2		0.0021			3.4	No
└4	Carbon	7440-44-0				0.05	0 - 0.1		
└4	Nitrogen	7727-37-9				0.05	0 - 0.1		
└4	Sulphur	7704-34-9				0.075	0.05 - 0.1		
└4	Nickel	7440-02-0				99.825		D	Other application (Surface not routinely touched or nickel release rate < 0.5µg/cm2/week) [33]
└3	e-plate Au (functional) (electrodeposited functional Gold Coatings)		757906 / 2		0.0001			4.2	No
└4	Carbon	7440-44-0				0.005	0 - 0.01		
└4	Nitrogen	7727-37-9				0.05	0 - 0.1		
└4	Gold	7440-57-5				99.945			
└2	Spring AMP MCP 2.8mm Flat Type Receptacle	0-0968863-1	4003185 / 20	1	0.12				
└3	X10CrNi18-8		36413360 / 6		0.12			1.1.2	No

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	Carbon	7440-44-0				0.1	0.05 - 0.15		
└4	Chromium	7440-47-3				17.5	16 - 19		
└4	Manganese	7439-96-5				1	0 - 2		
└4	Nitrogen	7727-37-9				0.05	0 - 0.1		
└4	Nickel	7440-02-0				7.75	6 - 9.5	D	Other application (Surface not routinely touched or nickel release rate < 0.5µg/cm2/week) [33]
└4	Phosphorus	7723-14-0				0.0225	0 - 0.045		
└4	Sulphur	7704-34-9				0.0075	0 - 0.015		
└4	Silicon	7440-21-3				1	0 - 2		
└4	Iron	7439-89-6				71.67			
└4	Copper	7440-50-8				0.5	0 - 1	D	
└4	Molybdenum	7439-98-7				0.4	0 - 0.8		

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



# **Section 18**

# **Part Submission Warrant**

# Part Submission Warrant

Part Name	<b>AMP MCP 2.8, CONTACT SWS</b>	Cust. Part Number	<b>17R2481</b>
Shown on Drawing No.	<b>C-1355036</b>	Org. Part Number	<b>1-968855-2</b>
Engineering Change Level	<b>J13</b>	Dated	<b>7-May-2018</b>
Additional Engineering Changes	<b>N / A</b>	Dated	<b>N / A</b>
Safety and/or Government Regulation	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Purchase Order No.	<b>N / A</b>
Weight (kg)			<b>0.000499</b>
Checking Aid Number	<b>N / A</b>	Checking Aid Engineering Change Level	<b>N / A</b>
Dated			<b>N / A</b>

**ORGANIZATION MANUFACTURING INFORMATION**

**TE Connectivity**

Supplier Name & Supplier/Vendor Code  
**Amperestr. 3**

Street Address  
**Steinach**

City **Steinach** Region **9323** Postal Code **Switzerland** 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: **4998450 / 12**

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

**REASON FOR SUBMISSION**

- |   |   |
|---|---|
| <input type="checkbox"/> Initial submission   | <input type="checkbox"/> Change to Optional Construction or Material          |
| <input type="checkbox"/> Engineering Change(s)  | <input type="checkbox"/> Sub-Supplier or Material Source Change               |
| <input type="checkbox"/> Tooling: Transfer, Replacement, Refurbishment, or additional | <input type="checkbox"/> Change in Part Processing                            |
| <input type="checkbox"/> Correction of Discrepancy                                    | <input type="checkbox"/> Parts produced at Additional Location                |
| <input type="checkbox"/> Tooling Inactive > than 1 year                               | <input checked="" type="checkbox"/> Other - please specify <b>E-18-006008</b> |

**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 **Stamping**

**DECLARATION**

I affirm that the samples represented by this warrant are representative of our parts, which were made by a process that meets all Production Part Approval Process Manual 4th Edition Requirements. I further affirm that these samples were produced at 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.**

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

Organization Authorized Signature *Barbara Figueroa* Date **3-Mar-2020**

Print Name **Barbara Figueroa** Phone No. **+52 622 225 11 54** Fax No. **N/A**

Title **PPAP Technician** E-mail [barbara.figueroa@te.com](mailto:barbara.figueroa@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**