Project No.:	PRJ-16-000903353	**ID-No.:**	AUT-PE-2200031OR01	**Date:**	16 December 2022
Description:	Tab 2.8 x 0.8 - 3 Serrations			**Specification:**	TE Spec 114-18051 (rev.K) ST 00893_18_00300 (rev.1.0) B21 7050 (rev.E) D11 5501 (rev.B)
Customer:	STELLANTIS			**Reason for testing:**	Product Validation

Scope: Standard Crimp Validation

Content: **Page**

Summary of results:

PN	Title	Wire (mm²)	Material	Finish	CH (mm)	Test Results				
						Visual examination	Cross-section	Pull-Out Force	Bending Test	SMB
5-965982-1	Tab 2.8 x 0.8	0.35	CuSn4	Sn	1.02 ± 0.03	✓	•	✓	✓	✓
		0.5			1.08 ± 0.03	✓	•	✓	✓	✓
5-963860-1		0.35			1.00 ± 0.03	✓	•	✓	✓	✓
		0.5			1.07 ± 0.03	✓	•	✓	✓	✓
5-963860-2		0.35		Ag	1.00 ± 0.03	✓	•	✓	✓	✓
		0.5			1.07 ± 0.03	✓	•	✓	✓	✓

✓ passed / ✗ not passed / - not performed / • characteristic value determination & performed test without conclusion

Test Passed

The data and results contained within this test report refer only to test samples used.

Requested by: A.ROSI

Test Engineer: Erwan Rezzoug	**Reviewer:** Nicolas Sobczak	**Manager TCC Pontoise:** Pierre Laviec
		

Tab 2.8 x 0.8 - 3 Serrations

1. General test information

1.1. Test samples

The requester is accountable for the correctness of this information.

Part No.	Title	Application tool no.	Wire Info	Wire color	FTP #	Material	Finish	CH / mm
5-965982-1	Tab 2.8 x 0.8	1528406	0.35 mm² - Acome ZHID – T3	White	00949_10_00766	CuSn4	Sn	1.02 ± 0.03
			0.50 mm² - Acome ZHID – T3	White	00949_10_00767			1.08 ± 0.03
5-963860-1		1528859	0.35 mm² - Acome ZHID – T3	White	00949_10_00766			1.00 ± 0.03
			0.50 mm² - Acome ZHID – T3	White	00949_10_00767			1.07 ± 0.03
5-963860-2			0.35 mm² - Acome ZHID – T4	Orange	02 EEL 0484		Ag	1.00 ± 0.03
			0.50 mm² - Acome ZHID – T4	White	00949_09_00503			1.07 ± 0.03

Table 1 Samples Tested

Characteristics of samples tested

1

PN		5-963860-1		
Material		CuSn4		
Finish		Sn		
Wire	Section	0,35		
	Type	Acome ZHID - T3		
	Color	white		
Crimp parameters	CH	1 ± 0,03 mm		
	CB_1	1,57 mm		
Application tool no.		1528859		
CH Min. / CH Max.		0,97		1,03
Test speed		50 mm/min		
Test Information		With Insulation crimp		

2

PN		5-963860-2		
Material		CuSn4		
Finish		Ag		
Wire	Section	0,35		
	Type	Acome ZHID - T4		
	Color	orange		
Crimp parameters	CH	1 ± 0,03 mm		
	CB_1	1,57 mm		
Application tool no.		1528859		
CH Min. / CH Max.		0,97		1,03
Test speed		50 mm/min		
Test Information		With Insulation crimp		

3

PN		5-965982-1		
Material		CuSn4		
Finish		Sn		
Wire	Section	0,35		
	Type	Acome ZHID - T3		
	Color	white		
Crimp parameters	CH	1,02 ± 0,03 mm		
	CB_1	1,57 mm		
Application tool no.		1528406		
CH Min. / CH Max.		0,99		1,05
Test speed		50 mm/min		
Test Information		With Insulation crimp		

4

PN		5-963860-1		
Material		CuSn4		
Finish		Sn		
Wire	Section	0,5		
	Type	Acome ZHID - T3		
	Color	white		
Crimp parameters	CH	1,07 ± 0,03 mm		
	CB_1	1,57 mm		
Application tool no.		1528859		
CH Min. / CH Max.		1,04		1,10
Test speed		50 mm/min		
Test Information		With Insulation crimp		

5

PN		5-963860-2		
Material		CuSn4		
Finish		Ag		
Wire	Section	0,5		
	Type	Acome ZHID - T4		
	Color	white		
Crimp parameters	CH	1,07 ± 0,03 mm		
	CB_1	1,57 mm		
Application tool no.		1528859		
CH Min. / Nom. / Max.		1,04		1,10
Test speed		50 mm/min		
Test Information		With Insulation crimp		

6

PN		5-965982-1		
Material		CuSn4		
Finish		Sn		
Wire	Section	0,5		
	Type	Acome ZHID - T3		
	Color	white		
Crimp parameters	CH	1,08 ± 0,03 mm		
	CB_1	1,57 mm		
Application tool no.		1528406		
CH Min. / CH Max.		1,05		1,11
Test speed		50 mm/min		
Test Information		With Insulation crimp		

Table 2 Samples Tested

Tab 2.8 x 0.8 - 3 Serrations

1.2. Test matrix

§	Designation	No. Of parts						
		String 1	String 2	String 3	String 4	String 5	String 6	String 7
		1 to 20	See Stg 7	41 to 45	46 to 50	51 to 55	56 to 70	71 to 100
5.6.2	Visual check	1	1	1	1	1	1	1
5.6.3	Dimensional characteristics of the crimping	2	2			2		
5.6.5.1	Conductor/contact tensile strength	3						
5.6.3	Dimensional characteristics of the reinforcement			2	2			
5.6.6.1	Electrical resistance of the crimping		3 / 5				2 / 4	2 / 4 / 6
5.6.7.1	Thermal shock tests		4					3
5.6.5.2	Resistance to bending of the insulator reinforcement			3				
5.6.5.3	Resistance of the sealing device				3			
5.6.5.4	Resistance to bending of the transition area						3	
5.6.6.2	Low Frequency stress							5
5.6.4	Cross Section (crimp cut section)					3		

Table 3 Test matrix

String	Period	Test	CH	Sampling/ref	Standard
1	2022/10/24 to 2022/12/14	Visual check Dimensional characteristics of the crimping Conductor/contact tensile strength	Min & Max	10 min 10 max	DIN EN 60512-1-1 (01/03) 114-18051 (rev.K)
2		Visual check Dimensional characteristics of the crimping Electrical resistance of the crimping Thermal shock tests	Min	see String 7	114-18051 (rev.K) ST 00893_18_00300 (rev1.0)
3		Visual check Dimensional characteristics of the reinforcement Resistance to bending of the insulator reinforcement	Min	5	B21 7050 (rev.E) DIN EN 60512-1-1 (01/03)
4		Visual check Dimensional characteristics of the reinforcement Resistance of the sealing device	Max	10	114-18051 (rev.K) B21 7050 (rev.E)
5		Visual check Dimensional characteristics of the crimping Cross Section (crimp cut section)	Max	5	114-18051 (rev.K) D11 5501 (rev.B)
6		Visual check Resistance to bending of the transition area	Min	15	ST 00893_18_00300 (rev1.0)
7		Visual check Electrical resistance of the crimping Thermal shock tests Low Frequency stress	Max	32	ST 00893_18_00300 (rev1.0)

Table 4 Test sequence

1.3. Test equipments

Tests	Device	Manufacturer	Type	Cal.-No.	Calibration (Valid Until)
Visual Exam.	HD Digital Microscope	Vision Engineering	ECO 501	12005071	not subjected to mandatory calibration
	3D Digital Microscope	Hirox	KH-8700	12004652	calibration with optical caliper n° 12101169
Cross Section	Grind / polish	Buehler	EcoMet 250 Pro	32003531	not subjected to mandatory calibration
	HD Digital Microscope	Vision Engineering	ECO 501	12005071	not subjected to mandatory calibration
	3D Digital Microscope	Hirox	KH-8700	12004652	calibration with optical caliper n° 12101169
Pull Out	Tensile Strength bench	MTS	2/M	22004270	03 / 2023
	3D Digital Microscope	Hirox	KH-8700	12004652	calibration with optical caliper n° 12101169
Bending Test	3D Digital Microscope	Hirox	KH-8700	12004652	calibration with optical caliper n° 12101169
	Tensile Strength bench	MTS	E43.104	22000652	03 / 2023
S.M.B	Thermal Shock	Votsch	VT7012 S2	32002200	03 / 2023
	Low level contact resistance bench	TE Connectivity	TE Development	22004766/RC2	05 / 2023
	USB Switch Mainframes - 4 - slot	National Instruments	SCXI-1000	42003430	01 / 2023

Table 5 Test equipment

1.4. Test conditions

Temperature	23 °C ± 2°C
Humidity	50% ± 25%

Table 6 Test conditions

Tab 2.8 x 0.8 - 3 Serrations

2. Test sequences

2.1. Visual Check (§5.6.2)

5-963860-1 with 0.35 mm² Test Engineer : B.SAGNIER

Test valid for Strings :	X	1	X	2	X	3		4	X	5	X	6	X	7

Figure 1 - Visual check, as per 114-18051 (rev.K) and ST 00893_18_00300 (rev1.0)

Identification	Description of the requirement	No. Of parts						
		String 1	String 2	String 3	String 4	String 5	String 6	String 7
GEN-SERT-VISUEL.0001 (0)	The sealing system had no degradation	-	-	-	-	-	-	-
GEN-SERT-VISUEL.0002 (0)	No strand from the core is cut, damaged, or partially impaired	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0003 (0)	No copper strand may be out of the crimping area	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0004(0)	No cuts of damage to the wire insulation is present	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0005 (0)	After crimping, no deformation of the insulation is evident outside of the insulation barrel with respect to the initial state of the wire	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0006 (0)	The crimp operation must not create aggressive areas susceptible to provoke injury to the operator, to the wires or to the rear sealing system	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0007 (0)	The crimp tools garantee the integrity of the terminal and respect the maximum deformation of the terminal as specified on the product drawing	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0008 (0)	The carrier cut is not aggressive with respect to the wire insulation and an eventual sealing system	✓	✓	✓	-	✓	✓	✓

Tab 2.8 x 0.8 - 3 Serrations

5-963860-2 with 0.35 mm² Test Engineer : B.SAGNIER

Test valid for Strings :	X	1	X	2	X	3		4	X	5	X	6	X	7

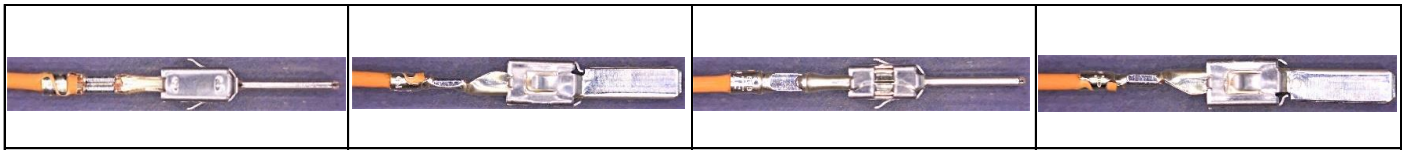


Figure 2 - Visual check, as per 114-18051 (rev.K) and ST 00893_18_00300 (rev1.0)

Identification	Description of the requirement	No. Of parts						
		String 1	String 2	String 3	String 4	String 5	String 6	String 7
GEN-SERT-VISUEL.0001 (0)	The sealing system had no degradation	-	-	-	-	-	-	-
GEN-SERT-VISUEL.0002 (0)	No strand from the core is cut, damaged, or partially impaired	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0003 (0)	No copper strand may be out of the crimping area	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0004(0)	No cuts of damage to the wire insulation is present	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0005 (0)	After crimping, no deformation of the insulation is evident outside of the insulation barrel with respect to the initial state of the wire	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0006 (0)	The crimp operation must not create aggressive areas susceptible to provoke injury to the operator, to the wires or to the rear sealing system	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0007 (0)	The crimp tools garantee the integrity of the terminal and respect the maximum deformation of the terminal as specified on the product drawing	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0008 (0)	The carrier cut is not aggressive with respect to the wire insulation and an eventual sealing system	✓	✓	✓	-	✓	✓	✓

Tab 2.8 x 0.8 - 3 Serrations

5-965982-1 with 0.35 mm² Test Engineer : B.SAGNIER

Test valid for Strings :	X	1	X	2	X	3	X	4	X	5	X	6	X	7

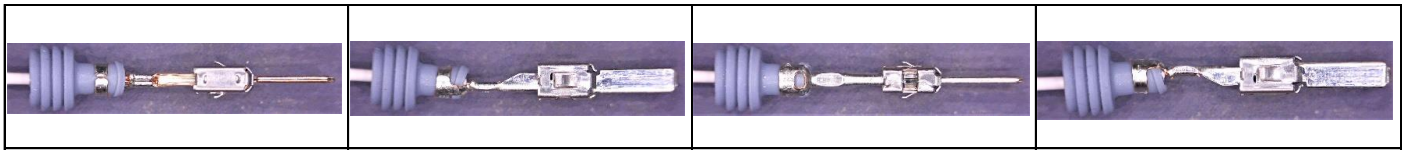


Figure 3 - Visual check, as per 114-18051 (rev.K) and ST 00893_18_00300 (rev1.0)

Identification	Description of the requirement	No. Of parts						
		String 1	String 2	String 3	String 4	String 5	String 6	String 7
GEN-SERT-VISUEL.0001 (0)	The sealing system had no degradation	✓	✓	✓	✓	✓	✓	✓
GEN-SERT-VISUEL.0002 (0)	No strand from the core is cut, damaged, or partially impaired	✓	✓	✓	✓	✓	✓	✓
GEN-SERT-VISUEL.0003 (0)	No copper strand may be out of the crimping area	✓	✓	✓	✓	✓	✓	✓
GEN-SERT-VISUEL.0004(0)	No cuts of damage to the wire insulation is present	✓	✓	✓	✓	✓	✓	✓
GEN-SERT-VISUEL.0005 (0)	After crimping, no deformation of the insulation is evident outside of the insulation barrel with respect to the initial state of the wire	✓	✓	✓	✓	✓	✓	✓
GEN-SERT-VISUEL.0006 (0)	The crimp operation must not create aggressive areas susceptible to provoke injury to the operator, to the wires or to the rear sealing system	✓	✓	✓	✓	✓	✓	✓
GEN-SERT-VISUEL.0007 (0)	The crimp tools garantee the integrity of the terminal and respect the maximum deformation of the terminal as specified on the product drawing	✓	✓	✓	✓	✓	✓	✓
GEN-SERT-VISUEL.0008 (0)	The carrier cut is not aggressive with respect to the wire insulation and an eventual sealing system	✓	✓	✓	✓	✓	✓	✓

Tab 2.8 x 0.8 - 3 Serrations

5-963860-1 with 0.50 mm² Test Engineer : B.SAGNIER

Test valid for Strings :	X	1	X	2	X	3		4	X	5	X	6	X	7

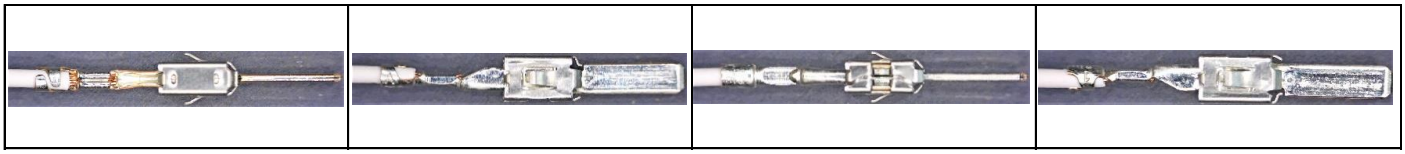


Figure 4 - Visual check, as per 114-18051 (rev.K) and ST 00893_18_00300 (rev1.0)

Identification	Description of the requirement	No. Of parts						
		String 1	String 2	String 3	String 4	String 5	String 6	String 7
GEN-SERT-VISUEL.0001 (0)	The sealing system had no degradation	-	-	-	-	-	-	-
GEN-SERT-VISUEL.0002 (0)	No strand from the core is cut, damaged, or partially impaired	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0003 (0)	No copper strand may be out of the crimping area	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0004(0)	No cuts of damage to the wire insulation is present	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0005 (0)	After crimping, no deformation of the insulation is evident outside of the insulation barrel with respect to the initial state of the wire	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0006 (0)	The crimp operation must not create aggressive areas susceptible to provoke injury to the operator, to the wires or to the rear sealing system	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0007 (0)	The crimp tools garantee the integrity of the terminal and respect the maximum deformation of the terminal as specified on the product drawing	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0008 (0)	The carrier cut is not aggressive with respect to the wire insulation and an eventual sealing system	✓	✓	✓	-	✓	✓	✓

Tab 2.8 x 0.8 - 3 Serrations

5-963860-2 with 0.50 mm² Test Engineer : B.SAGNIER

Test valid for Strings :	X	1	X	2	X	3		4	X	5	X	6	X	7

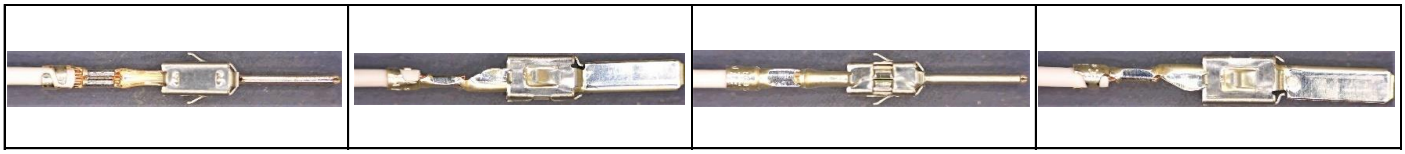


Figure 5 - Visual check, as per 114-18051 (rev.K) and ST 00893_18_00300 (rev1.0)

Identification	Description of the requirement	No. Of parts						
		String 1	String 2	String 3	String 4	String 5	String 6	String 7
GEN-SERT-VISUEL.0001 (0)	The sealing system had no degradation	-	-	-	-	-	-	-
GEN-SERT-VISUEL.0002 (0)	No strand from the core is cut, damaged, or partially impaired	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0003 (0)	No copper strand may be out of the crimping area	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0004(0)	No cuts of damage to the wire insulation is present	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0005 (0)	After crimping, no deformation of the insulation is evident outside of the insulation barrel with respect to the initial state of the wire	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0006 (0)	The crimp operation must not create aggressive areas susceptible to provoke injury to the operator, to the wires or to the rear sealing system	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0007 (0)	The crimp tools garantee the integrity of the terminal and respect the maximum deformation of the terminal as specified on the product drawing	✓	✓	✓	-	✓	✓	✓
GEN-SERT-VISUEL.0008 (0)	The carrier cut is not aggressive with respect to the wire insulation and an eventual sealing system	✓	✓	✓	-	✓	✓	✓

Tab 2.8 x 0.8 - 3 Serrations

5-965982-1 with 0.50 mm² Test Engineer : B.SAGNIER

Test valid for Strings :	X	1	X	2	X	3	X	4	X	5	X	6	X	7

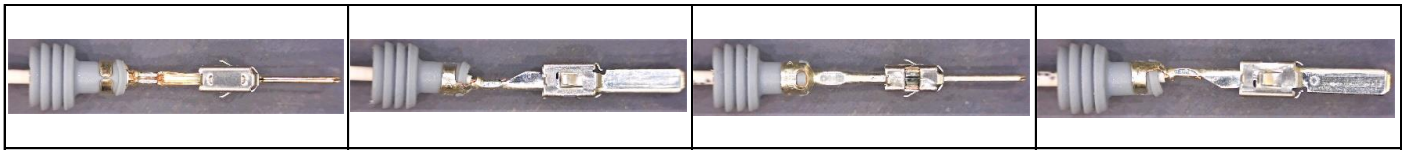


Figure 6 - Visual check, as per 114-18051 (rev.K) and ST 00893_18_00300 (rev1.0)

Identification	Description of the requirement	No. Of parts						
		String 1	String 2	String 3	String 4	String 5	String 6	String 7
GEN-SERT-VISUEL.0001 (0)	The sealing system had no degradation	✓	✓	✓	✓	✓	✓	✓
GEN-SERT-VISUEL.0002 (0)	No strand from the core is cut, damaged, or partially impaired	✓	✓	✓	✓	✓	✓	✓
GEN-SERT-VISUEL.0003 (0)	No copper strand may be out of the crimping area	✓	✓	✓	✓	✓	✓	✓
GEN-SERT-VISUEL.0004(0)	No cuts of damage to the wire insulation is present	✓	✓	✓	✓	✓	✓	✓
GEN-SERT-VISUEL.0005 (0)	After crimping, no deformation of the insulation is evident outside of the insulation barrel with respect to the initial state of the wire	✓	✓	✓	✓	✓	✓	✓
GEN-SERT-VISUEL.0006 (0)	The crimp operation must not create aggressive areas susceptible to provoke injury to the operator, to the wires or to the rear sealing system	✓	✓	✓	✓	✓	✓	✓
GEN-SERT-VISUEL.0007 (0)	The crimp tools garantee the integrity of the terminal and respect the maximum deformation of the terminal as specified on the product drawing	✓	✓	✓	✓	✓	✓	✓
GEN-SERT-VISUEL.0008 (0)	The carrier cut is not aggressive with respect to the wire insulation and an eventual sealing system	✓	✓	✓	✓	✓	✓	✓

2.2. Dimensionnal examination (§5.6.3)

Descriptif of the characteristics : TE Spec 114-18051 (rev.K)

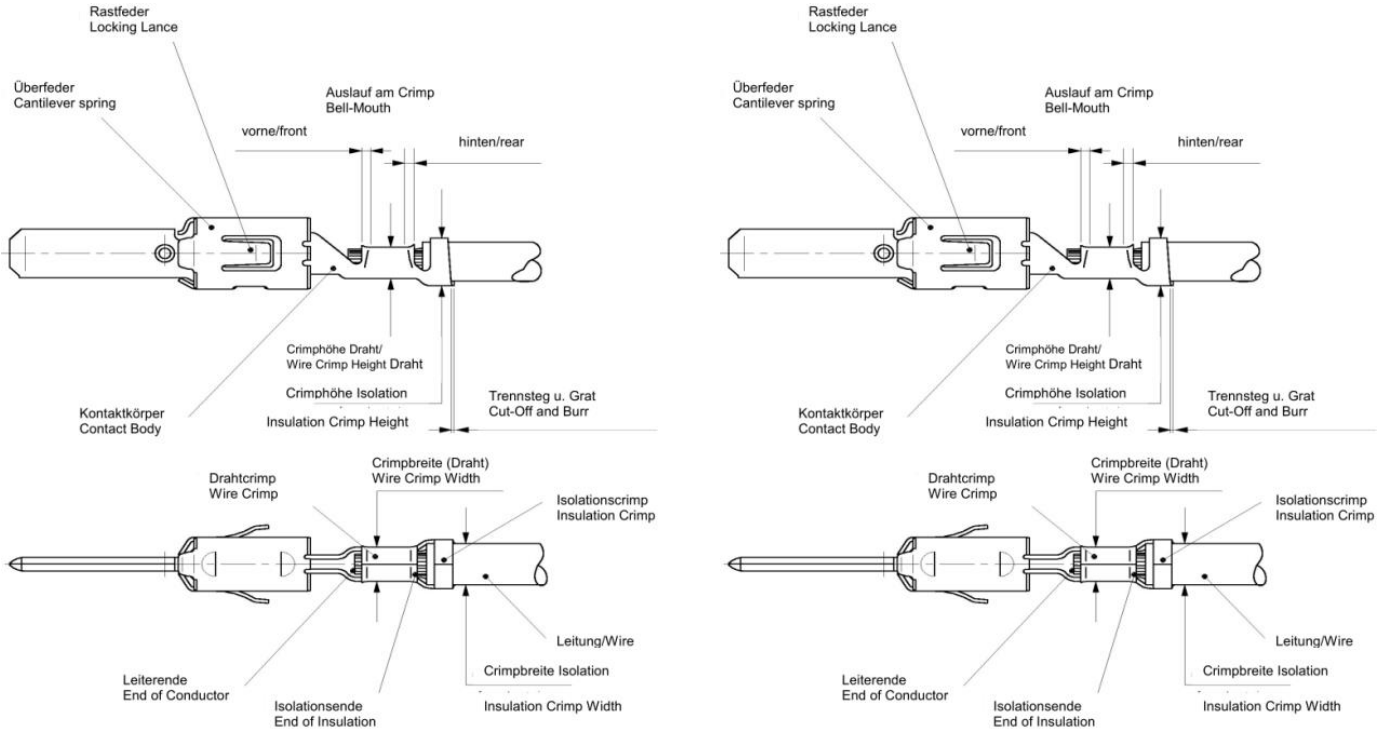


Figure 7 - Crimp Characteristics to check

5-963860-1 with 0.35 mm² Test Engineer : B.SAGNIER

Strings	X	1	X	2		3		4	X	5		6		7

Figure 8 - Top View ✓

Figure 9 - Side 1 View ✓

Figure 10 - Rear View ✓

Figure 11 - Side 2 View ✓

Paramaters checked	**Requirements as per 114-18051 rev. K**	**Requirements as per ST 00893_18_00300 rev. 1.0**	5-963860-1 Wire Section = 0,35 mm²			
			CH min = 0,97 mm [mm]		CH max = 1,03 mm [mm]	
Crimp Heigth (CH1)	1,00 ± 0,03 mm	GEN-SERT-DIM.0002 (0)	0,973	✓	1,033	✓
Crimp Width (CP1)	1,57 ± 0,00 mm	GEN-SERT-DIM.0002 (0)	1,571	✓	1,571	✓
Insulation Heigth (CH2)	0,00 ± 0,00 mm	GEN-SERT-DIM.0003 (0)	-	✓	-	✓
Insulation Width (CB2)	2,30 ± 0,20 mm	GEN-SERT-DIM.0003 (0)	2,100	✓	2,100	✓
Conductor End	[0,1 to 1] mm	GEN-SERT-DIM.0006 (0)	0,570	✓	0,539	✓
Insulation End	Not to be crimped	GEN-SERT-VISUEL.0004 (0)	OK	✓	OK	✓
Rear Bellmouth	0,25 ± 0,15 mm	GEN-SERT-DIM.0005 (0)	0,556	●	0,496	●
Front Bellmouth	≥ 0	GEN-SERT-DIM.0005 (0)	0,123	✓	0,109	✓
Cut off Tab	[0 to 0,5] mm	GEN-SERT-DIM.0007 (0)	OK	✓	OK	✓
Bent and Twist (Each side)	Not defined		OK	✓	OK	✓
Bent and Twist (Up and Down)	Not defined		OK	✓	OK	✓

Table 7 - Inspection measurement

Tab 2.8 x 0.8 - 3 Serrations

5-963860-2 with 0.35 mm² Test Engineer : B.SAGNIER

Strings		1		2		3		4		5		6		7
	X		X						X					

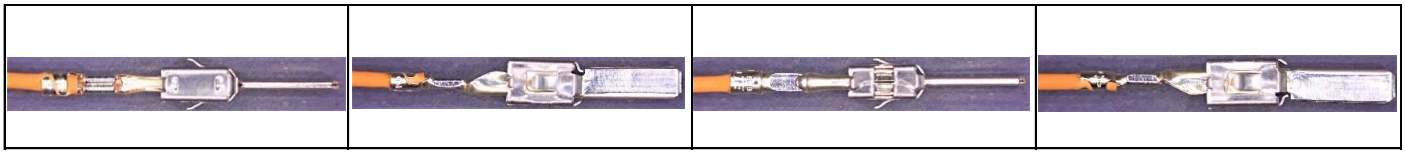


Figure 12 - Top View ✓ **Figure 13** - Side 1 View ✓ **Figure 14** - Rear View ✓ **Figure 15** - Side 2 View ✓

Paramaters checked	Requirements as per 114-18051 rev. K	Requirements as per ST 00893_18_00300 rev. 1.0	5-963860-2 Wire Section = 0,35 mm²			
			CH min = 0,97 mm [mm]		CH max = 1,03 mm [mm]	
Crimp Heigth (CH1)	1,00 ± 0,03 mm	GEN-SERT-DIM.0002 (0)	0,969	✓	1,030	✓
Crimp Width (CP1)	1,57 ± 0,00 mm	GEN-SERT-DIM.0002 (0)	1,570	✓	1,570	✓
Insulation Heigth (CH2)	0,00 ± 0,00 mm	GEN-SERT-DIM.0003 (0)	-	✓	-	✓
Insulation Width (CB2)	2,30 ± 0,20 mm	GEN-SERT-DIM.0003 (0)	2,100	✓	2,100	✓
Conductor End	[0,1 to 1] mm	GEN-SERT-DIM.0006 (0)	0,559	✓	0,421	✓
Insulation End	Not to be crimped	GEN-SERT-VISUEL.0004 (0)	OK	✓	OK	✓
Rear Bellmouth	0,25 ± 0,15 mm	GEN-SERT-DIM.0005 (0)	0,509	●	0,437	●
Front Bellmouth	≥ 0	GEN-SERT-DIM.0005 (0)	0,123	✓	0,164	✓
Cut off Tab	[0 to 0,5] mm	GEN-SERT-DIM.0007 (0)	OK	✓	OK	✓
Bent and Twist (Each side)	Not defined		OK	✓	OK	✓
Bent and Twist (Up and Down)	Not defined		OK	✓	OK	✓

Table 8 - Inspection measurement

5-965982-1 with 0.35 mm² Test Engineer : B.SAGNIER

Strings		1		2		3		4		5		6		7
	X		X						X					

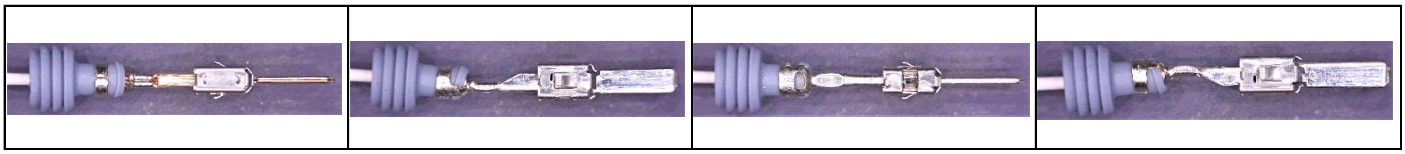


Figure 16 - Top View ✓ **Figure 17** - Side 1 View ✓ **Figure 18** - Rear View ✓ **Figure 19** - Side 2 View ✓

Paramaters checked	Requirements as per 114-18051 rev. K	Requirements as per ST 00893_18_00300 rev. 1.0	5-965982-1 Wire Section = 0,35 mm²			
			CH min = 0,99 mm [mm]		CH max = 1,05 mm [mm]	
Crimp Heigth (CH1)	1,02 ± 0,03 mm	GEN-SERT-DIM.0002 (0)	0,992	✓	1,055	✓
Crimp Width (CP1)	1,57 ± 0,00 mm	GEN-SERT-DIM.0002 (0)	1,571	✓	1,568	✓
Insulation Heigth (CH2)	0,00 ± 0,00 mm	GEN-SERT-DIM.0003 (0)	-	✓	-	✓
Insulation Width (CB2)	3,95 ± 0,20 mm	GEN-SERT-DIM.0003 (0)	3,870	✓	3,870	✓
Conductor End	[0,1 to 1] mm	GEN-SERT-DIM.0006 (0)	0,735	✓	0,570	✓
Insulation End	Not to be crimped	GEN-SERT-VISUEL.0004 (0)	OK	✓	OK	✓
Rear Bellmouth	0,25 ± 0,15 mm	GEN-SERT-DIM.0005 (0)	0,726	●	0,657	●
Front Bellmouth	≥ 0	GEN-SERT-DIM.0005 (0)	0,104	✓	0,134	✓
Cut off Tab	[0 to 0,5] mm	GEN-SERT-DIM.0007 (0)	OK	✓	OK	✓
Bent and Twist (Each side)	Not defined		OK	✓	OK	✓
Bent and Twist (Up and Down)	Not defined		OK	✓	OK	✓

Table 9 - Inspection measurement

Tab 2.8 x 0.8 - 3 Serrations

5-963860-1 with 0.50 mm² Test Engineer : B.SAGNIER

Strings	X	1	X	2		3		4	X	5		6		7

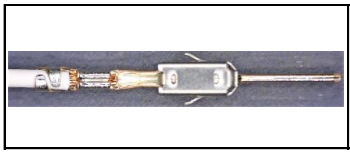


Figure 20 - Top View ✓

Figure 21 - Side 1 View ✓

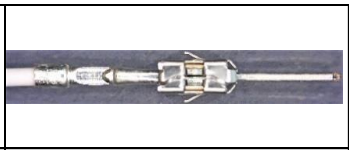


Figure 22 - Rear View ✓

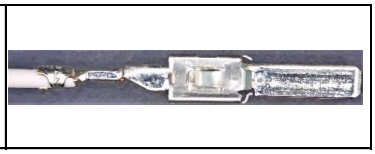


Figure 23 - Side 2 View ✓

Paramaters checked	Requirements as per 114-18051 rev. K	Requirements as per ST 00893_18_00300 rev. 1.0	5-963860-1 Wire Section = 0,50 mm² CH min = 1,04 mm [mm]		CH max = 1,10 mm [mm]	
Crimp Heigth (CH1)	1,07 ± 0,03 mm	GEN-SERT-DIM.0002 (0)	1,042	✓	1,102	✓
Crimp Width (CP1)	1,57 ± 0,00 mm	GEN-SERT-DIM.0002 (0)	1,573	✓	1,573	✓
Insulation Heigth (CH2)	0,00 ± 0,00 mm	GEN-SERT-DIM.0003 (0)	-	✓	-	✓
Insulation Width (CB2)	2,30 ± 0,20 mm	GEN-SERT-DIM.0003 (0)	2,160	✓	2,160	✓
Conductor End	[0,1 to 1] mm	GEN-SERT-DIM.0006 (0)	0,566	✓	0,583	✓
Insulation End	Not to be crimped	GEN-SERT-VISUEL.0004 (0)	OK	✓	OK	✓
Rear Bellmouth	0,25 ± 0,15 mm	GEN-SERT-DIM.0005 (0)	0,550	●	0,528	●
Front Bellmouth	≥ 0	GEN-SERT-DIM.0005 (0)	0,156	✓	0,111	✓
Cut off Tab	[0 to 0,5] mm	GEN-SERT-DIM.0007 (0)	OK	✓	OK	✓
Bent and Twist (Each side)	Not defined		OK	✓	OK	✓
Bent and Twist (Up and Down)	Not defined		OK	✓	OK	✓

Table 10 Inspection measurement

5-963860-2 with 0.50 mm² Test Engineer : B.SAGNIER

Strings	X	1	X	2		3		4	X	5		6		7

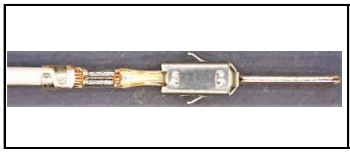


Figure 24 - Top View ✓

Figure 25 - Side 1 View ✓

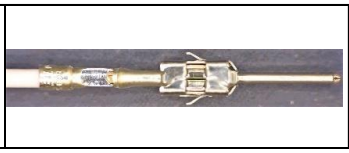


Figure 26 - Rear View ✓

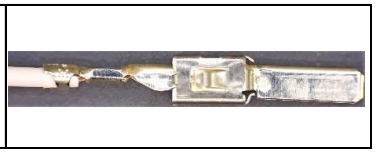


Figure 27 - Side 2 View ✓

Paramaters checked	Requirements as per 114-18051 rev. K	Requirements as per ST 00893_18_00300 rev. 1.0	5-963860-2 Wire Section = 0,50 mm² CH min = 1,04 mm [mm]		CH max = 1,10 mm [mm]	
Crimp Heigth (CH1)	1,07 ± 0,03 mm	GEN-SERT-DIM.0002 (0)	1,040	✓	1,105	✓
Crimp Width (CP1)	1,57 ± 0,00 mm	GEN-SERT-DIM.0002 (0)	1,570	✓	1,571	✓
Insulation Heigth (CH2)	0,00 ± 0,00 mm	GEN-SERT-DIM.0003 (0)	-	✓	-	✓
Insulation Width (CB2)	2,30 ± 0,20 mm	GEN-SERT-DIM.0003 (0)	2,180	✓	2,180	✓
Conductor End	[0,1 to 1] mm	GEN-SERT-DIM.0006 (0)	0,804	✓	0,539	✓
Insulation End	Not to be crimped	GEN-SERT-VISUEL.0004 (0)	OK	✓	OK	✓
Rear Bellmouth	0,25 ± 0,15 mm	GEN-SERT-DIM.0005 (0)	0,294	●	0,397	●
Front Bellmouth	≥ 0	GEN-SERT-DIM.0005 (0)	0,105	✓	0,127	✓
Cut off Tab	[0 to 0,5] mm	GEN-SERT-DIM.0007 (0)	OK	✓	OK	✓
Bent and Twist (Each side)	Not defined		OK	✓	OK	✓
Bent and Twist (Up and Down)	Not defined		OK	✓	OK	✓

Table 11 - Inspection measurement

Tab 2.8 x 0.8 - 3 Serrations

5-965982-1 with 0.50 mm² Test Engineer : B.SAGNIER

Strings		1		2		3		4		5		6		7
	X		X						X					

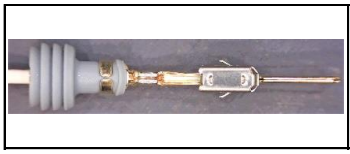


Figure 28 - Top View ✓

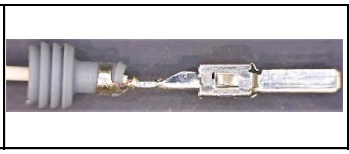


Figure 29 - Side 1 View ✓

Figure 30 - Rear View ✓

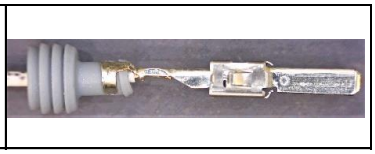


Figure 31 - Side 2 View ✓

Paramaters checked	**Requirements as per 114-18051 rev. K**	**Requirements as per ST 00893_18_00300 rev. 1.0**	5-965982-1 Wire Section = 0,50 mm² CH min = 1,05 mm [mm]		CH max = 1,11 mm [mm]	
Crimp Heigth (CH1)	1,08 ± 0,03 mm	GEN-SERT-DIM.0002 (0)	1,054	✓	1,112	✓
Crimp Width (CP1)	1,57 ± 0,00 mm	GEN-SERT-DIM.0002 (0)	1,570	✓	1,571	✓
Insulation Heigth (CH2)	0,00 ± 0,00 mm	GEN-SERT-DIM.0003 (0)	-	✓	-	✓
Insulation Width (CB2)	3,95 ± 0,20 mm	GEN-SERT-DIM.0003 (0)	3,880	✓	3,880	✓
Conductor End	[0,1 to 1] mm	GEN-SERT-DIM.0006 (0)	0,709	✓	0,480	✓
Insulation End	Not to be crimped	GEN-SERT-VISUEL.0004 (0)	OK	✓	OK	✓
Rear Bellmouth	0,25 ± 0,15 mm	GEN-SERT-DIM.0005 (0)	0,823	•	0,735	•
Front Bellmouth	≥ 0	GEN-SERT-DIM.0005 (0)	0,194	✓	0,151	✓
Cut off Tab	[0 to 0,5] mm	GEN-SERT-DIM.0007 (0)	OK	✓	OK	✓
Bent and Twist (Each side)	Not defined		OK	✓	OK	✓
Bent and Twist (Up and Down)	Not defined		OK	✓	OK	✓

Table 12 - Inspection measurement

2.3. Conductor/contact tensile strength (§5.6.5.1)

SETUP

Figure 32 - Setup

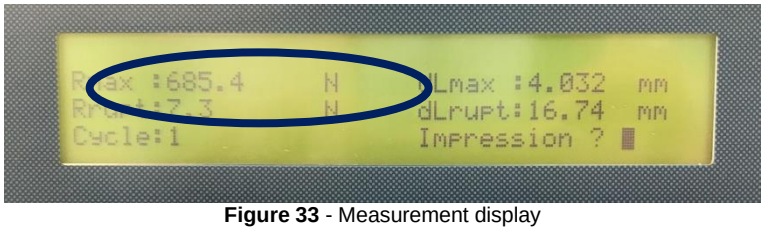


Figure 33 - Measurement display

5-963860-1 with 0.35 mm² Test Engineer : B.SAGNIER

Strings	X	1		2		3		4		5		6		7

PN:	5-963860-1	Wire :	0,35 mm²

Tensile strength of the conductor/contact (§5.6.5.1)				
Sample ID	**F [N] CH_{MIN}**	**Pass [Y/N]**	**F [N] CH_{MAX}**	**Pass [Y/N]**
1	98,7	✓	97,9	✓
2	93,2	✓	97,6	✓
3	96,6	✓	96,4	✓
4	92,2	✓	97,2	✓
5	98,3	✓	95,6	✓
6	98,6	✓	96,7	✓
7	98,7	✓	97,0	✓
8	98,3	✓	94,4	✓
9	99,0	✓	97,6	✓
10	92,5	✓	97,1	✓
Max	99,0	✓	97,9	✓
Mean	96,6	✓	96,8	✓
Min	92,2	✓	94,4	✓
STD	2,8	•	1,1	•
Requirement	GEN-SERT-MECA.0001 (0) : F > 60 N			

Table 13 - Pull-out force values

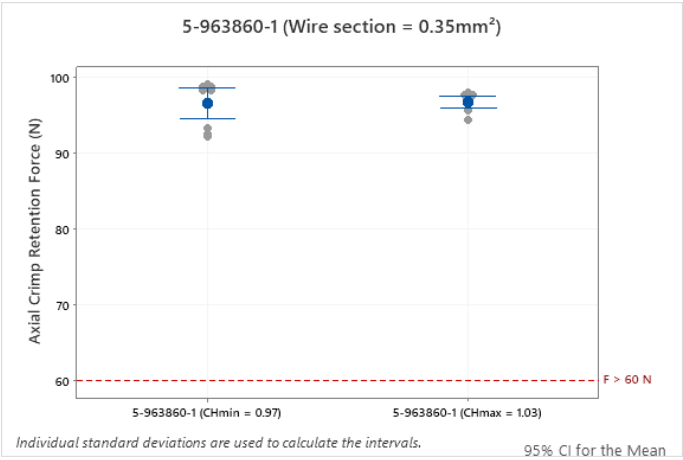


Figure 34 - Graphic representation of the test results

Failure mode : Copper strands broke at the rear of the crimping zone

Tab 2.8 x 0.8 - 3 Serrations

5-963860-2 with 0.35 mm² | Test Engineer : B.SAGNIER

Strings	X	1		2		3		4		5		6		7

PN	5-963860-2	Wire :	0,35 mm²

Tensile strength of the conductor/contact (§5.6.5.1)				
Sample ID	**F [N] CH_{MIN}**	**Pass [Y/N]**	**F [N] CH_{MAX}**	**Pass [Y/N]**
1	93,5	✓	97,1	✓
2	93,3	✓	81,5	✓
3	91,2	✓	87,5	✓
4	91,4	✓	94,1	✓
5	92,7	✓	96,9	✓
6	93,2	✓	95,4	✓
7	86,8	✓	96,0	✓
8	89,2	✓	96,2	✓
9	91,9	✓	96,3	✓
10	92,8	✓	97,0	✓
Max	93,5	✓	97,1	✓
Mean	91,6	✓	93,8	✓
Min	86,8	✓	81,5	✓
STD	2,1	•	5,2	•
Requirement	GEN-SERT-MECA.0001 (0) : F > 60 N			

Table 14 - Pull-out force values

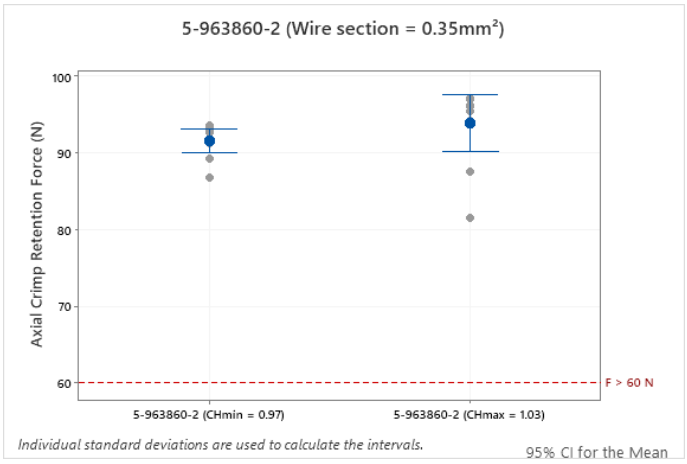


Figure 35 - Graphic representation of the test results

Failure mode : Copper strands broke at the rear of the crimping zone

5-965982-1 with 0.35 mm² | Test Engineer : B.SAGNIER

Strings	X	1		2		3		4		5		6		7

PN	5-965982-1	Wire :	0,35 mm²

Tensile strength of the conductor/contact (§5.6.5.1)				
Sample ID	**F [N] CH_{MIN}**	**Pass [Y/N]**	**F [N] CH_{MAX}**	**Pass [Y/N]**
1	81,7	✓	81,9	✓
2	81,0	✓	82,7	✓
3	80,6	✓	82,2	✓
4	81,5	✓	83,0	✓
5	82,0	✓	81,1	✓
6	80,0	✓	82,7	✓
7	80,9	✓	82,3	✓
8	78,1	✓	81,3	✓
9	80,9	✓	81,6	✓
10	81,5	✓	82,5	✓
Max	82,0	✓	83,0	✓
Mean	80,8	✓	82,1	✓
Min	78,1	✓	81,1	✓
STD	1,1	•	0,6	•
Requirement	GEN-SERT-MECA.0001 (0) : F > 60 N			

Table 15 - Pull-out force values

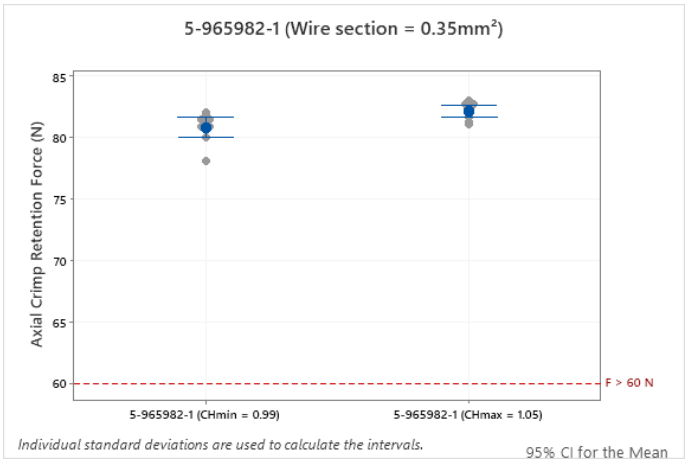


Figure 36 - Graphic representation of the test results

Failure mode : Copper strands broke at the rear of the crimping zone

Tab 2.8 x 0.8 - 3 Serrations

5-963860-1 with 0.50 mm² | Test Engineer : B.SAGNIER

Strings	X	1		2		3		4		5		6		7

PN	5-963860-1	Wire :	0,50 mm²

Tensile strength of the conductor/contact (§5.6.5.1)				
Sample ID	**F [N] CH_{MIN}**	**Pass [Y/N]**	**F [N] CH_{MAX}**	**Pass [Y/N]**
1	119,4	✓	119,1	✓
2	121,1	✓	118,8	✓
3	124,7	✓	120,8	✓
4	122,1	✓	118,2	✓
5	120,5	✓	120,1	✓
6	119,4	✓	103,8	✓
7	109,3	✓	121,6	✓
8	120,7	✓	119,9	✓
9	120,7	✓	118,7	✓
10	106,1	✓	120,1	✓
Max	124,7	✓	121,6	✓
Mean	118,4	✓	118,1	✓
Min	106,1	✓	103,8	✓
STD	5,9	•	5,1	•
Requirement	GEN-SERT-MECA.0001 (0) : F > 70 N			

Table 16 - Pull-out force values

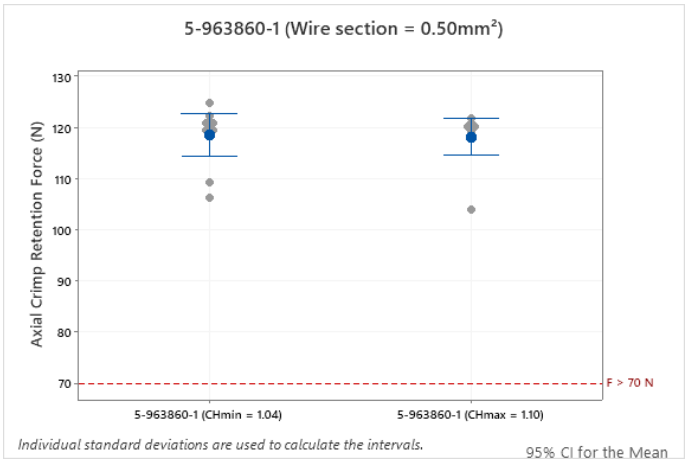


Figure 37 - Graphic representation of the test results

Failure mode: Copper strands broke at the rear of the crimping zone

5-963860-2 with 0.50 mm² | Test Engineer : B.SAGNIER

Strings	X	1		2		3		4		5		6		7

PN	5-963860-2	Wire :	0,50 mm²

Tensile strength of the conductor/contact (§5.6.5.1)				
Sample ID	**F [N] CH_{MIN}**	**Pass [Y/N]**	**F [N] CH_{MAX}**	**Pass [Y/N]**
1	120,8	✓	121,2	✓
2	128,6	✓	121,8	✓
3	117,2	✓	124,1	✓
4	127,8	✓	124,7	✓
5	128,3	✓	123,6	✓
6	126,5	✓	124,3	✓
7	118,3	✓	122,2	✓
8	99,0	✓	119,3	✓
9	126,5	✓	123,9	✓
10	128,3	✓	118,8	✓
Max	128,6	✓	124,7	✓
Mean	122,1	✓	122,4	✓
Min	99,0	✓	118,8	✓
STD	9,2	•	2,1	•
Requirement	GEN-SERT-MECA.0001 (0) : F > 70 N			

Table 17 - Pull-out force values

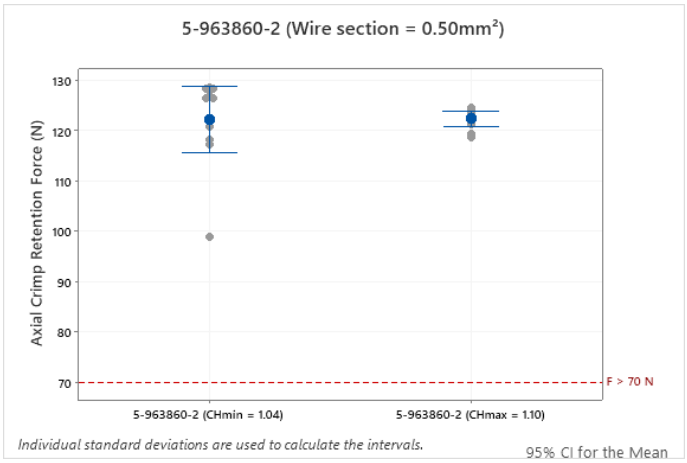


Figure 38 - Graphic representation of the test results

Failure mode: Copper strands broke at the rear of the crimping zone

Tab 2.8 x 0.8 - 3 Serrations

5-965982-1 with 0.50 mm² Test Engineer : B.SAGNIER

Strings	X	1		2		3		4		5		6		7

PN:	5-965982-1	Wire :	0,50 mm²

Tensile strength of the conductor/contact (§5.6.5.1)				
Sample ID	**F [N] CH_{MIN}**	**Pass [Y/N]**	**F [N] CH_{MAX}**	**Pass [Y/N]**
1	116,1	✓	118,6	✓
2	117,0	✓	119,7	✓
3	115,9	✓	120,7	✓
4	115,9	✓	116,7	✓
5	116,7	✓	119,9	✓
6	117,6	✓	120,2	✓
7	117,8	✓	118,9	✓
8	116,8	✓	120,3	✓
9	118,2	✓	119,2	✓
10	116,6	✓	118,5	✓
Max	118,2	✓	120,7	✓
Mean	116,9	✓	119,3	✓
Min	115,9	✓	116,7	✓
STD	0,8	•	1,2	•
Requirement	GEN-SERT-MECA.0001 (0) : F > 70 N			

Table 18 - Pull-out force values

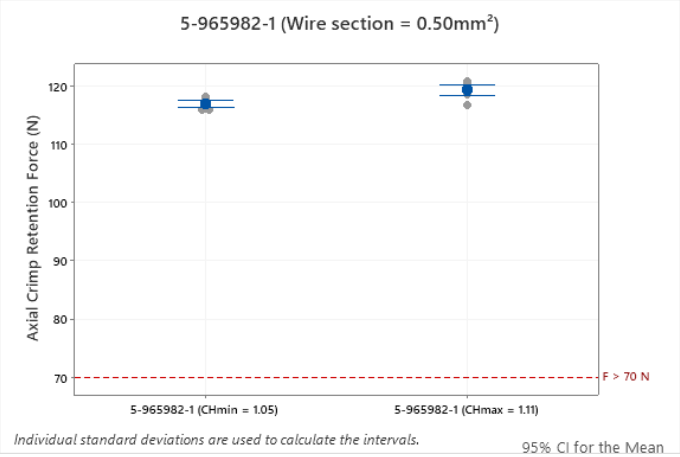


Figure 39 - Graphic representation of the test results

Failure mode: Copper strands broke at the rear of the crimping zone

2.4. Resistance to bending of transition area (§5.6.5.4)

SETUP

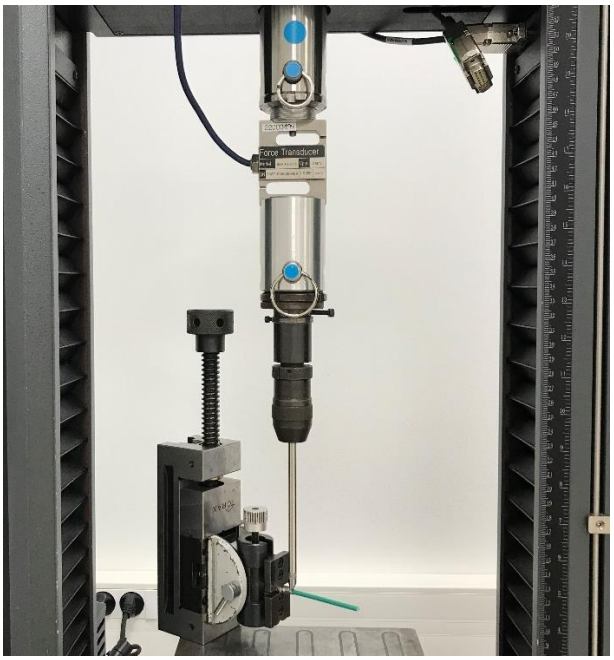


Figure 40 - Setup

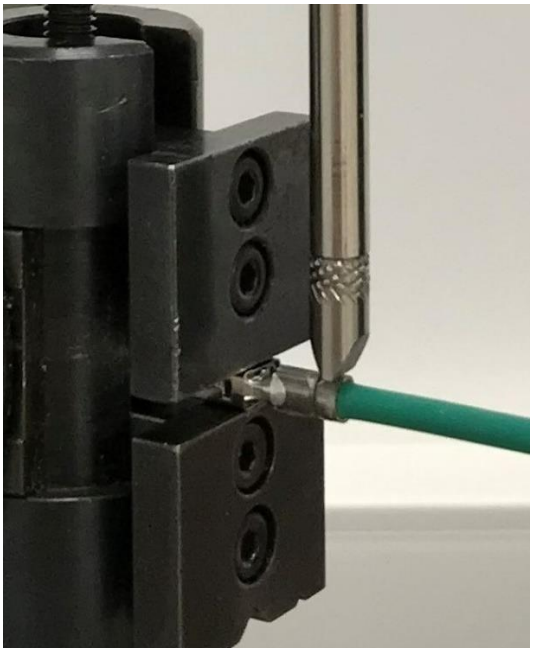


Figure 41 - Setup

5-963860-1 with 0.35 mm² Test Engineer : B.SAGNIER

Strings		1		2		3		4		5	X	6		7

PN 5-963860-1

ST 00893_18_00300	Transition area bending withstand resistance (§5.6.5.4)		
B21 7050 revE	MECA-CONTACT-026 (0)	MECA-CONTACT-029 (0)	MECA-CONTACT-032 (0)
Sample ID			
1	✓		
2	✓		
3	✓		
4	✓		
5	✓		
6		✓	
7		✓	
8		✓	
9		✓	
10		✓	
11			✓
12			✓
13			✓
14			✓
15			✓
Requirement GEN-SERT-MECA.0004	INSPECTION-003 Corform to CTF		

Tab 2.8 x 0.8 - 3 Serrations

5-963860-2 with 0.35 mm² Test Engineer : B.SAGNIER

Strings		1		2		3		4		5	X	6		7

PN 5-963860-2

ST 00893_18_00300	Transition area bending withstand resistance (§5.6.5.4)		
B21 7050 revE	MECA-CONTACT-026 (0)	MECA-CONTACT-029 (0)	MECA-CONTACT-032 (0)
Sample ID			
1	✓		
2	✓		
3	✓		
4	✓		
5	✓		
6		✓	
7		✓	
8		✓	
9		✓	
10		✓	
11			✓
12			✓
13			✓
14			✓
15			✓
Requirement GEN-SERT-MECA.0004	INSPECTION-003 Corform to CTF		

5-965982-1 with 0.35 mm² Test Engineer : B.SAGNIER

Strings		1		2		3		4		5	X	6		7

PN 5-965982-1

ST 00893_18_00300	Transition area bending withstand resistance (§5.6.5.4)		
B21 7050 revE	MECA-CONTACT-026 (0)	MECA-CONTACT-029 (0)	MECA-CONTACT-032 (0)
Sample ID			
1	✓		
2	✓		
3	✓		
4	✓		
5	✓		
6		✓	
7		✓	
8		✓	
9		✓	
10		✓	
11			✓
12			✓
13			✓
14			✓
15			✓
Requirement GEN-SERT-MECA.0004	INSPECTION-003 Corform to CTF		

Tab 2.8 x 0.8 - 3 Serrations

5-963860-1 with 0.50 mm² Test Engineer : B.SAGNIER

Strings		1		2		3		4		5	X	6		7

PN 5-963860-1

ST 00893_18_00300	Transition area bending withstand resistance (§5.6.5.4)		
B21 7050 revE	MECA-CONTACT-026 (0)	MECA-CONTACT-029 (0)	MECA-CONTACT-032 (0)
Sample ID			
1	✓		
2	✓		
3	✓		
4	✓		
5	✓		
6		✓	
7		✓	
8		✓	
9		✓	
10		✓	
11			✓
12			✓
13			✓
14			✓
15			✓
Requirement GEN-SERT-MECA.0004	INSPECTION-003 Corform to CTF		

5-963860-2 with 0.50 mm² Test Engineer : B.SAGNIER

Strings		1		2		3		4		5	X	6		7

PN 5-963860-2

ST 00893_18_00300	Transition area bending withstand resistance (§5.6.5.4)		
B21 7050 revE	MECA-CONTACT-026 (0)	MECA-CONTACT-029 (0)	MECA-CONTACT-032 (0)
Sample ID			
1	✓		
2	✓		
3	✓		
4	✓		
5	✓		
6		✓	
7		✓	
8		✓	
9		✓	
10		✓	
11			✓
12			✓
13			✓
14			✓
15			✓
Requirement GEN-SERT-MECA.0004	INSPECTION-003 Corform to CTF		

Tab 2.8 x 0.8 - 3 Serrations

5-965982-1 with 0.50 mm² Test Engineer : B.SAGNIER

Strings		1		2		3		4		5	X	6		7

PN: 5-965982-1

ST 00893_18_00300	Transition area bending withstand resistance (§5.6.5.4)		
B21 7050 revE	MECA-CONTACT-026 (0)	MECA-CONTACT-029 (0)	MECA-CONTACT-032 (0)
Sample ID			
1	✓		
2	✓		
3	✓		
4	✓		
5	✓		
6		✓	
7		✓	
8		✓	
9		✓	
10		✓	
11			✓
12			✓
13			✓
14			✓
15			✓
Requirement GEN-SERT-MECA.0004	INSPECTION-003 Corform to CTF		

2.5. Resistance to bending of the insulator reinforcement (§5.6.5.2)

5-963860-1 with 0.35 mm² Test Engineer : B.SAGNIER

Strings		1		2	X	3		4		5		6		7

PN	5-963860-1

Insulator reinforcement bending test (§5.6.5.2)		
Sample ID	**MECA-WIRE-004 (0)**	
1	✓	✓
2	✓	✓
3	✓	✓
4	✓	✓
5	✓	✓
6	✓	✓
7	✓	✓
8	✓	✓
9	✓	✓
10	✓	✓
Requirement GEN-SERT-MECA.0002	Insulator : No change position	Insulator : No Damage

5-963860-2 with 0.35 mm² Test Engineer : B.SAGNIER

Strings		1		2	X	3		4		5		6		7

PN	5-963860-2

Insulator reinforcement bending test (§5.6.5.2)		
Sample ID	**MECA-WIRE-004 (0)**	
1	✓	✓
2	✓	✓
3	✓	✓
4	✓	✓
5	✓	✓
6	✓	✓
7	✓	✓
8	✓	✓
9	✓	✓
10	✓	✓
Requirement GEN-SERT-MECA.0002	Insulator : No change position	Insulator : No Damage

Tab 2.8 x 0.8 - 3 Serrations

5-965982-1 with 0.35 mm² Test Engineer : B.SAGNIER

Strings		1		2	X	3		4		5		6		7

PN	5-965982-1

Insulator reinforcement bending test (§5.6.5.2)		
Sample ID	**MECA-WIRE-004 (0)**	
1	✓	✓
2	✓	✓
3	✓	✓
4	✓	✓
5	✓	✓
6	✓	✓
7	✓	✓
8	✓	✓
9	✓	✓
10	✓	✓
Requirement GEN-SERT-MECA.0002	Insulator : No change position	Insulator : No Damage

5-963860-1 with 0.50 mm² Test Engineer : B.SAGNIER

Strings		1		2	X	3		4		5		6		7

PN	5-963860-1

Insulator reinforcement bending test (§5.6.5.2)		
Sample ID	**MECA-WIRE-004 (0)**	
1	✓	✓
2	✓	✓
3	✓	✓
4	✓	✓
5	✓	✓
6	✓	✓
7	✓	✓
8	✓	✓
9	✓	✓
10	✓	✓
Requirement GEN-SERT-MECA.0002	Insulator : No change position	Insulator : No Damage

Tab 2.8 x 0.8 - 3 Serrations

5-963860-2 with 0.50 mm² Test Engineer : B.SAGNIER

Strings		1		2	X	3		4		5		6		7

PN	5-963860-2

Insulator reinforcement bending test (§5.6.5.2)		
Sample ID	**MECA-WIRE-004 (0)**	
1	✓	✓
2	✓	✓
3	✓	✓
4	✓	✓
5	✓	✓
6	✓	✓
7	✓	✓
8	✓	✓
9	✓	✓
10	✓	✓
Requirement GEN-SERT-MECA.0002	Insulator : No change position	Insulator : No Damage

5-965982-1 with 0.50 mm² Test Engineer : B.SAGNIER

Strings		1		2	X	3		4		5		6		7

PN	5-965982-1

Insulator reinforcement bending test (§5.6.5.2)		
Sample ID	**MECA-WIRE-004 (0)**	
1	✓	✓
2	✓	✓
3	✓	✓
4	✓	✓
5	✓	✓
6	✓	✓
7	✓	✓
8	✓	✓
9	✓	✓
10	✓	✓
Requirement GEN-SERT-MECA.0002	Insulator : No change position	Insulator : No Damage

Tab 2.8 x 0.8 - 3 Serrations

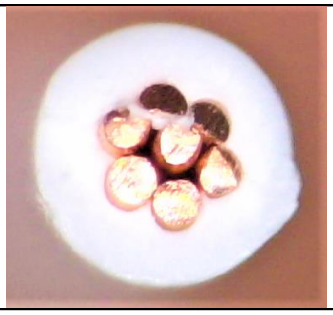
2.6. Cross section (§5.6.4)

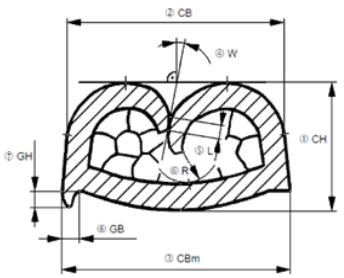
2.6.a. Transversal cross section

5-963860-1 with 0.35 mm² Test Engineer : B.SAGNIER

Strings		1		2		3		4	X	5		6		7

PN	5-963860-1	CH_{Min}	0,97 mm	Wire	0,35 mm²





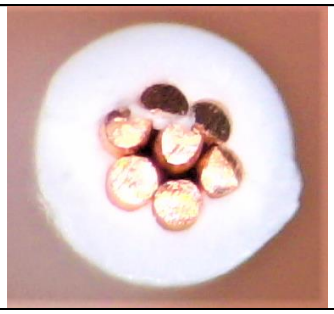
Characteristics to check		Requirements TE		Requirements PSA		Meas.	TE	PSA
GEN-SERT-DIM.0004 (0)		114-18022 rev.N		ST 00893_18_003000				
Crimp heigth - barrel		CH	114-18051	H	TE requirements	0,973	✓	●
Crimp w idth - barrel		CB		L2		1,571	✓	●
Measureable crimp w idth -barrel (mm)		CBm	CB+3°	L1		1,638	✓	●
Penetration (mm)				P		0,147	●	●
Support angle (deg)		W	≤ 30°			12,006	✓	●
Support length (mm)		L	≥ ¼ S (≥ 0,080 mm)	C		0,214	✓	●
Flank end distance (mm)		R	≥ 0,1*S (≥ 0,080 mm)	X	> ½ e (> 0,160 mm)	0,103	●	●
Dissymetry crimp w ings (mm)				Y	< e (< 0,320 mm)	0,116	●	✓
Flash height (mm)		GH	≤ S (≤ 0,320 mm)	Z1	< ½ e (< 0,160 mm)	0,026	✓	✓
Flash w idth (mm)		GB	< ¾ S, if GH < ½ S < ½ S, if GH ≥ ½ S	Z2		0,068	✓	●
Bottom thickness (mm)		SB		E		0,230	●	●
Wire only	Surface strand (mm²)					0,042	●	●
	Number of strand (#)					7	●	●
	Real Section (mm²)					0,291	●	●
Barrel only	Material Thickness (mm)	S		e		**0,32**	●	●
	WDW (mm)					4,45	●	●
	Section (mm²)					1,424	●	●
Barrel + Wire	Wire Surface (mm²)					0,219	●	●
	Void Surface (mm²)					0,000	●	●
	Total - Barrel Exterior (mm²)					1,403	●	●
Porosity (%)					< 2%	0,00 %	●	●
Wire reduction section (%)			F.I.		> 15%	24,66 %	●	●
Total crimp reduction section(Theo.)			None			18,18 %	●	●

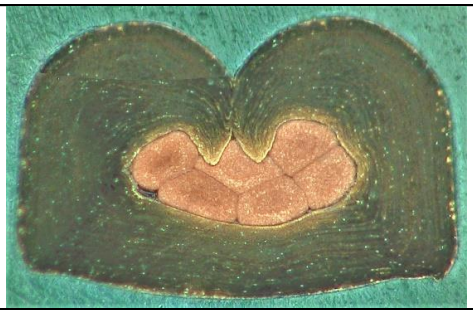
Tab 2.8 x 0.8 - 3 Serrations

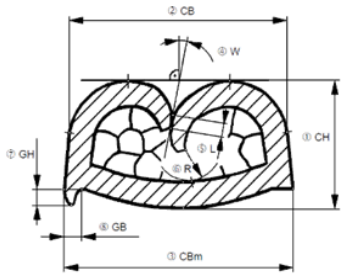
5-963860-1 with 0.35 mm² | Test Engineer : B.SAGNIER

Strings		1		2		3		4	X	5		6		7

PN	5-963860-1	CH_{Max}	1,03 mm	Wire	0,35 mm²







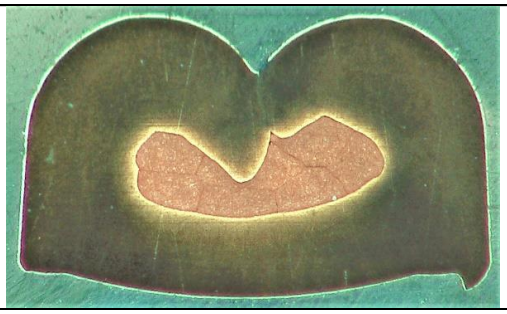
Characteristics to check		Requirements TE		Requirements PSA		Meas.	TE	PSA
GEN-SERT-DIM.0004 (0)		114-18022 rev.N		ST 00893_18_003000				
Crimp heigth - barrel		CH	114-18051	H	TE requirements	1,033	✓	●
Crimp width - barrel		CB		L2		1,571	✓	●
Measureable crimp width -barrel (mm)		CBm	CB+3°	L1		1,627	✓	●
Penetration (mm)				P		0,134	●	●
Support angle (deg)		W	≤ 30°			0,182	✓	●
Support length (mm)		L	≥ ¼ S (≥ 0,080 mm)	C		0,210	✓	●
Flank end distance (mm)		R	≥ 0,1*S (≥ 0,080 mm)	X	> ½ e (> 0,160 mm)	0,194	●	●
Dissymetry crimp wings (mm)				Y	< e (< 0,320 mm)	0,010	●	✓
Flash height (mm)		GH	≤ S (≤ 0,320 mm)	Z1	< ½ e (< 0,160 mm)	0,021	✓	✓
Flash width (mm)		GB	< ¾ S, if GH < ½ S < ½ S, if GH ≥ ½ S	Z2		0,043	✓	●
Bottom thickness (mm)		SB		E		0,267	●	●
Wire only	Surface strand (mm²)					0,042	●	●
	Number of strand (#)					7	●	●
	Real Section (mm²)					0,291	●	●
Barrel only	Material Thickness (mm)	S		e		**0,32**	●	●
	WDW (mm)					4,45	●	●
	Section (mm²)					1,424	●	●
Barrel + Wire	Wire Surface (mm²)					0,215	●	●
	Void Surface (mm²)					0,000	●	●
	Total - Barrel Exterior (mm²)					1,492	●	●
Porosity (%)					< 2%	0,00 %	●	●
Wire reduction section (%)			F.I.		> 15%	26,04 %	●	●
Total crimp reduction section(Theo.)			None			12,99 %	●	●

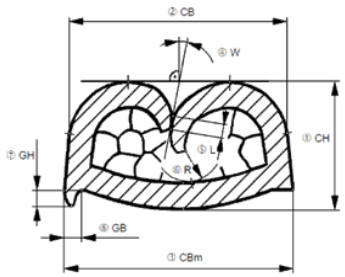
Tab 2.8 x 0.8 - 3 Serrations

5-963860-2 with 0.35 mm² | Test Engineer : B.SAGNIER

Strings		1		2		3		4	X	5		6		7

PN	5-963860-2	CH_{Min}	0,97 mm	Wire	0,35 mm²





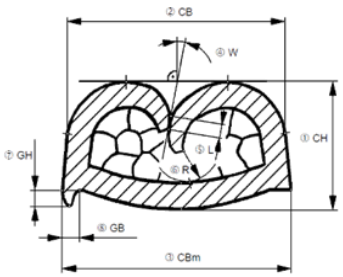
Characteristics to check		Requirements TE		Requirements PSA		Meas.	TE	PSA
GEN-SERT-DIM.0004 (0)		114-18022 rev.N		ST 00893_18_003000				
Crimp heigth - barrel		CH	114-18051	H	TE requirements	0,969	✓	●
Crimp width - barrel		CB		L2		1,570	✓	●
Measureable crimp width -barrel (mm)		CBm	CB+3°	L1		1,654	✓	●
Penetration (mm)				P		0,051	●	●
Support angle (deg)		W	≤ 30°			11,371	✓	●
Support length (mm)		L	≥ ¼ S (≥ 0,080 mm)	C		0,185	✓	●
Flank end distance (mm)		R	≥ 0,1*S (≥ 0,080 mm)	X	> ½ e (> 0,160 mm)	0,106	●	●
Dissymetry crimp wings (mm)				Y	< e (< 0,320 mm)	0,183	●	✓
Flash height (mm)		GH	≤ S (≤ 0,320 mm)	Z1	< ½ e (< 0,160 mm)	0,000	✓	✓
Flash width (mm)		GB	< ¾ S, if GH < ½ S < ½ S, if GH ≥ ½ S	Z2		0,000	✓	●
Bottom thickness (mm)		SB		E		0,295	●	●
Wire only	Surface strand (mm²)					0,042	●	●
	Number of strand (#)					7	●	●
	Real Section (mm²)					0,291	●	●
Barrel only	Material Thickness (mm)	S		e		**0,32**	●	●
	WDW (mm)					4,45	●	●
	Section (mm²)					1,424	●	●
Barrel + Wire	Wire Surface (mm²)					0,213	●	●
	Void Surface (mm²)					0,000	●	●
	Total - Barrel Exterior (mm²)					1,384	●	●
Porosity (%)					< 2%	0,00 %	●	●
Wire reduction section (%)			F.I.		> 15%	26,72 %	●	●
Total crimp reduction section(Theo.)			None			19,29 %	●	●

Tab 2.8 x 0.8 - 3 Serrations

5-963860-2 with 0.35 mm² | Test Engineer : B.SAGNIER

Strings		1		2		3		4	X	5		6		7

PN	5-963860-2	CH_{Max}	1,03 mm	Wire	0,35 mm²



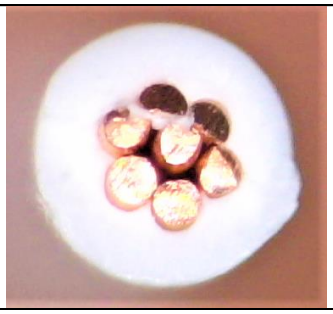
Characteristics to check		Requirements TE		Requirements PSA		Meas.	TE	PSA
GEN-SERT-DIM.0004 (0)		114-18022 rev.N		ST 00893_18_003000				
Crimp heigth - barrel		CH	114-18051	H	TE requirements	1,030	✓	●
Crimp width - barrel		CB		L2		1,570	✓	●
Measureable crimp width -barrel (mm)		CBm	CB+3°	L1		1,647	✓	●
Penetration (mm)				P		0,088	●	●
Support angle (deg)		W	≤ 30°			13,141	✓	●
Support length (mm)		L	≥ ¼ S (≥ 0,080 mm)	C		0,226	✓	●
Flank end distance (mm)		R	≥ 0,1*S (≥ 0,080 mm)	X	> ½ e (> 0,160 mm)	0,156	●	●
Dissymetry crimp wings (mm)				Y	< e (< 0,320 mm)	0,123	●	✓
Flash height (mm)		GH	≤ S (≤ 0,320 mm)	Z1	< ½ e (< 0,160 mm)	0,033	✓	✓
Flash width (mm)		GB	< ¾ S, if GH < ½ S < ½ S, if GH ≥ ½ S	Z2		0,070	✓	●
Bottom thickness (mm)		SB		E		0,290	●	●
Wire only	Surface strand (mm²)					0,042	●	●
	Number of strand (#)					7	●	●
	Real Section (mm²)					0,291	●	●
Barrel only	Material Thickness (mm)	S		e		**0,32**	●	●
	WDW (mm)					4,45	●	●
	Section (mm²)					1,424	●	●
Barrel + Wire	Wire Surface (mm²)					0,212	●	●
	Void Surface (mm²)					0,000	●	●
	Total - Barrel Exterior (mm²)					1,477	●	●
Porosity (%)					< 2%	0,00 %	●	●
Wire reduction section (%)			F.I.		> 15%	27,07 %	●	●
Total crimp reduction section(Theo.)			None			13,86 %	●	●

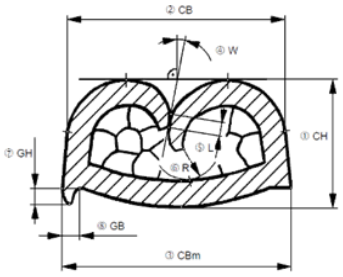
Tab 2.8 x 0.8 - 3 Serrations

5-965982-1 with 0.35 mm² | Test Engineer : B.SAGNIER

Strings		1		2		3		4	X	5		6		7

PN	5-965982-1	CH_{Min}	0,99 mm	Wire	0,35 mm²





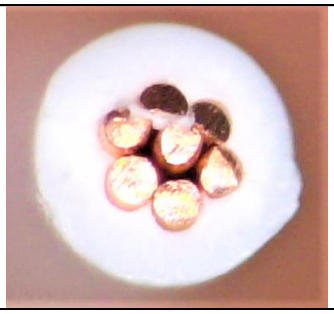
Characteristics to check		Requirements TE		Requirements PSA		Meas.	TE	PSA
GEN-SERT-DIM.0004 (0)		114-18022 rev.N		ST 00893_18_003000				
Crimp heigth - barrel		CH	114-18051	H	TE requirements	0,992	✓	●
Crimp w idth - barrel		CB		L2		1,571	✓	●
Measureable crimp w idth -barrel (mm)		CBm	CB+3°	L1		1,646	✓	●
Penetration (mm)				P		0,081	●	●
Support angle (deg)		W	≤ 30°			20,392	✓	●
Support length (mm)		L	≥ ¼ S (≥ 0,080 mm)	C		0,284	✓	●
Flank end distance (mm)		R	≥ 0,1*S (≥ 0,080 mm)	X	> ½ e (> 0,160 mm)	0,200	●	●
Dissymetry crimp w ings (mm)				Y	< e (< 0,320 mm)	0,067	●	✓
Flash height (mm)		GH	≤ S (≤ 0,320 mm)	Z1	< ½ e (< 0,160 mm)	0,045	✓	✓
Flash w idth (mm)		GB	< ¾ S, if GH < ½ S < ½ S, if GH ≥ ½ S	Z2		0,091	✓	●
Bottom thickness (mm)		SB		E		0,268	●	●
Wire only	Surface strand (mm²)					0,042	●	●
	Number of strand (#)					7	●	●
	Real Section (mm²)					0,291	●	●
Barrel only	Material Thickness (mm)	S		e		**0,32**	●	●
	WDW (mm)					4,55	●	●
	Section (mm²)					1,46	●	●
Barrel + Wire	Wire Surface (mm²)					0,218	●	●
	Void Surface (mm²)					0,000	●	●
	Total - Barrel Exterior (mm²)					1,429	●	●
Porosity (%)					< 2%	0,00 %	●	●
Wire reduction section (%)			F.I.		> 15%	25,00 %	●	●
Total crimp reduction section(Theo.)			None			18,19	●	●

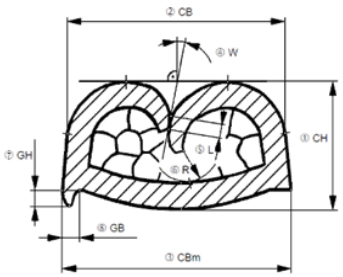
Tab 2.8 x 0.8 - 3 Serrations

5-965982-1 with 0.35 mm² | Test Engineer : B.SAGNIER

Strings	1	2	3	4	X 5	6	7

PN	5-965982-1	CH_{Max}	1,05 mm	Wire	0,35 mm²





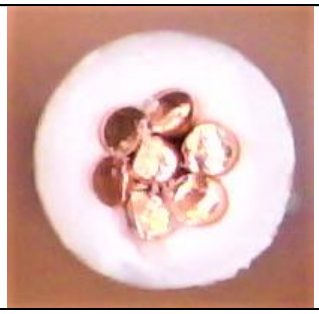
Characteristics to check		Requirements TE		Requirements PSA		Meas.	TE	PSA
GEN-SERT-DIM.0004 (0)		114-18022 rev.N		ST 00893_18_003000				
Crimp heigth - barrel		CH	114-18051	H	TE requirements	1,055	✓	●
Crimp width - barrel		CB		L2		1,568	✓	●
Measureable crimp width -barrel (mm)		CBm	CB+3°	L1		1,635	✓	●
Penetration (mm)				P		0,061	●	●
Support angle (deg)		W	≤ 30°			15,761	✓	●
Support length (mm)		L	≥ ¼ S (≥ 0,080 mm)	C		0,241	✓	●
Flank end distance (mm)		R	≥ 0,1*S (≥ 0,080 mm)	X	> ½ e (> 0,160 mm)	0,167	●	●
Dissymetry crimp wings (mm)				Y	< e (< 0,320 mm)	0,163	●	✓
Flash height (mm)		GH	≤ S (≤ 0,320 mm)	Z1	< ½ e (< 0,160 mm)	0,040	✓	✓
Flash width (mm)		GB	< ¾ S, if GH < ½ S < ½ S, if GH ≥ ½ S	Z2		0,075	✓	●
Bottom thickness (mm)		SB		E		0,287	●	●
Wire only	Surface strand (mm²)					0,042	●	●
	Number of strand (#)					7	●	●
	Real Section (mm²)					0,291	●	●
Barrel only	Material Thickness (mm)	S		e		**0,32**	●	●
	WDW (mm)					4,55	●	●
	Section (mm²)					1,46	●	●
Barrel + Wire	Wire Surface (mm²)					0,241	●	●
	Void Surface (mm²)					0,000	●	●
	Total - Barrel Exterior (mm²)					1,531	●	●
Porosity (%)					< 2%	0,00 %	●	●
Wire reduction section (%)			F.I.		> 15%	17,09 %	●	●
Total crimp reduction section(Theo.)			None			12,35	●	●

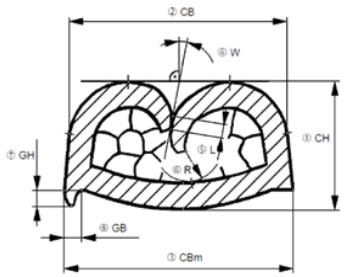
Tab 2.8 x 0.8 - 3 Serrations

5-963860-1 with 0.50 mm² | Test Engineer : B.SAGNIER

Strings		1		2		3		4	X	5		6		7

PN	5-963860-1	CH_{Min}	1,04 mm	Wire	0,50 mm²





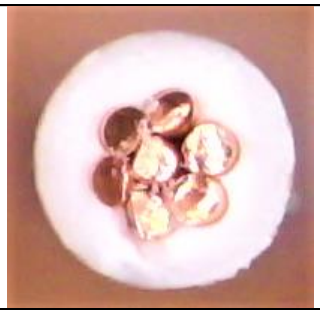
Characteristics to check		Requirements TE		Requirements PSA		Meas.	TE	PSA
GEN-SERT-DIM.0004 (0)		114-18022 rev.N		ST 00893_18_003000				
Crimp heigth - barrel		CH	114-18051	H	TE requirements	1,042	✓	●
Crimp width - barrel		CB		L2		1,573	✓	●
Measureable crimp width -barrel (mm)		CBm	CB+3°	L1		1,643	✓	●
Penetration (mm)				P		0,137	●	●
Support angle (deg)		W	≤ 30°			12,655	✓	●
Support length (mm)		L	≥ ¼ S (≥ 0,080 mm)	C		0,178	✓	●
Flank end distance (mm)		R	≥ 0,1*S (≥ 0,080 mm)	X	> ½ e (> 0,160 mm)	0,306	●	●
Dissymetry crimp wings (mm)				Y	< e (< 0,320 mm)	0,054	●	✓
Flash height (mm)		GH	≤ S (≤ 0,320 mm)	Z1	< ½ e (< 0,160 mm)	0,044	✓	✓
Flash width (mm)		GB	< ¾ S, if GH < ½ S < ½ S, if GH ≥ ½ S	Z2		0,080	✓	●
Bottom thickness (mm)		SB		E		0,231	●	●
Wire only	Surface strand (mm²)					0,057	●	●
	Number of strand (#)					7	●	●
	Real Section (mm²)					0,401	●	●
Barrel only	Material Thickness (mm)	S		e		**0,32**	●	●
	WDW (mm)					4,45	●	●
	Section (mm²)					1,42	●	●
Barrel + Wire	Wire Surface (mm²)					0,332	●	●
	Void Surface (mm²)					0,000	●	●
	Total - Barrel Exterior (mm²)					1,518	●	●
Porosity (%)					< 2%	0,00 %	●	●
Wire reduction section (%)			F.I.		> 15%	17,12 %	●	●
Total crimp reduction section(Theo.)			None			16,80	●	●

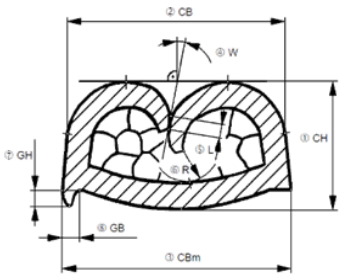
Tab 2.8 x 0.8 - 3 Serrations

5-963860-1 with 0.50 mm² | Test Engineer : B.SAGNIER

Strings		1		2		3		4	X	5		6		7

PN	5-963860-1	CH_{Max}	1,10 mm	Wire	0,50 mm²





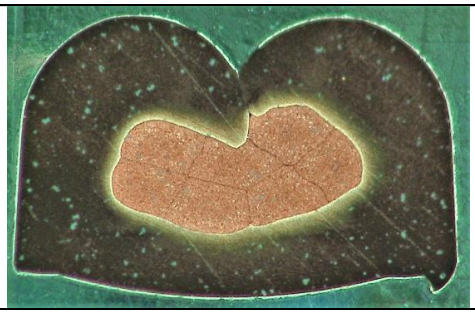
Characteristics to check		Requirements TE		Requirements PSA		Meas.	TE	PSA
GEN-SERT-DIM.0004 (0)		114-18022 rev.N		ST 00893_18_003000				
Crimp heigth - barrel		CH	114-18051	H	TE requirements	1,102	✓	●
Crimp width - barrel		CB		L2		1,573	✓	●
Measureable crimp width -barrel (mm)		CBm	CB+3°	L1		1,641	✓	●
Penetration (mm)				P		0,100	●	●
Support angle (deg)		W	≤ 30°			11,680	✓	●
Support length (mm)		L	≥ ¼ S (≥ 0,080 mm)	C		0,183	✓	●
Flank end distance (mm)		R	≥ 0,1*S (≥ 0,080 mm)	X	> ½ e (> 0,160 mm)	0,330	●	●
Dissymetry crimp wings (mm)				Y	< e (< 0,320 mm)	0,154	●	✓
Flash height (mm)		GH	≤ S (≤ 0,320 mm)	Z1	< ½ e (< 0,160 mm)	0,024	✓	✓
Flash width (mm)		GB	< ¾ S, if GH < ½ S < ½ S, if GH ≥ ½ S	Z2		0,053	✓	●
Bottom thickness (mm)		SB		E		0,220	●	●
Wire only	Surface strand (mm²)					0,057	●	●
	Number of strand (#)					7	●	●
	Real Section (mm²)					0,401	●	●
Barrel only	Material Thickness (mm)	S		e		**0,32**	●	●
	WDW (mm)					4,45	●	●
	Section (mm²)					1,42	●	●
Barrel + Wire	Wire Surface (mm²)					0,410	●	●
	Void Surface (mm²)					0,000	●	●
	Total - Barrel Exterior (mm²)					1,608	●	●
Porosity (%)					< 2%	0,00 %	●	●
Wire reduction section (%)			F.I.		> 15%	-2,35 %	●	●
Total crimp reduction section(Theo.)			None			11,87	●	●

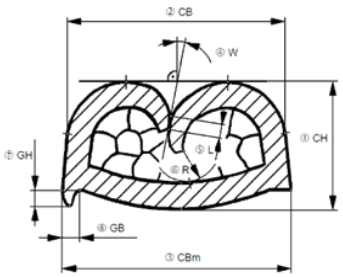
Tab 2.8 x 0.8 - 3 Serrations

5-963860-2 with 0.50 mm² | Test Engineer : B.SAGNIER

Strings		1		2		3		4	X	5		6		7

PN	5-963860-2	CH_{Min}	1,04 mm	Wire	0,50 mm²





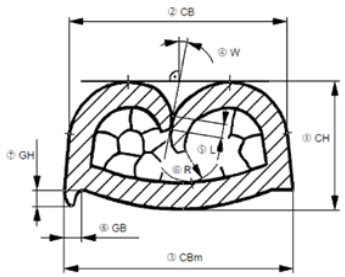
Characteristics to check		Requirements TE		Requirements PSA		Meas.	TE	PSA
GEN-SERT-DIM.0004 (0)		114-18022 rev.N		ST 00893_18_003000				
Crimp heigth - barrel		CH	114-18051	H	TE requirements	1,040	✓	●
Crimp w idth - barrel		CB		L2		1,570	✓	●
Measureable crimp w idth -barrel (mm)		CBm	CB+3°	L1		1,644	✓	●
Penetration (mm)				P		0,047	●	●
Support angle (deg)		W	≤ 30°			15,646	✓	●
Support length (mm)		L	≥ ¼ S (≥ 0,080 mm)	C		0,154	✓	●
Flank end distance (mm)		R	≥ 0,1*S (≥ 0,080 mm)	X	> ½ e (> 0,160 mm)	0,280	●	●
Dissymetry crimp w ings (mm)				Y	< e (< 0,320 mm)	0,116	●	✓
Flash height (mm)		GH	≤ S (≤ 0,320 mm)	Z1	< ½ e (< 0,160 mm)	0,056	✓	✓
Flash w idth (mm)		GB	< ¾ S, if GH < ½ S < ½ S, if GH ≥ ½ S	Z2		0,097	✓	●
Bottom thickness (mm)		SB		E		0,235	●	●
Wire only	Surface strand (mm²)					0,057	●	●
	Number of strand (#)					7	●	●
	Real Section (mm²)					0,401	●	●
Barrel only	Material Thickness (mm)	S		e		**0,32**	●	●
	WDW (mm)					4,45	●	●
	Section (mm²)					1,42	●	●
Barrel + Wire	Wire Surface (mm²)					0,304	●	●
	Void Surface (mm²)					0,000	●	●
	Total - Barrel Exterior (mm²)					1,481	●	●
Porosity (%)					< 2%	0,00 %	●	●
Wire reduction section (%)			F.I.		> 15%	24,11 %	●	●
Total crimp reduction section(Theo.)			None			18,83	●	●

Tab 2.8 x 0.8 - 3 Serrations

5-963860-2 with 0.50 mm² | Test Engineer : B.SAGNIER

Strings		1		2		3		4	X	5		6		7

PN	5-963860-2	CH_{Max}	1,10 mm	Wire	0,50 mm²



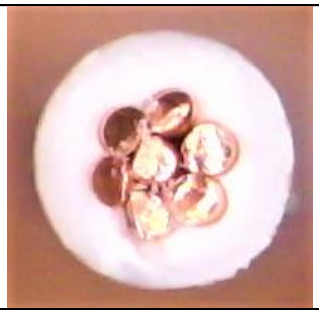
Characteristics to check		Requirements TE		Requirements PSA		Meas.	TE	PSA
GEN-SERT-DIM.0004 (0)		114-18022 rev.N		ST 00893_18_003000				
Crimp heigth - barrel		CH	114-18051	H	TE requirements	1,105	✓	●
Crimp width - barrel		CB		L2		1,571	✓	●
Measureable crimp width -barrel (mm)		CBm	CB+3°	L1		1,647	✓	●
Penetration (mm)				P		0,039	●	●
Support angle (deg)		W	≤ 30°			12,886	✓	●
Support length (mm)		L	≥ ¼ S (≥ 0,080 mm)	C		0,151	✓	●
Flank end distance (mm)		R	≥ 0,1*S (≥ 0,080 mm)	X	> ½ e (> 0,160 mm)	0,324	●	●
Dissymetry crimp wings (mm)				Y	< e (< 0,320 mm)	0,107	●	✓
Flash height (mm)		GH	≤ S (≤ 0,320 mm)	Z1	< ½ e (< 0,160 mm)	0,043	✓	✓
Flash width (mm)		GB	< ¾ S, if GH < ½ S < ½ S, if GH ≥ ½ S	Z2		0,072	✓	●
Bottom thickness (mm)		SB		E		0,294	●	●
Wire only	Surface strand (mm²)					0,057	●	●
	Number of strand (#)					7	●	●
	Real Section (mm²)					0,401	●	●
Barrel only	Material Thickness (mm)	S		e		**0,32**	●	●
	WDW (mm)					4,45	●	●
	Section (mm²)					1,42	●	●
Barrel + Wire	Wire Surface (mm²)					0,325	●	●
	Void Surface (mm²)					0,000	●	●
	Total - Barrel Exterior (mm²)					1,604	●	●
Porosity (%)					< 2%	0,00 %	●	●
Wire reduction section (%)			F.I.		> 15%	18,87 %	●	●
Total crimp reduction section(Theo.)			None			12,09	●	●

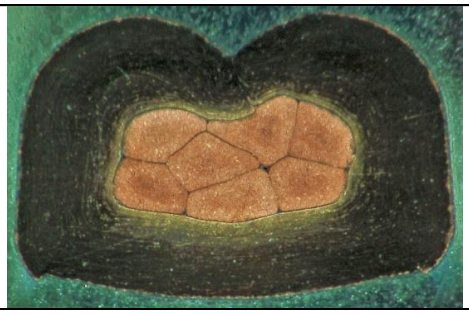
Tab 2.8 x 0.8 - 3 Serrations

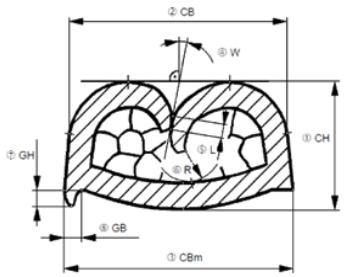
5-965982-1 with 0.50 mm² | Test Engineer : B.SAGNIER

Strings		1		2		3		4	X	5		6		7

PN	5-965982-1	CH_{Min}	1,05 mm	Wire	0,50 mm²







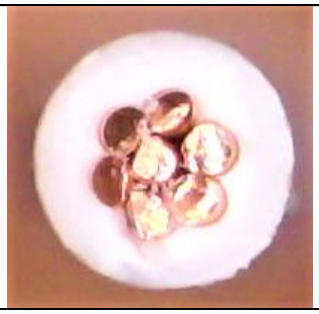
Characteristics to check		Requirements TE		Requirements PSA		Meas.	TE	PSA
GEN-SERT-DIM.0004 (0)		114-18022 rev.N		ST 00893_18_003000				
Crimp heigth - barrel		CH	114-18051	H	TE requirements	1,054	✓	●
Crimp width - barrel		CB		L2		1,570	✓	●
Measureable crimp width -barrel (mm)		CBm	CB+3°	L1		1,653	✓	●
Penetration (mm)				P		0,044	●	●
Support angle (deg)		W	≤ 30°			14,947	✓	●
Support length (mm)		L	≥ ¼ S (≥ 0,080 mm)	C		0,207	✓	●
Flank end distance (mm)		R	≥ 0,1*S (≥ 0,080 mm)	X	> ½ e (> 0,160 mm)	0,331	●	●
Dissymetry crimp wings (mm)				Y	< e (< 0,320 mm)	0,093	●	✓
Flash height (mm)		GH	≤ S (≤ 0,320 mm)	Z1	< ½ e (< 0,160 mm)	0,076	✓	✓
Flash width (mm)		GB	< ¾ S, if GH < ½ S < ½ S, if GH ≥ ½ S	Z2		0,117	✓	●
Bottom thickness (mm)		SB		E		0,243	●	●
Wire only	Surface strand (mm²)					0,057	●	●
	Number of strand (#)					7	●	●
	Real Section (mm²)					0,401	●	●
Barrel only	Material Thickness (mm)	S		e		**0,32**	●	●
	WDW (mm)					4,55	●	●
	Section (mm²)					1,46	●	●
Barrel + Wire	Wire Surface (mm²)					0,323	●	●
	Void Surface (mm²)					0,000	●	●
	Total - Barrel Exterior (mm²)					1,542	●	●
Porosity (%)					< 2%	0,00 %	●	●
Wire reduction section (%)			F.I.		> 15%	19,37 %	●	●
Total crimp reduction section(Theo.)			None			16,94	●	●

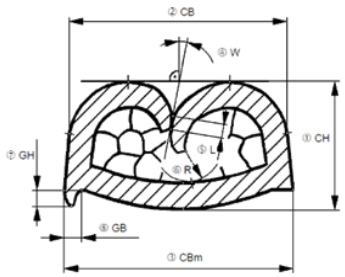
Tab 2.8 x 0.8 - 3 Serrations

5-965982-1 with 0.50 mm² | Test Engineer : B.SAGNIER

Strings	1	2	3	4	X 5	6	7

PN	5-965982-1	CH_{Max}	1,11 mm	Wire	0,50 mm²





Characteristics to check		Requirements TE		Requirements PSA		Meas.	TE	PSA
GEN-SERT-DIM.0004 (0)		114-18022 rev.N		ST 00893_18_003000				
Crimp heigth - barrel		CH	114-18051	H	TE requirements	1,112	✓	●
Crimp width - barrel		CB		L2		1,571	✓	●
Measureable crimp width -barrel (mm)		CBm	CB+3°	L1		1,661	✓	●
Penetration (mm)				P		0,040	●	●
Support angle (deg)		W	≤ 30°			20,927	✓	●
Support length (mm)		L	≥ ¼ S (≥ 0,080 mm)	C		0,130	✓	●
Flank end distance (mm)		R	≥ 0,1*S (≥ 0,080 mm)	X	> ½ e (> 0,160 mm)	0,372	●	●
Dissymetry crimp wings (mm)				Y	< e (< 0,320 mm)	0,191	●	✓
Flash height (mm)		GH	≤ S (≤ 0,320 mm)	Z1	< ½ e (< 0,160 mm)	0,051	✓	✓
Flash width (mm)		GB	< ¾ S, if GH < ½ S < ½ S, if GH ≥ ½ S	Z2		0,093	✓	●
Bottom thickness (mm)		SB		E		0,236	●	●
Wire only	Surface strand (mm²)					0,057	●	●
	Number of strand (#)					7	●	●
	Real Section (mm²)					0,401	●	●
Barrel only	Material Thickness (mm)	S		e		**0,32**	●	●
	WDW (mm)					4,55	●	●
	Section (mm²)					1,46	●	●
Barrel + Wire	Wire Surface (mm²)					0,510	●	●
	Void Surface (mm²)					0,000	●	●
	Total - Barrel Exterior (mm²)					1,651	●	●
Porosity (%)					< 2%	0,00 %	●	●
Wire reduction section (%)			F.I.		> 15%	-24,31 %	●	●
Total crimp reduction section(Theo.)			None			11,07	●	●

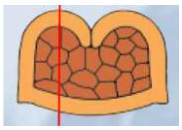
Tab 2.8 x 0.8 - 3 Serrations

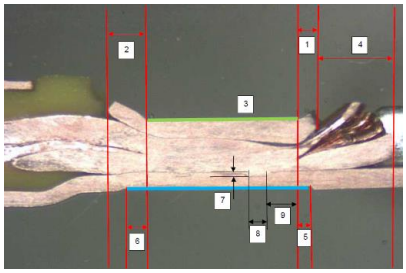
2.6.b. Longitudinal Cross section

5-963860-1 with 0.35 mm² | Test Engineer : B.SAGNIER

Strings		1		2		3		4	X	5		6		7

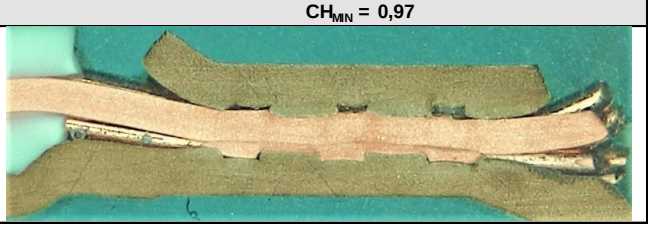
PN	5-963860-1	CH_{nom}	1,00 mm	Wire	0,35 mm²





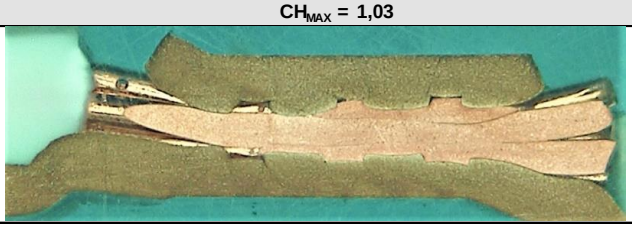
Measured Dimensions	Requ.	id
Exit chamfer (side of transition area)	≥ 0	1
Entry chamfer (side of w ire)	0,25 ± 0,15 mm	2
Parallelism of punch and anvil	paralell	3
Passing the strands of crimp barrel	[0,1 to 1] mm	4
Shift of the punch compared to the anvil at the exit	centered	5
Shift of the punch compared to the anvil at the entry	centered	6
Depth of crimp grooves	f.i	7
Size of crimp grooves	f.i	8
Position of crimp grooves compared to the punch	f.i	9

CH_{MIN} = 0,97



Longitudinal section (§13.2.2)	Meas. [mm]	Pass
Front Bellmouth / Size of exit chamfer	0,123	✓
Rear Bellmouth / Size of entry chamfer	0,556	●
Parallelism of the punches and anvil	OK	✓
Conductour End / Passing the strand	0,570	✓
Shift of the punch compared to the anvil in front (side of transition area)	0,484	✓
Shift of the punch compared to the anvil in the back (side of conductor area)	0,418	✓
Number and depth of the crimp grooves	0,078	●
length of crimp grooves	0,358	●
Position of crimp grooves	0,075	●

CH_{MAX} = 1,03



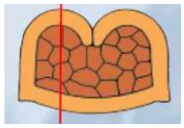
Longitudinal section (§13.2.2)	Meas. [mm]	Pass
Front Bellmouth / Size of exit chamfer	0,109	✓
Rear Bellmouth / Size of entry chamfer	0,496	●
Parallelism of the punches and anvil	OK	✓
Conductour End / Passing the strand	0,539	✓
Shift of the punch compared to the anvil in front (side of transition area)	0,436	✓
Shift of the punch compared to the anvil in the back (side of conductor area)	0,290	✓
Number and depth of the crimp grooves	0,062	●
length of crimp grooves	0,346	●
Position of crimp grooves	0,023	●

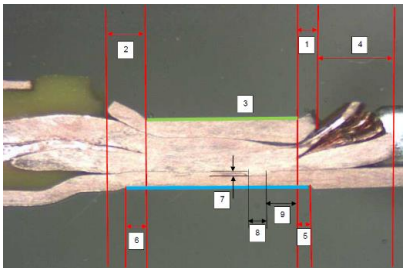
Tab 2.8 x 0.8 - 3 Serrations

5-963860-2 with 0.35 mm² | Test Engineer : B.SAGNIER

Strings		1		2		3		4	X	5		6		7

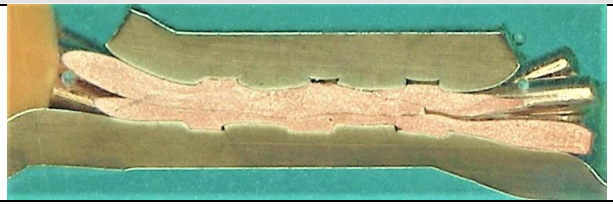
c	5-963860-2	CH_{nom}	1,00 mm	Wire	0,35 mm²





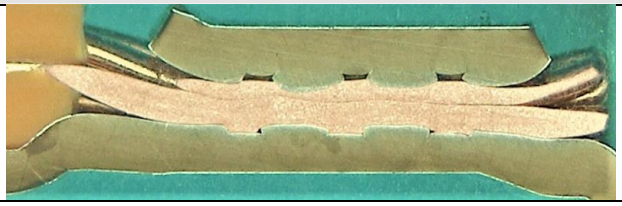
Measured Dimensions	Requ.	id
Exit chamfer (side of transition area)	≥ 0	1
Entry chamfer (side of w ire)	0,25 ± 0,15 mm	2
Parallelism of punch and anvil	paralell	3
Passing the strands of crimp barrel	[0,1 to 1] mm	4
Shift of the punch compared to the anvil at the exit	centered	5
Shift of the punch compared to the anvil at the entry	centered	6
Depth of crimp grooves	f.i	7
Size of crimp grooves	f.i	8
Position of crimp grooves compared to the punch	f.i	9

CH_{MIN} = 0,97



Checked Characteristics	Meas. [mm]	Pass
Front Bellmouth / Size of exit chamfer	0,123	✓
Rear Bellmouth / Size of entry chamfer	0,509	●
Parallelism of the punches and anvil	OK	✓
Conductour End / Passing the strand	0,559	✓
Shift of the punch compared to the anvil in front (side of transition area)	0,519	✓
Shift of the punch compared to the anvil in the back (side of conductor area)	0,324	✓
Number and depth of the crimp grooves	0,074	●
length of crimp grooves	0,325	●
Position of crimp grooves	0,133	●

CH_{MAX} = 1,03



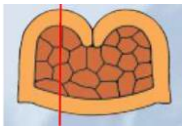
Checked Characteristics	Meas. [mm]	Pass
Front Bellmouth / Size of exit chamfer	0,164	✓
Rear Bellmouth / Size of entry chamfer	0,437	●
Parallelism of the punches and anvil	OK	✓
Conductour End / Passing the strand	0,421	✓
Shift of the punch compared to the anvil in front (side of transition area)	0,370	✓
Shift of the punch compared to the anvil in the back (side of conductor area)	0,267	✓
Number and depth of the crimp grooves	0,071	●
length of crimp grooves	0,286	●
Position of crimp grooves	0,038	●

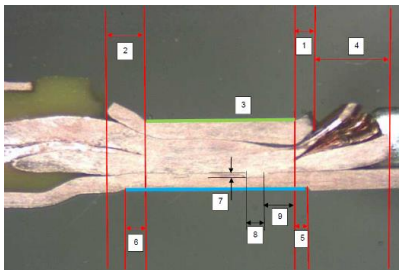
Tab 2.8 x 0.8 - 3 Serrations

5-965982-1 with 0.35 mm² | Test Engineer : B.SAGNIER

Strings		1		2		3		4	X	5		6		7

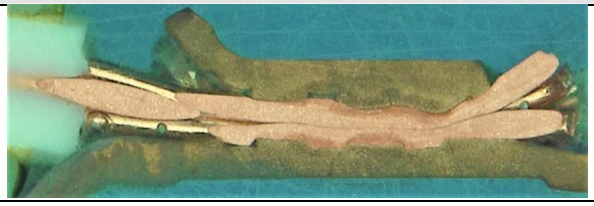
PN	5-965982-1	CH_{nom}	1,02 mm	Wire	0,35 mm²





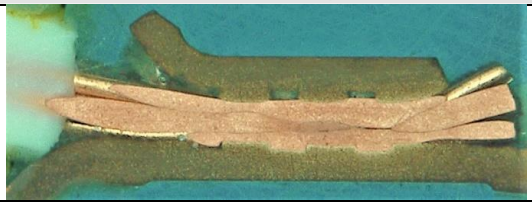
Measured Dimensions	Requ.	id
Exit chamfer (side of transition area)	≥ 0	1
Entry chamfer (side of w ire)	0,25 ± 0,15 mm	2
Parallelism of punch and anvil	paralell	3
Passing the strands of crimp barrel	[0,1 to 1] mm	4
Shift of the punch compared to the anvil at the exit	centered	5
Shift of the punch compared to the anvil at the entry	centered	6
Depth of crimp grooves	f.i	7
Size of crimp grooves	f.i	8
Position of crimp grooves compared to the punch	f.i	9

CH_{MIN} = 0,99



Checked Characteristics	Meas. [mm]	Pass
Front Bellmouth / Size of exit chamfer	0,104	✓
Rear Bellmouth / Size of entry chamfer	0,726	●
Parallelism of the punches and anvil	OK	✓
Conductour End / Passing the strand	0,735	✓
Shift of the punch compared to the anvil in front (side of transition area)	0,534	✓
Shift of the punch compared to the anvil in the back (side of conductor area)	0,557	✓
Number and depth of the crimp grooves	0,094	●
length of crimp grooves	0,353	●
Position of crimp grooves	0,283	●

CH_{MAX} = 1,05



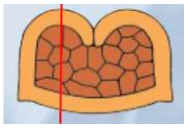
Checked Characteristics	Meas. [mm]	Pass
Front Bellmouth / Size of exit chamfer	0,134	✓
Rear Bellmouth / Size of entry chamfer	0,657	●
Parallelism of the punches and anvil	OK	✓
Conductour End / Passing the strand	0,570	✓
Shift of the punch compared to the anvil in front (side of transition area)	0,447	✓
Shift of the punch compared to the anvil in the back (side of conductor area)	0,451	✓
Number and depth of the crimp grooves	0,085	●
length of crimp grooves	0,334	●
Position of crimp grooves	0,354	●

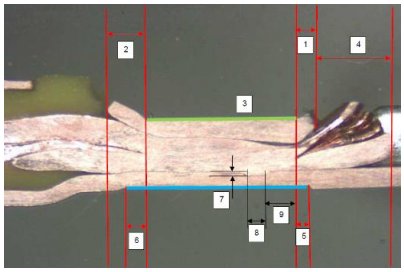
Tab 2.8 x 0.8 - 3 Serrations

5-963860-1 with 0.50 mm² Test Engineer : B.SAGNIER

Strings		1		2		3		4	X	5		6		7

PN	5-963860-1	CH_{nom}	1,07 mm	Wire	0,50 mm²



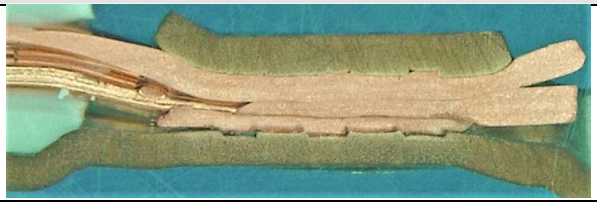


Measured Dimensions	Requ.	id
Exit chamfer (side of transition area)	≥ 0	1
Entry chamfer (side of w ire)	0,25 ± 0,15 mm	2
Parallelism of punch and anvil	paralell	3
Passing the strands of crimp barrel	[0,1 to 1] mm	4
Shift of the punch compared to the anvil at the exit	centered	5
Shift of the punch compared to the anvil at the entry	centered	6
Depth of crimp grooves	f.i	7
Size of crimp grooves	f.i	8
Position of crimp grooves compared to the punch	f.i	9

CH_{MIN} = 1,04

Checked Characteristics	Meas. [mm]	Pass
Front Bellmouth / Size of exit chamfer	0,156	✓
Rear Bellmouth / Size of entry chamfer	0,550	●
Parallelism of the punches and anvil	OK	✓
Conductour End / Passing the strand	0,566	✓
Shift of the punch compared to the anvil in front (side of transition area)	0,470	✓
Shift of the punch compared to the anvil in the back (side of conductor area)	0,415	✓
Number and depth of the crimp grooves	0,066	●
length of crimp grooves	0,339	●
Position of crimp grooves	0,045	●

CH_{MAX} = 1,1



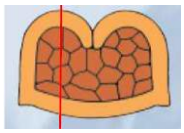
Checked Characteristics	Meas. [mm]	Pass
Front Bellmouth / Size of exit chamfer	0,111	✓
Rear Bellmouth / Size of entry chamfer	0,528	●
Parallelism of the punches and anvil	OK	✓
Conductour End / Passing the strand	0,583	✓
Shift of the punch compared to the anvil in front (side of transition area)	0,385	✓
Shift of the punch compared to the anvil in the back (side of conductor area)	0,438	✓
Number and depth of the crimp grooves	0,054	●
length of crimp grooves	0,350	●
Position of crimp grooves	0,029	●

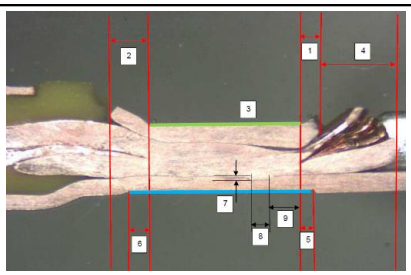
Tab 2.8 x 0.8 - 3 Serrations

5-963860-2 with 0.50 mm² | Test Engineer : B.SAGNIER

Strings		1		2		3		4	X	5		6		7

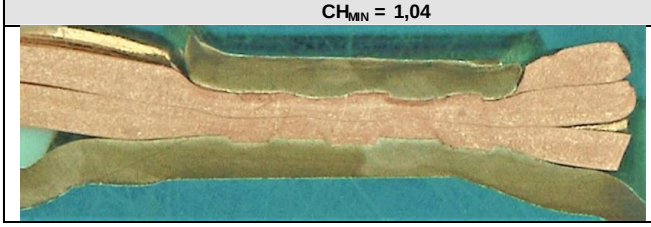
PN	5-963860-2	CH_{nom}	1,07 mm	Wire	0,50 mm²





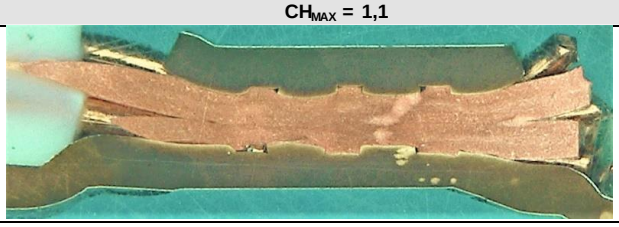
Measured Dimensions	Requ.	id
Exit chamfer (side of transition area)	≥ 0	1
Entry chamfer (side of w ire)	0,25 ± 0,15 mm	2
Parallelism of punch and anvil	paralell	3
Passing the strands of crimp barrel	[0,1 to 1] mm	4
Shift of the punch compared to the anvil at the exit	centered	5
Shift of the punch compared to the anvil at the entry	centered	6
Depth of crimp grooves	f.i	7
Size of crimp grooves	f.i	8
Position of crimp grooves compared to the punch	f.i	9

CH_{MIN} = 1,04



Checked Characteristics	Meas. [mm]	Pass
Front Bellmouth / Size of exit chamfer	0,105	✓
Rear Bellmouth / Size of entry chamfer	0,294	●
Parallelism of the punches and anvil	OK	✓
Conductour End / Passing the strand	0,804	✓
Shift of the punch compared to the anvil in front (side of transition area)	0,383	✓
Shift of the punch compared to the anvil in the back (side of conductor area)	0,392	✓
Number and depth of the crimp grooves	0,091	●
length of crimp grooves	0,389	●
Position of crimp grooves	0,259	●

CH_{MAX} = 1,1



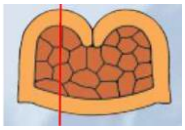
Checked Characteristics	Meas. [mm]	Pass
Front Bellmouth / Size of exit chamfer	0,127	✓
Rear Bellmouth / Size of entry chamfer	0,397	●
Parallelism of the punches and anvil	OK	✓
Conductour End / Passing the strand	0,539	✓
Shift of the punch compared to the anvil in front (side of transition area)	0,450	✓
Shift of the punch compared to the anvil in the back (side of conductor area)	0,287	✓
Number and depth of the crimp grooves	0,072	●
length of crimp grooves	0,288	●
Position of crimp grooves	0,053	●

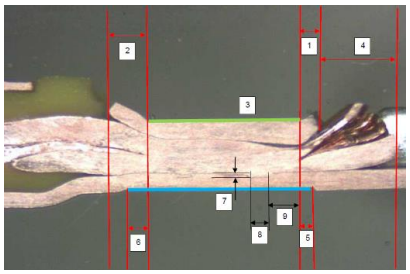
Tab 2.8 x 0.8 - 3 Serrations

5-965982-1 with 0.50 mm² | Test Engineer : B.SAGNIER

Strings		1		2		3		4	X	5		6		7

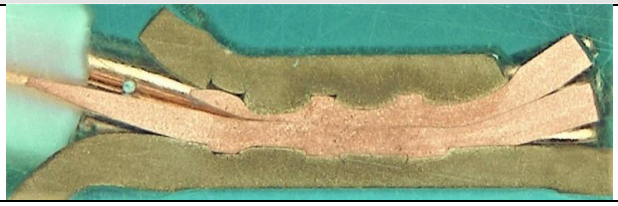
PN	5-965982-1	CH_{nom}	1,08 mm	Wire	0,50 mm²





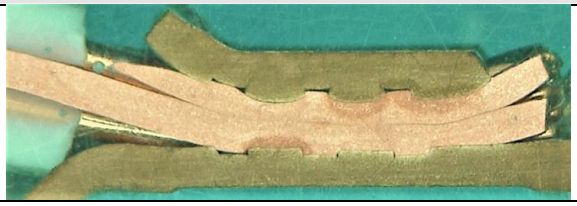
Measured Dimensions	Requ.	id
Exit chamfer (side of transition area)	≥ 0	1
Entry chamfer (side of w ire)	0,25 ± 0,15 mm	2
Parallelism of punch and anvil	paralell	3
Passing the strands of crimp barrel	[0,1 to 1] mm	4
Shift of the punch compared to the anvil at the exit	centered	5
Shift of the punch compared to the anvil at the entry	centered	6
Depth of crimp grooves	f.i	7
Size of crimp grooves	f.i	8
Position of crimp grooves compared to the punch	f.i	9

CH_{MIN} = 1,05



Checked Characteristics	Meas. [mm]	Pass
Front Bellmouth / Size of exit chamfer	0,194	✓
Rear Bellmouth / Size of entry chamfer	0,823	●
Parallelism of the punches and anvil	OK	✓
Conductour End / Passing the strand	0,709	✓
Shift of the punch compared to the anvil in front (side of transition area)	0,520	✓
Shift of the punch compared to the anvil in the back (side of conductor area)	0,515	✓
Number and depth of the crimp grooves	0,057	●
length of crimp grooves	0,271	●
Position of crimp grooves	0,279	●

CH_{MAX} = 1,11



Checked Characteristics	Meas. [mm]	Pass
Front Bellmouth / Size of exit chamfer	0,151	✓
Rear Bellmouth / Size of entry chamfer	0,735	●
Parallelism of the punches and anvil	OK	✓
Conductour End / Passing the strand	0,480	✓
Shift of the punch compared to the anvil in front (side of transition area)	0,432	✓
Shift of the punch compared to the anvil in the back (side of conductor area)	0,436	✓
Number and depth of the crimp grooves	0,073	●
length of crimp grooves	0,328	●
Position of crimp grooves	0,348	●

Tab 2.8 x 0.8 - 3 Serrations

2.7. Slow Motion Bending Test (§5.6.6.2)

5-963860-1 with 0.35 mm² Test Engineer : B.SAGNIER

Strings		1		X	2		3		4		5		6		X	7

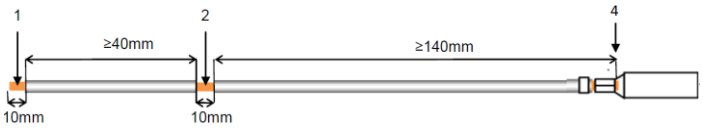
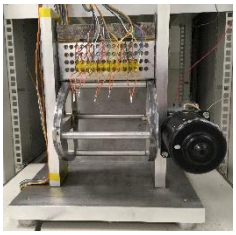


Figure 42 - Measurement location

PN		5-963860-1		
Material		CuSn4		
Finish		Sn		
Wire	Section	0,35		
	Type	Acome ZHID - T3		
	Color	white		
Crimp parameters	CH	1 ± 0,03 mm		
	CB_1	1,57 mm		
Application tool no.		1528859		
CH Min. / CH Max.		0,97		1,03

Table 19 - Test samples information



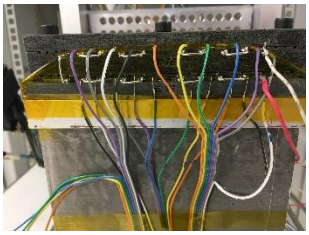


Figure 43 - Test fixture

0,35 mm² Acome ZHID - T3
5-963860-1 (CH Max = 1,030 mm)

Rwire	Initial		Post TS	ΔR1	Post SMB	ΔR_2	ΔR_3
10,686 mΩ	with wire	without wire	with wire	Post TS-Init	with wire	0-500 cycles	250-500 cycles
Sample ID	[mΩ]	[mΩ]	[mΩ]	[mΩ]	[mΩ]	[mΩ]	[mΩ]
1	10,839	0,153	10,798	0,041			
2	10,857	0,171	10,848	0,008			
3	10,896	0,210	10,822	0,074	10,600	0,296	0,034
4	10,905	0,219	10,792	0,112	10,659	0,246	0,017
5	10,996	0,310	11,375	0,379	11,706	0,710	0,222
6	10,901	0,216	10,878	0,023			
7	11,000	0,314	10,927	0,073			
8	10,946	0,261	10,851	0,095	10,829	0,117	0,037
9	10,888	0,203	10,897	0,009			
10	10,899	0,213	10,844	0,055			
11	10,865	0,179	10,892	0,028			
12	10,985	0,299	11,614	0,630	11,123	0,138	0,072
13	10,909	0,224	10,903	0,006			
14	10,909	0,224	10,888	0,022			
15	10,929	0,244	10,966	0,037			
16	10,916	0,230	10,887	0,028			
17	10,919	0,233	10,944	0,025			
18	10,913	0,228	10,864	0,049			
19	10,920	0,234	10,947	0,028			
20	10,972	0,286	11,012	0,040			
21	10,872	0,186	10,936	0,064			
22	10,926	0,241	10,853	0,074	10,823	0,104	0,039
23	10,955	0,269	10,883	0,072			
24	10,934	0,248	11,074	0,141	10,880	0,054	0,135
25	10,957	0,271	11,063	0,106	11,143	0,187	0,112
26	10,840	0,154	10,892	0,052			
27	10,915	0,229	10,945	0,031			
28	10,907	0,221	10,932	0,025			
29	10,970	0,284	10,961	0,009			
30	10,911	0,226	10,940	0,028			
31	10,948	0,262	10,940	0,008			
32	10,927	0,242	10,942	0,014			
Min	10,839	0,153	10,792	0,006	10,600	0,054	0,017
Max	11,000	0,314	11,614	0,630	11,706	0,710	0,222
Mean	10,920	0,234	10,947	0,075	10,970	0,232	0,083
STD	0,041	0,041	0,160	0,122	0,354	0,209	0,070
Requ.		≤ 1,0 mΩ		≤ 1,0 mΩ		≤ 5,0 mΩ	≤ 1,0 mΩ

Table 20 - Test results Table

Samples under monitoring during SMB testing
Not tested

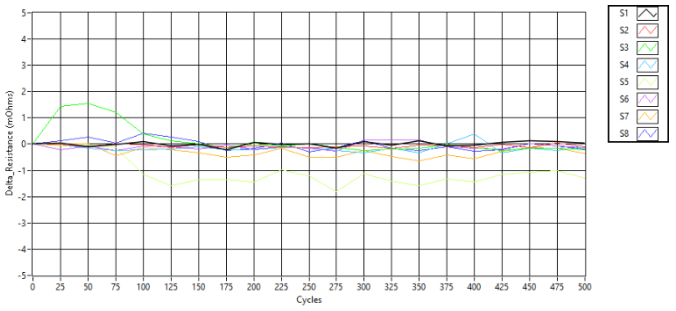


Figure 44 - Graphic representation of ΔRc versus Cycles

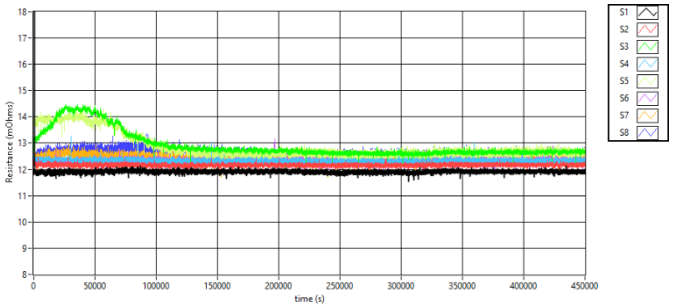


Figure 45 - Graphic representation of Rc versus Time

	Requirements	Conformity
ΔR_{C1} (post TC)	≤ 1 mΩ	✓
ΔR_{C2} (0-500 cyc)	≤ 5 mΩ	✓
ΔR_{C3} (250-500 cyc)	≤ 1 mΩ	✓

Table 21 - Conformity table

Tab 2.8 x 0.8 - 3 Serrations

5-963860-2 with 0.35 mm² Test Engineer : B.SAGNIER

Strings		1	X	2		3		4		5		6	X	7

PN		5-963860-2		
Material		CuSn4		
Finish		Ag		
Wire	**Section**	0,35		
	Type	Acome ZHID - T4		
	Color	orange		
Crimp parameters	**CH**	1 ± 0,03 mm		
	CB_1	1,57 mm		
Application tool no.		1528859		
CH Min. / CH Max.		0,97		1,03

Table 22 - Test samples information

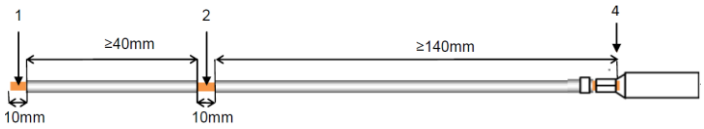
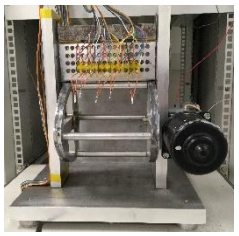


Figure 46 - Measurement location



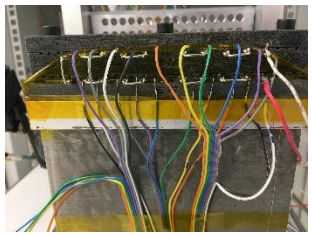


Figure 47 - Test fixture

0,35 mm² Acome ZHID - T4
5-963860-2 (CH Max = 1,030 mm)

Rwire	**Initial**		**Post TS**	**ΔR_1**	**Post SMB**	**ΔR_2**	**ΔR_3**
10,706 mΩ	with wire	without wire	with wire	Post TS-Init	with wire	0-500 cycles	250-500 cycles
Sample ID	[mΩ]	[mΩ]	[mΩ]	[mΩ]	[mΩ]	[mΩ]	[mΩ]
1	11,073	0,367	11,041	0,032			
2	11,035	0,330	11,044	0,009			
3	11,072	0,366	11,015	0,057	11,050	0,022	0,149
4	11,033	0,327	11,091	0,058	11,055	0,022	0,055
5	11,114	0,408	11,086	0,027			
6	11,034	0,329	11,033	0,001			
7	11,073	0,367	11,093	0,020			
8	11,038	0,333	11,025	0,013			
9	11,074	0,368	11,069	0,004			
10	11,050	0,345	11,092	0,041			
11	11,092	0,387	11,097	0,004			
12	11,072	0,366	11,141	0,069	11,335	0,263	0,028
13	11,052	0,347	11,092	0,039			
14	11,080	0,374	11,064	0,015			
15	11,199	0,494	11,115	0,084	10,977	0,223	0,126
16	11,143	0,437	11,189	0,046			
17	11,147	0,441	11,068	0,079	11,107	0,040	0,030
18	11,118	0,412	11,072	0,046	10,769	0,348	0,083
19	11,078	0,373	11,116	0,038			
20	11,072	0,367	11,103	0,030			
21	11,065	0,359	11,117	0,053	10,999	0,065	0,030
22	11,087	0,381	11,082	0,005			
23	11,095	0,390	11,095	0,000			
24	11,159	0,453	11,116	0,043			
25	11,079	0,373	11,093	0,014			
26	11,057	0,351	11,113	0,057	11,177	0,120	0,157
27	11,132	0,426	11,163	0,031			
28	11,107	0,401	11,118	0,011			
29	11,082	0,377	11,096	0,013			
30	11,078	0,372	11,097	0,019			
31	11,084	0,378	11,056	0,028			
32	11,131	0,426	11,094	0,038			
Min	11,033	0,327	11,015	0,000	10,769	0,022	0,028
Max	11,199	0,494	11,189	0,084	11,335	0,348	0,157
Mean	11,088	0,382	11,090	0,032	11,059	0,138	0,082
STD	0,039	0,039	0,037	0,023	0,163	0,125	0,055
Requ.		≤ 1,0 mΩ		≤ 1,0 mΩ		≤ 5,0 mΩ	≤ 1,0 mΩ

Table 23 - Test results Table

Samples under monitoring during SMB testing
Not tested

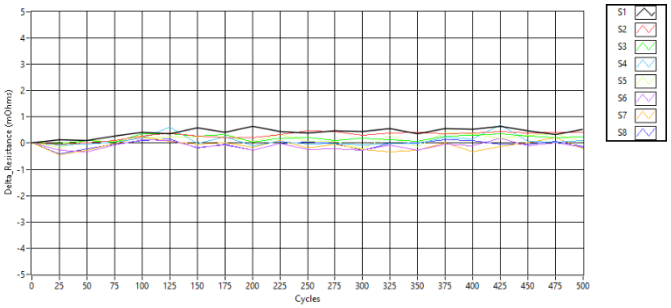


Figure 48 - Graphic representation of ΔRc versus Cycles

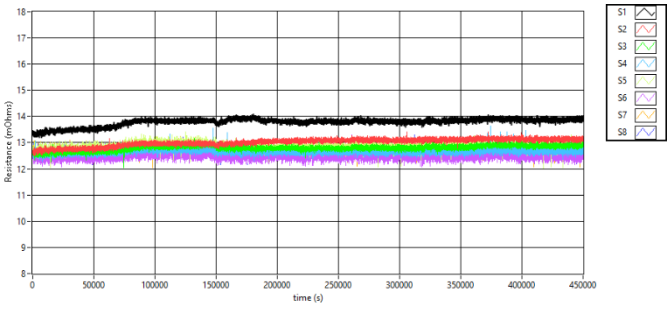


Figure 49 - Graphic representation of Rc versus Time

	Requirements	**Conformity**
ΔR_{C1} (post TC)	≤ 1 mΩ	✓
ΔR_{C2} (0-500 cyc)	≤ 5 mΩ	✓
ΔR_{C3} (250-500 cyc)	≤ 1 mΩ	✓

Table 24 - Conformity table

Tab 2.8 x 0.8 - 3 Serrations

5-965982-1 with 0.35 mm² Test Engineer : B.SAGNIER

Strings		1	X	2		3		4		5		6	X	7

PN		5-965982-1		
Material		CuSn4		
Finish		Sn		
Wire	**Section**	0,35		
	Type	Acome ZHID - T3		
	Color	white		
Crimp parameters	**CH**	1,02 ± 0,03 mm		
	CB_1	1,57 mm		
Application tool no.		1528406		
CH Min. / CH Max.		0,99		1,05

Table 25 - Test samples information

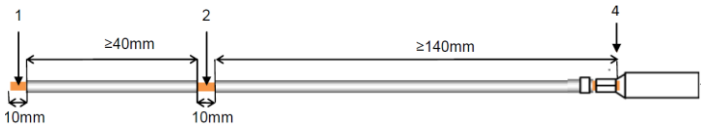
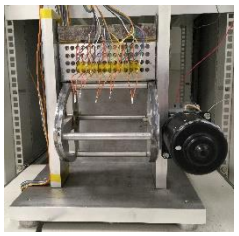


Figure 50 - Measurement location



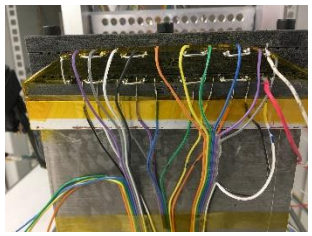


Figure 51 - Test fixture

0,35 mm² Acome ZHID - T3
5-965982-1 (CH Max = 1,050 mm)

Rwire	Initial		Post TS	ΔR_1	Post SMB	ΔR_2	ΔR_3
10,663 mΩ	with wire	without wire	with wire	Post TS-Init	with wire	0-500 cycles	250-500 cycles
Sample ID	[mΩ]	[mΩ]	[mΩ]	[mΩ]	[mΩ]	[mΩ]	[mΩ]
1	10,871	0,207	10,868	0,002			
2	10,872	0,209	10,805	0,067			
3	10,988	0,325	10,930	0,058			
4	10,869	0,205	10,845	0,023			
5	10,850	0,187	10,797	0,053			
6	10,917	0,254	10,880	0,038			
7	10,900	0,237	10,801	0,099	10,818	0,082	0,525
8	10,872	0,208	10,814	0,058			
9	10,870	0,207	10,871	0,001			
10	10,807	0,144	10,843	0,037			
11	10,930	0,267	10,903	0,027			
12	10,883	0,220	10,805	0,079	10,858	0,025	0,829
13	10,918	0,255	10,889	0,030			
14	10,947	0,284	10,905	0,042			
15	10,975	0,312	10,919	0,056			
16	10,917	0,254	10,871	0,046			
17	10,955	0,292	10,895	0,060			
18	10,882	0,219	10,901	0,019			
19	10,901	0,238	10,852	0,050			
20	10,887	0,224	10,838	0,049			
21	10,842	0,179	10,895	0,053			
22	10,858	0,195	10,915	0,056			
23	10,790	0,127	10,876	0,087	10,754	0,036	0,359
24	10,804	0,141	10,851	0,046			
25	10,833	0,170	10,902	0,069	10,645	0,188	0,160
26	10,871	0,208	10,858	0,013			
27	10,870	0,207	10,914	0,043			
28	10,857	0,193	11,001	0,144	10,916	0,060	0,445
29	10,910	0,247	10,995	0,085	10,991	0,081	0,565
30	10,813	0,150	10,927	0,114	11,037	0,224	0,096
31	10,854	0,191	11,025	0,172	11,081	0,227	0,313
32	10,849	0,186	10,908	0,058			
Min	10,790	0,127	10,797	0,001	10,645	0,025	0,096
Max	10,988	0,325	11,025	0,172	11,081	0,227	0,829
Mean	10,880	0,217	10,884	0,057	10,888	0,115	0,412
STD	0,048	0,048	0,056	0,037	0,148	0,084	0,235
Requ.		≤ 1,0 mΩ		≤ 1,0 mΩ		≤ 5,0 mΩ	≤ 1,0 mΩ

Table 26 - Test results Table

Samples under monitoring during SMB testing
Not tested

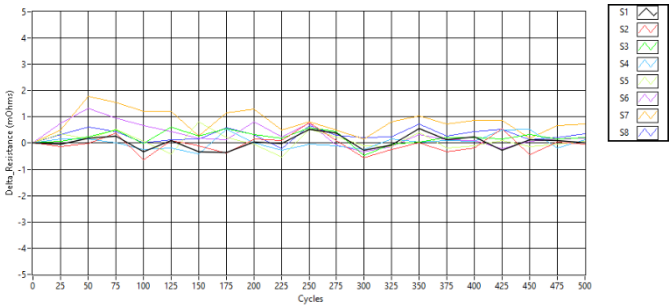


Figure 52 - Graphic representation of ΔRc versus Cycles

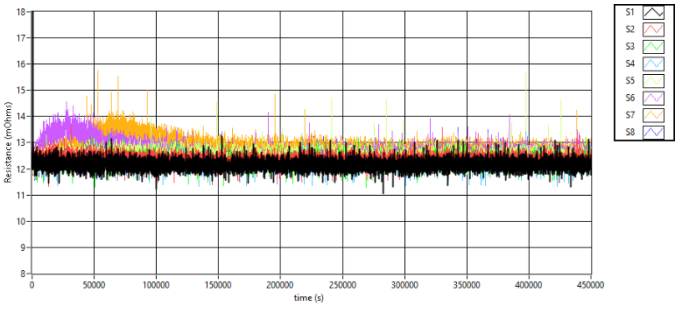


Figure 53 - Graphic representation of Rc versus Time

	Requirements	Conformity
ΔR_{C1} (post TC)	≤ 1 mΩ	✓
ΔR_{C2} (0-500 cyc)	≤ 5 mΩ	✓
ΔR_{C3} (250-500 cyc)	≤ 1 mΩ	✓

Table 27 - Conformity table

Tab 2.8 x 0.8 - 3 Serrations

5-963860-1 with 0.50 mm² Test Engineer : B.SAGNIER

Strings		1	X	2		3		4		5		6	X	7

PN		5-963860-1
Material		CuSn4
Finish		Sn
Wire	**Section**	0,5
	Type	Acome ZHID - T3
	Color	white
Crimp parameters	**CH**	1,07 ± 0,03 mm
	CB_1	1,57 mm
Application tool no.		1528859
CH Min. / CH Max.	1,04	1,10

Table 28 - Test samples information

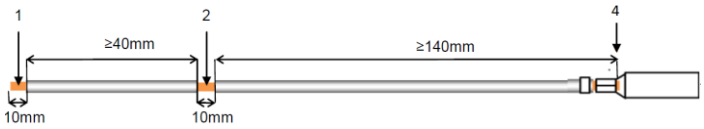
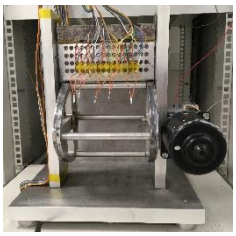


Figure 54 - Measurement location



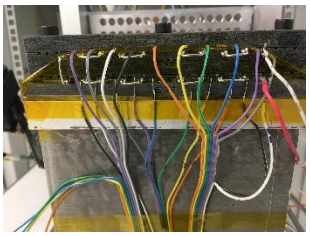


Figure 55 - Test fixture

0,50 mm² Acome ZHID - T3
5-963860-1 (CH Max = 1,100 mm)

Rwire	Initial		Post TS	ΔR_1	Post SMB	ΔR_2	ΔR_3
7,370 mΩ	with wire	without wire	with wire	Post TS-Init	with wire	0-500 cycles	250-500 cycles
Sample ID	[mΩ]	[mΩ]	[mΩ]	[mΩ]	[mΩ]	[mΩ]	[mΩ]
1	7,474	0,104	7,540	0,066			
2	7,487	0,117	7,501	0,014			
3	7,495	0,125	7,503	0,008			
4	7,513	0,143	7,526	0,013			
5	7,504	0,134	7,501	0,004			
6	7,495	0,125	7,518	0,023			
7	7,522	0,152	7,548	0,026			
8	7,471	0,101	7,490	0,018			
9	7,494	0,124	7,507	0,013			
10	7,522	0,152	7,576	0,054			
11	7,487	0,117	7,534	0,047			
12	7,533	0,163	7,532	0,000			
13	7,608	0,238	7,563	0,045			
14	7,525	0,155	7,537	0,011			
15	7,502	0,132	7,507	0,005			
16	7,523	0,153	7,594	0,072			
17	7,523	0,153	7,562	0,039			
18	7,506	0,136	7,604	0,098	8,384	0,878	0,345
19	7,526	0,156	7,603	0,077	7,307	0,219	0,090
20	7,520	0,150	7,553	0,033			
21	7,496	0,126	7,567	0,071			
22	7,569	0,199	7,592	0,023			
23	7,680	0,310	8,282	0,602	7,806	0,127	0,046
24	7,481	0,111	7,537	0,057			
25	7,476	0,106	7,554	0,078	7,890	0,414	0,038
26	7,544	0,174	7,650	0,106	7,769	0,225	0,038
27	7,554	0,183	7,618	0,065			
28	7,565	0,195	7,650	0,085	8,110	0,545	0,064
29	7,627	0,257	7,644	0,017			
30	7,569	0,199	7,678	0,109	7,949	0,380	0,018
31	7,509	0,139	7,525	0,017			
32	7,572	0,202	7,738	0,166	7,981	0,409	0,369
Min	7,471	0,101	7,490	0,000	7,307	0,127	0,018
Max	7,680	0,310	8,282	0,602	8,384	0,878	0,369
Mean	7,527	0,157	7,589	0,064	7,900	0,399	0,126
STD	0,047	0,047	0,139	0,105	0,308	0,236	0,144
Requ.		≤ 1,0 mΩ		≤ 1,0 mΩ		≤ 5,0 mΩ	≤ 1,0 mΩ

Table 29 - Test results Table

Samples under monitoring during SMB testing
Not tested

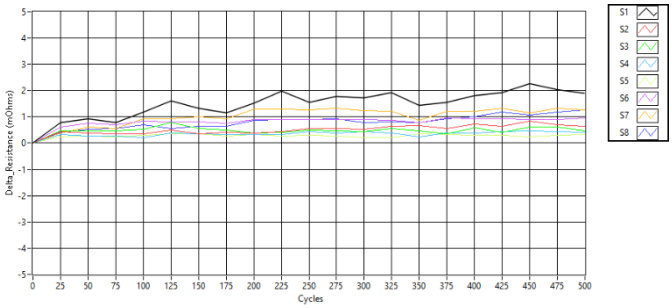


Figure 56 - Graphic representation of ΔRc versus Cycles

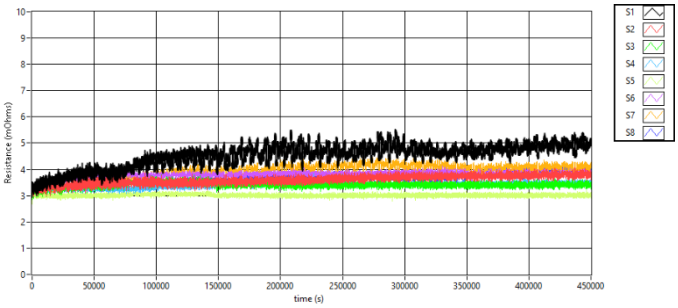


Figure 57 - Graphic representation of Rc versus Time

	Requirements	Conformity
ΔR_{C1} (post TC)	≤ 1 mΩ	✓
ΔR_{C2} (0-500 cyc)	≤ 5 mΩ	✓
ΔR_{C3} (250-500 cyc)	≤ 1 mΩ	✓

Table 30 - Conformity table

Tab 2.8 x 0.8 - 3 Serrations

5-963860-2 with 0.50 mm² Test Engineer : B.SAGNIER

Strings		1	X	2		3		4		5		6	X	7

PN		5-963860-2		
Material		CuSn4		
Finish		Ag		
Wire	**Section**	0,5		
	Type	Acome ZHID - T4		
	Color	white		
Crimp parameters	**CH**	1,07 ± 0,03 mm		
	CB_1	1,57 mm		
Application tool no.		1528859		
CH Min. / Nom. / Max.		1,04		1,10

Table 31 - Test samples information

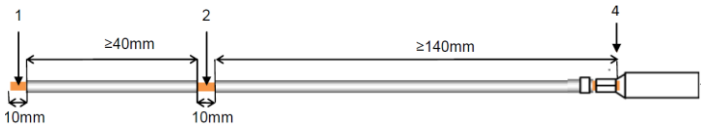
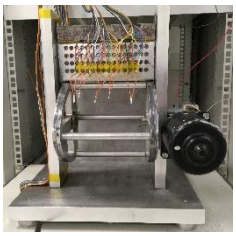


Figure 58 - Measurement location



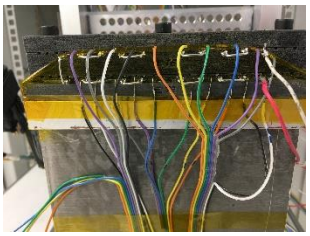


Figure 59 - Test fixture

0,50 mm² Acome ZHID - T4
5-963860-2 (CH Max = 1,100 mm)

Rwire	**Initial**		**Post TS**	**ΔR_1**	**Post SMB**	**ΔR_2**	**ΔR_3**
7,443 mΩ	with wire	without wire	with wire	Post TS-Init	with wire	0-500 cycles	250-500 cycles
Sample ID	[mΩ]	[mΩ]	[mΩ]	[mΩ]	[mΩ]	[mΩ]	[mΩ]
1	7,499	0,056	7,606	0,107	8,340	0,841	0,523
2	7,587	0,144	7,651	0,064			
3	7,577	0,134	7,634	0,057			
4	7,603	0,160	7,589	0,014			
5	7,549	0,106	7,621	0,072	7,989	0,440	0,218
6	7,642	0,199	7,572	0,070	7,354	0,288	0,579
7	7,609	0,166	7,627	0,018			
8	7,593	0,150	7,592	0,001			
9	7,597	0,154	7,545	0,052			
10	7,587	0,143	7,566	0,020			
11	7,622	0,179	7,637	0,015			
12	7,571	0,128	7,610	0,039			
13	7,579	0,135	7,577	0,001			
14	7,596	0,152	7,610	0,014			
15	7,587	0,144	7,616	0,029			
16	7,785	0,342	7,672	0,112	7,676	0,108	0,575
17	7,578	0,134	7,628	0,051			
18	7,603	0,160	7,619	0,015			
19	7,651	0,208	7,623	0,028			
20	7,635	0,191	7,613	0,021			
21	7,655	0,212	7,619	0,037			
22	7,694	0,251	7,636	0,058			
23	7,798	0,355	7,710	0,089	8,171	0,373	0,985
24	7,666	0,223	7,646	0,020			
25	7,639	0,196	7,906	0,267	8,256	0,617	1,000
26	7,651	0,208	7,647	0,003			
27	7,701	0,257	7,692	0,008			
28	7,635	0,191	7,713	0,078	7,855	0,220	0,328
29	7,641	0,198	7,680	0,040			
30	7,648	0,205	7,662	0,014			
31	7,621	0,178	7,666	0,045			
32	7,709	0,266	7,921	0,212	8,204	0,495	0,980
Min	7,499	0,056	7,545	0,001	7,354	0,108	0,218
Max	7,798	0,355	7,921	0,267	8,340	0,841	1,000
Mean	7,628	0,185	7,647	0,052	7,981	0,423	0,649
STD	0,062	0,062	0,080	0,058	0,336	0,232	0,307
Requ.		≤ 1,0 mΩ		≤ 1,0 mΩ		≤ 5,0 mΩ	≤ 1,0 mΩ

Table 32 Test results Table

Samples under monitoring during SMB testing
Not tested

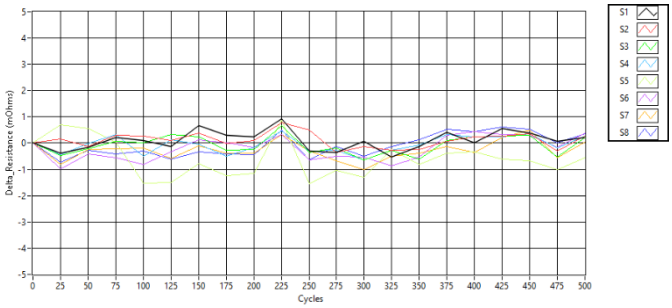


Figure 60 - Graphic representation of ΔRc versus Cycles

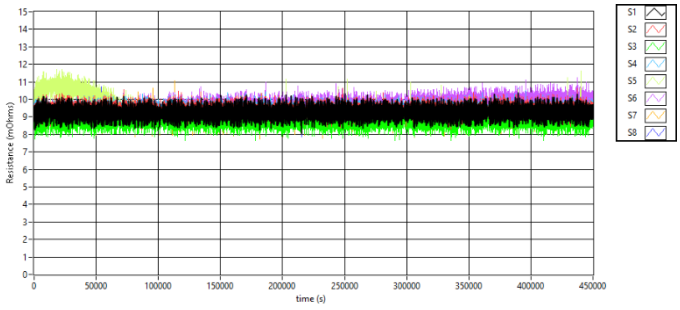


Figure 61 - Graphic representation of Rc versus Time

	Requirements	**Conformity**
ΔR_{C1} (post TC)	≤ 1 mΩ	✓
ΔR_{C2} (0-500 cyc)	≤ 5 mΩ	✓
ΔR_{C3} (250-500 cyc)	≤ 1 mΩ	✓

Table 33 Conformity table

Tab 2.8 x 0.8 - 3 Serrations

5-965982-1 with 0.50 mm² Test Engineer : B.SAGNIER

Strings		1	X	2		3		4		5		6	X	7

PN		5-965982-1
Material		CuSn4
Finish		Sn
Wire	**Section**	0,5
	Type	Acome ZHID - T3
	Color	white
Crimp parameters	**CH**	1,08 ± 0,03 mm
	CB_1	1,57 mm
Application tool no.		1528406
CH Min. / CH Max.	1,05	1,11

Table 34 - Test samples information

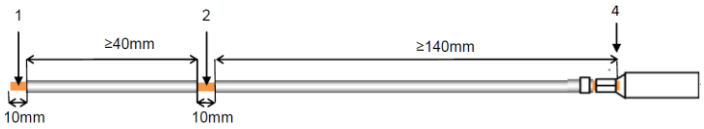
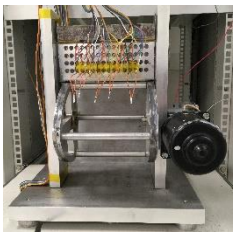


Figure 62 - Measurement location



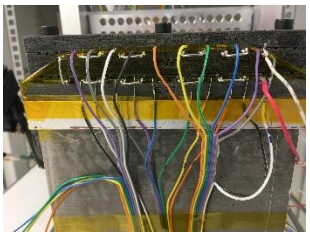


Figure 63 - Test fixture

0,50 mm² Acome ZHID - T3
5-965982-1 (CH Max = 1,110 mm)

Rwire	Initial		Post TS	ΔR_1	Post SMB	ΔR_2	ΔR_3
7,392 mΩ	with wire	without wire	with wire	Post TS-Init	with wire	0-500 cycles	250-500 cycles
Sample ID	[mΩ]	[mΩ]	[mΩ]	[mΩ]	[mΩ]	[mΩ]	[mΩ]
1	7,499	0,107	7,660	0,161	7,614	0,115	0,204
2	7,539	0,148	7,587	0,047			
3	7,477	0,085	7,615	0,138	7,789	0,312	0,248
4	7,492	0,100	7,625	0,133	7,321	0,171	0,046
5	7,585	0,193	7,591	0,007			
6	7,456	0,064	7,560	0,104			
7	7,491	0,099	7,525	0,033			
8	7,533	0,141	7,608	0,076			
9	7,541	0,149	7,668	0,127			
10	7,570	0,178	7,642	0,071			
11	7,509	0,117	7,533	0,025			
12	7,477	0,085	7,430	0,047			
13	7,480	0,088	7,483	0,003			
14	7,638	0,246	7,516	0,122			
15	7,487	0,095	7,521	0,035			
16	7,551	0,159	7,564	0,013			
17	7,635	0,243	7,781	0,146	7,731	0,097	0,112
18	7,530	0,138	7,753	0,223	7,743	0,213	0,101
19	7,490	0,098	7,513	0,023			
20	7,514	0,122	7,559	0,045			
21	7,573	0,181	7,731	0,158	7,653	0,080	0,131
22	7,532	0,140	7,652	0,120			
23	7,530	0,138	7,586	0,056			
24	7,527	0,135	7,561	0,033			
25	7,472	0,080	7,519	0,046			
26	7,692	0,300	8,078	0,386	7,844	0,152	0,105
27	7,517	0,125	7,637	0,120			
28	7,510	0,118	7,810	0,300	7,765	0,255	0,091
29	7,539	0,147	7,637	0,098			
30	7,560	0,168	7,642	0,082			
31	7,525	0,134	7,529	0,004			
32	7,552	0,160	7,556	0,004			
Min	7,456	0,064	7,430	0,003	7,321	0,080	0,046
Max	7,692	0,300	8,078	0,386	7,844	0,312	0,248
Mean	7,532	0,140	7,615	0,093	7,683	0,174	0,130
STD	0,052	0,052	0,121	0,087	0,163	0,081	0,065
Requ.		≤ 1,0 mΩ		≤ 1,0 mΩ		≤ 5,0 mΩ	≤ 1,0 mΩ

Table 35 Test results Table

Samples under monitoring during SMB testing
Not tested

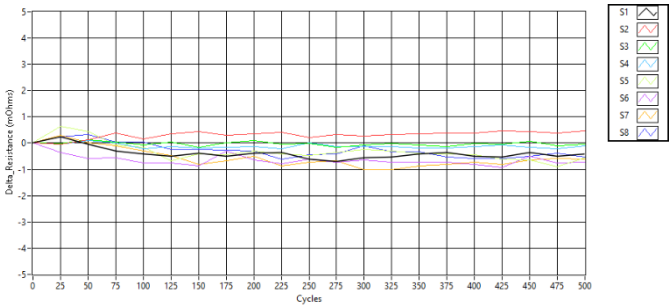


Figure 64 - Graphic representation of ΔRc versus Cycles

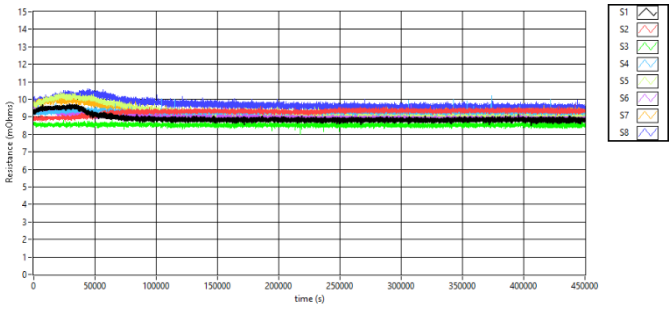


Figure 65 - Graphic representation of Rc versus Time

	Requirements	Conformity
ΔR_{C1} (post TC)	≤ 1 mΩ	✓
ΔR_{C2} (0-500 cyc)	≤ 5 mΩ	✓
ΔR_{C3} (250-500 cyc)	≤ 1 mΩ	✓

Table 36 Conformity table

2.8. Resistance of the sealing device (§5.6.5.3)

Test Engineer : B.SAGNIER

Test valid for Strings :		1		2		3	X	4		5		6		7

PN		5-965982-1
Material		CuSn4
Finish		Sn
Wire	**Section**	0,35
	Type	Acome ZHID - T3
	Color	white
Crimp parameters	**CH**	1,02 ± 0,03 mm
	CB_1	1,57 mm
Application tool no.		1528406

Table 37 Test samples information

MECA-SEAL-001
The terminals must entirely cross a gauge whose diameter of the cavity is defined with the minimal dimensions of the cavity. The length of the cavity must be higher than the length of the SWS. The cavity don't have to present lead-in chamber. Displacement must be done along the axis of the cavity of the gauge at a constant speed.The cavity is degreased with each use.
After the test, the SWS should not have changed of position (compared to the initial position), no slip of the SWS is authorized.
The SWS should not undergo degradations.

MECA-SEAL-002
After the test (MECA-WIRE-004 = Insulator reinforcement bending test (B217050 rev.E §5.6.5.4)), the SWS should not have changed of position (compared to the initial position), no slip of the SWS is authorized.
The SWS should not undergo degradations.

MECA-SEAL-004
The unifilar seal is maintained in place according to the test assembly describes in Figure17 or equivalent. For more effectiveness the seal is degreased on the part in interface with assembling.
The part of assembling in interface with the JUF is degreased. The JUF is subjected to a load of extraction automatically.
The load is applied until the extraction of the seal out of hooping or the slip of this last out of assembling.
The pull out force must be higher than the reference value defined (**F > 15N**)

PN	5-965982-1

Resistance of the sealing device inside the insulator reinforcement (§5.6.5.3)				
Sample ID	**MECA-SEAL-001 (0)**	**MECA-SEAL-002 (0)**	**MECA-SEAL-004 (0)**	
1	✓	✓	15,392	✓
2	✓	✓	15,674	✓
3	✓	✓	15,092	✓
4	✓	✓	15,396	✓
5	✓	✓	15,020	✓
Max	NA	NA	15,674	✓
Mean	NA	NA	15,315	✓
Min	NA	NA	15,020	✓
STD	NA	NA	0,264	•
Requirement GEN-SERT-MECA.0003	SWS : No Damage and No change position	SWS : No Damage and No change position	F > 15 N	
Failure Mode			Slide out of insulation grip	

Table 38 Seal analysis

Tab 2.8 x 0.8 - 3 Serrations

Test Engineer : B.SAGNIER

Test valid for Strings :		1		2		3	X	4		5		6		7

PN		5-965982-1
Material		CuSn4
Finish		Sn
Wire	**Section**	0,5
	Type	Acome ZHID - T3
	Color	white
Crimp parameters	**CH**	1,08 ± 0,03 mm
	CB_1	1,57 mm
Application tool no.		1528406

Table 39 Test samples information

MECA-SEAL-001
The terminals must entirely cross a gauge whose diameter of the cavity is defined with the minimal dimensions of the cavity. The length of the cavity must be higher than the length of the SWS. The cavity don't have to present lead-in chamber. Displacement must be done along the axis of the cavity of the gauge at a constant speed.The cavity is degreased with each use.
After the test, the SWS should not have changed of position (compared to the initial position), no slip of the SWS is authorized.
The SWS should not undergo degradations.

MECA-SEAL-002
After the test (MECA-WIRE-004 = Insulator reinforcement bending test (B217050 rev.E §5.6.5.4)), the SWS should not have changed of position (compared to the initial position), no slip of the SWS is authorized.
The SWS should not undergo degradations.

MECA-SEAL-004
The unifilar seal is maintained in place according to the test assembly describes in Figure17 or equivalent. For more effectiveness the seal is degreased on the part in interface with assembling.
The part of assembling in interface with the JUF is degreased. The JUF is subjected to a load of extraction automatically.
The load is applied until the extraction of the seal out of hooping or the slip of this last out of assembling.
The pull out force must be higher than the reference value defined (**F > 15N**)

PN	5-965982-1

Resistance of the sealing device inside the insulator reinforcement (§5.6.5.3)				
Sample ID	**MECA-SEAL-001 (0)**	**MECA-SEAL-002 (0)**	**MECA-SEAL-004 (0)**	
1	✓	✓	16,240	✓
2	✓	✓	16,441	✓
3	✓	✓	17,712	✓
4	✓	✓	17,085	✓
5	✓	✓	15,509	✓
Max	NA	NA	17,712	✓
Mean	NA	NA	16,597	✓
Min	NA	NA	15,509	✓
STD	NA	NA	0,839	•
Requirement GEN-SERT-MECA.0003	SWS : No Damage and No change position	SWS : No Damage and No change position	F > 15 N	
Failure Mode			Slide out of insulation grip	

Table 40 Seal analysis

3. Document History

Change Date (yyyy/mm/dd)	New Revision	Page	Main Changes (short description)	Name
2022/12/16	A	-	First release	B.SAGNIER