



Part Submission Warrant

2016-15416_1331.101

Part Name Get Female Terminal Sn Cust. Part Number 3F2T-14474-RAShown on Drawing Number 3F2T-14474-RA Org. Part Number 1393366-1Engineering Change Level AELE E 12625180 044 Dated 11/07/2014

Additional Engineering Changes _____ Dated _____

Safety and/or Government Regulation ☐ Yes ☒ No Purchase Order No. _____ Weight (kg) 0.0002

Checking Aid Number _____ Checking Aid Engineering Change Level _____ Dated _____

ORGANIZATION MANUFACTURING INFORMATIONTyco Electronics Belgium EC bvba /370 654 167

Organization Name and Supplier Code

Siemenslaan 14

Street Address

Oostkamp 8020 Belgium

City Region Postal Code Country

CUSTOMER SUBMITTAL INFORMATIONNursan Otomotiv Ltd.

Customer Name/Division

Ford

Buyer/Buyer Code

Application

MATERIALS REPORTINGHas customer-required Substance of Concern information been reported
Submitted by IMDS or other customer format☐ Yes ☒ No ☐ n/a3615247 / 34

Are polymeric parts identified with appropriate ISO marking codes?

☐ Yes ☐ No ☒ n/a**REASON FOR SUBMISSION (Check at least one)**

- ☒ Initial submission
☐ Engineering Change(s)
☐ Tooling: Transfer, Replacement, Refurbishment, or additional
☐ Correction of Discrepancy
☐ Tooling Inactive > than 1 year

- ☐ Change to Optional Construction or Material
☐ Sub-Supplier or Material Source Change
☐ Change in Part Processing
☐ Parts Produced at Additional Location
☐ Other - please specify

REQUESTED SUBMISSION LEVEL (Check one)

- ☐ Level 1 - Warrant only (and for designated appearance items, an Appearance Approval Report) submitted to customer.
☒ Level 2 - Warrant with product samples and limited supporting data submitted to customer.
☐ Level 3 - Warrant with product samples and complete supporting data submitted to customer.
☐ Level 4 - Warrant and other requirements as defined by customer.
☐ Level 5 - Warrant with product samples and complete supporting data reviewed at supplier's manufacturing location.

SUBMISSION RESULTSThe results for ☒ dimensional measurement ☐ material and functional tests ☐ appearance criteria ☐ statistical process packageThese results meet all design record requirements: ☒ Yes ☐ No (If "No" - Explanation Required)Mold / Cavity / Production Process Stamping 2 cavity tool**DECLARATION**

I affirm that the samples represented by this warrant are representative of our parts, which were made by a process that meets all Production Part Approval Process Manual 4th Edition Requirements. I further affirm that these samples were produced at the production rate of 60000k/8 hours
I also certify that documented evidence of such compliance is on file and is available for review. I have noted any deviations from this declaration below.

EXPLANATION/COMMENTSIs each Customer Tool properly tagged and numbered? ☒ Yes ☐ NoOrganization Authorized Signature _____ Date 17/11/2016Print Name Patrick Van de Voorde Phone No. 0032 50 83 2526 Fax 0032 50 83 2450Title Quality Engineering Email patrick.van.de.voorde@TE.com**FOR CUSTOMER USE ONLY (IF APPLICABLE)**PPAP Warrant Disposition : ☐ Approved ☐ Rejected ☐ Other _____

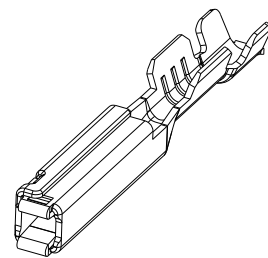
Customer Signature _____ Date _____

Print Name _____ Customer Tracking Number (optional) _____

FEMALE TERMINAL GET 0.64mm

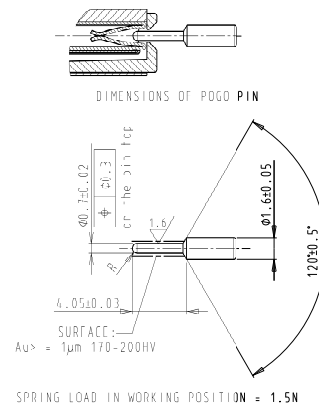
TERMINAL INFORMATION													
FORD PART NO.	SUPPLIER PART NO.	DESCRIPTION	TRC(S)	GREASED Y/N	BASE MATERIAL	PLATING MATERIAL	PLATING THICKNESS	COPPER WEIGHT	TOTAL WEIGHT	MATERIAL THICKNESS ±0.01	MATERIAL HARDNESS	MAXIMUM AMBIENT TEMPERATURE	CONDUCTOR MIN/MAX CSA
754T-14474-BB	2-1393367-2 (M4)	FEMALE UNSEALED TERMINAL GET 0.64mm 0.22-0.35mm ² 0.64_MM_051_BLD_SF1_B491	B491	N	CuNi35i1Mg	SILVER	3.0-5.0µm	0.22g	0.22g	0.25mm	180-220 HV	125°C	0.22-0.35mm ²
754T-14474-AB	2-1393366-2 (M5)	FEMALE UNSEALED TERMINAL GET 0.64mm 0.5-0.75mm ² 0.64_MM_051_BLD_SF1_B491	B491	N	CuNi35i1Mg	SILVER	3.0-5.0µm	0.22g	0.22g	0.25mm	180-220 HV	125°C	0.5-0.75mm ²
1L2T-14474-DA	0-1393364-1	FEMALE UNSEALED TERMINAL GET 0.64mm 0.22-0.35mm ² 0.64_MM_051_BLD_SF1_B491	B491	N	CuNi35i1Mg	GOLD	0.76µm MIN.	0.22g	0.22g	0.25mm	180-220 HV	150°C	0.22-0.35mm ²
1L2T-14474-CA	0-1393365-1	FEMALE UNSEALED TERMINAL GET 0.64mm 0.5-0.75mm ² 0.64_MM_051_BLD_SF1_B491	B491	N	CuNi35i1Mg	GOLD	0.76µm MIN.	0.22g	0.22g	0.25mm	180-220 HV	150°C	0.5-0.75mm ²
3F2T-14474-SA	0-1393367-1 (M1) 34230-0001	FEMALE UNSEALED TERMINAL GET 0.64mm 0.22-0.35mm ² 0.64_MM_051_BLD_SF1_B491	B491	N	CuNi35i1Mg	TIN	2-4µm	0.22g	0.22g	0.25mm	180-220 HV	125°C	0.22-0.35mm ²
3F2T-14474-RA	0-1393366-1 (M1) 34230-0003	FEMALE UNSEALED TERMINAL GET 0.64mm 0.5-0.75mm ² 0.64_MM_051_BLD_SF1_B491	B491	N	CuNi35i1Mg	TIN	2-4µm	0.22g	0.22g	0.25mm	180-220 HV	125°C	0.5-0.75mm ²

TE CONNECTIVITY PART NO.	CRIMP DIMENSIONS				
	A1	A2	R1	R2	GRIP SIZE
0-1393364-1					
0-1393364-2	2.11	2.4	0.45	0.6	A
2-1393367-2					
0-1393367-1					
0-1393365-1					
0-1393365-2	2.8	3.1	0.6	0.2	B
2-1393366-2					
0-1393366-1					

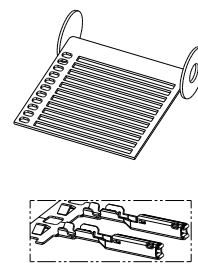


3D VIEW

VIEW SHOWING ACCESS AREA FOR POGO PIN



REELING DIRECTIONS FOR REFERENCE ONLY



(M6)

NOTES: UNLESS OTHERWISE SPECIFIED:

- PARTS CONFORM TO THE ELECTRICAL CONNECTION SYSTEM DESIGN SPECIFICATION (SDS) REV. 1.5, DATED 09-DEC-97
- PARTS CONFORM TO ES-F80B-14A464-AA (USCAR), DATED 11-OCT-95. PARTS CONFORM TO THE LATEST REVISION OF TE-CONNECTIVITY APPLICATION SPEC. 114-13060
- MAXIMUM MATING FORCE FOR SINGLE TERMINAL = 4 [N]
- PARTS MUST MATE WITH MALE TERMINALS SHOWN ON FORD DRAWING NO. 1L2T-14421-AA

(M2)

- ANTI-TARNISH TREATMENT FOR SILVER VERSION: THIOL

- FOR SILVER: ELECTRICAL PERFORMANCE IS NOT AFFECTED BY GRAY OR BLACK TARNISH ON THE SILVER PLATING SURFACE. ACCEPTABLE SILVER SURFACE CAN INCLUDE GRAY OR BLACK TARNISH

- PACKAGING SILVER VERSION: LOW SULFUR PACKAGING

- EQUIVALENT MOLEX P/N'S
- SILVER PLATING (±0.5µm AG) FOR SILVER SHORTING BAR APPLICATIONS.
- SILVER PLATING 3-5µm (CONTACT AREA ONLY) OVER NICKEL
- TIN PLATING 2-4µm (CRIMP AREA ONLY) OVER NICKEL
- TIN PLATING 0.6µm MIN. (CRIMP AREA ONLY) OVER NICKEL

- TREATMENT:
 - TIN PLATING: HOT DIPPED PURE TIN (ALL OVER), PREPLATED THICKNESS 3±1µm
 - GOLD PLATING: IN CONTACT AREA AS PER ES-F80B-14A229-AA. Au PLATING: THICKNESS TYPE 2 (0.76µm MIN.) Ni PLATING: THICKNESS 1.8µm MIN. IN CRIMPING AREA Sn PLATING: 3±1µm Sn Ni PLATING: FLASH
 - SILVER PLATING: 3-5µm AG IN CONTACT AREA OVER NICKEL UNDERPLATE 2-4µm SN IN CRIMP AREA OVER NICKEL UNDERPLATE

- WHEN A TIN/GOLD PLATED TERMINAL IS USED ON THE MALE SIDE THEN THE CORRESPONDING PLATING (TIN OR GOLD) MUST BE USED ON THE FEMALE TERMINAL

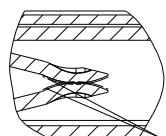
- LUBRICATION: OPTIMOL

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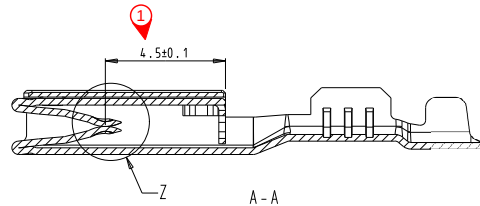


REFERENCE				FEMALE TERMINAL GET 0.64mm			
PART MUST COMPLY WITH RESTRICTED SUBSTANCE MANAGEMENT STANDARD WSS-M99P9999-A1 TO SAFEGUARD HEALTH, SAFETY AND THE ENVIRONMENT				3RD ANGLE PROJ			
DRAFTED IN ACCORDANCE WITH FORD MOTOR COMPANY ENGINEERING CAD AND DRAFTING STANDARDS VERSION 28.1				DIMENSIONS ARE IN MILLIMETERS			
CAD TYPE	CAD LOC.	CAD FILE	DTMC				
K-CATIAS	Tce	3F2T-14474-R-DWG-01	:12	IS MASTER			
OPER. NO.	UNIT	DRAWING					
N/A	N/A	3F2T-14474-RA					
DESIGN	DETAIL	TITLE	SHT 1				
TE	TE	TRMNL WIR SNP	OF 3				
CHECKED	SAFETY	ON FEM	N/A				
TE	N/A						
SCALE	DATE	DIVISION					
10:1	19981127	PLANT					
				FORD MOTOR COMPANY			

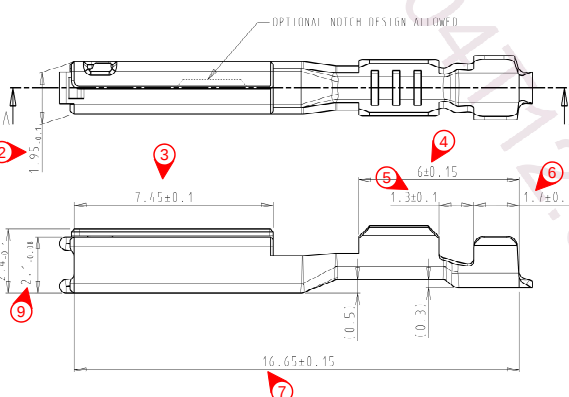
TERMINAL CRIMP & GRIP REFERENCE TABLE										
FORD PART NO.	WIRE TYPE/ SPECIFICATION (DESIGN INTENT)		WIRE SIZE (mm ²)	STRIP LENGTH (mm)	CONDUCTOR CRIMP INFO (FORM F)		INSULATION CRIMP INFO (FORM W&U)		FORD PART NUMBER	NOTES
	LOW TEMP. WIRE	HIGH TEMP. WIRE			C.C.W. (mm)	C.C.H. (mm) ±0.04	I.C.W. (mm)	I.C.H. (mm)		
754T-14474-BB 1L2T-14474-DA 3F2T-14474-SA	WSK-M1L124-A	N/A	0.22mm ²	4.4	1.4 ^{+0.1}	0.89	1.78±0.15	1.9 MAX.	N/A	CRIMP SPECIFICATION: SEE TE CONNECTIVITY SPECIFICATION NO. 114-13060
	WSK-M1L124-A	S97GG-14401-AA	0.35mm ²			0.97				
	WSB-M1L134-A1 ESB-M1L120-A	WSS-M1L135-A1 ESB-M1L123-A/A2	AWG22			0.95				
	WSK-M1L124-A	S97GG-14401-AA	0.5mm ²			1.02				
	WSK-M1L124-A	S97GG-14401-AA	0.75mm ²			1.10				
754T-14474-AB 1L2T-14474-CA 3F2T-14474-RA	WSB-M1L134-A1 ESB-M1L120-A	WSS-M1L135-A1 ESB-M1L123-A/A2	AWG20	4.4	1.78 ^{+0.15}	1.02	2.05 MAX.	2.1 MAX.	N/A	
	WSB-M1L134-A1 ESB-M1L120-A	WSS-M1L135-A1 ESB-M1L123-A/A2	AWG18			1.12				
	WSB-M1L134-A1 ESB-M1L120-A	WSS-M1L135-A1 ESB-M1L123-A/A2	AWG18			1.12				
	WSB-M1L134-A1 ESB-M1L120-A	WSS-M1L135-A1 ESB-M1L123-A/A2	AWG18			1.12				
	WSB-M1L134-A1 ESB-M1L120-A	WSS-M1L135-A1 ESB-M1L123-A/A2	AWG18			1.12				

DETAIL Z
SCALE 20:1
CONTACT AREA
(SPRING BEAMS CAN BE OPEN)

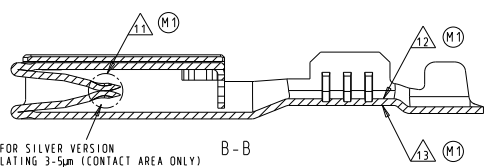
TIN-VERSION



GOLD-VERSION

ALL MISSING DIMENSIONS
ARE SHOWN ON TIN-VERSION

SILVER-VERSION

ALL MISSING DIMENSIONS
ARE SHOWN ON TIN-VERSION



Production Part Approval - Dimensional Results

Page 1 of 1 Pages

Tyco tracking number: 2016-15416_1331.101

ORGANIZATION: Tyco Electronics Belgium EC bvba					PART NUMBER: 1393366-1		
SUPPLIER/VENDOR CODE:					PART NAME: Get Female Terminal Sn		
INSPECTION FACILITY: QS					DESIGN RECORD CHANGE LEVEL: AELE E 12625180 207		
					ENGINEERING CHANGE DOCUMENTS:		
ITEM	DIMENSION/SPECIFICATION	SPECIFICATION/ LIMITS	TEST DATE	QTY TESTED	ORGANIZATION MEASUREMENT RESULTS (DATA)	OK	NOT OK
<u>Drawing 3F2T-14474-RA rev AELE E 12625180 207 dd. 21/07/2015 (Crimp Size B)</u>							
1	4.5	±0.1	jun/13	Left	4.60	X	
				Right	4.60	X	
2	1.95	-0.1	aug/16	Left	1.93	X	
				Right	1.94	X	
3	7.45	±0.1	jun/13	Left	7.47	X	
				Right	7.50	X	
4	6	±0.15	jun/13	Left	5.97...5.99	X	
				Right	5.98...5.99	X	
5	1.3	±0.1	jun/13	Left	1.32...1.33	X	
				Right	1.34...1.35	X	
6	1.7	±0.1	jun/13	Left	1.61...1.63	X	
				Right	1.60...1.62	X	
7	16.65	±0.15	jun/13	Left	16.73	X	
				Right	16.74	X	
8	2.4	-0.1	aug/16	Left	2.30	X	
				Right	2.30	X	
9	2.1	-0.08	jun/13	Left	2.02	X	
				Right	2.02	X	
10-17					not applicable		
18	2.8	±0.2	aug/16	Left	2.84	X	
	A1			Right	2.78	X	
19	0.1	±0.05	jun/13	Left	0.13...0.14	X	
				Right	0.14...0.15	X	
20	20°	± 3°	jun/13	Left	19.00...19.00	X	
				Right	18.50...19.00	X	
21	0.6	±0.1	jun/13	Left	0.50	X	
	R1			Right	0.50	X	
22	3.1	±0.2	aug/16	Left	3.24	X	
	A2			Right	3.16	X	
23	0.15	±0.05	jun/13	Left	0.16...0.18	X	
				Right	0.18...0.19	X	
24	20°	± 3°	jun/13	Left	19.00...19.00	X	
				Right	18.00...19.00	X	
25	0.2	±0.1	jun/13	Left	0.30	X	
	R2			Right	0.30	X	
26	1.8	±0.1	jun/13	Left	1.77	X	
				Right	1.75	X	

Wieland-Werke AG D-89070 Ulm

Tyco Electronics Belgium EC bvba
Siemenslaan 14
8020 OOSTKAMP
BELGIEN

Verladezone/Verladenr. : **000031/20486665**

Ihre Bestell-Nr. : 2550059187
vom :
Ihre Materialnummer : 2-705675-5

Unsere Auftrags-Nr. : **20000437 001**
Unsere Fertigungsauftrags-Nr. : **36443072**
Unsere Prüflös-Nr. : 040004650462
Unsere Lieferschein-Nr. : 82040801 010
Liefermenge : 12.559,0 KG
Datum : 25.10.2016

Abnahmeprüfzeugnis 3.1 nach EN 10204 : 2004

Halbzeug:

230 Band verzinkt SnPUR®
Werkstoff:
Wieland K55 CuNi3Si1Mg
Ausführung: 270 halbhart

Abmessungen:

Maß A: 0,24 mm -0,005 +0,005
Maß B: 54 mm -0,2
Maß C:
Maß D:

Spezifikation:

Revision/Ausgabedatum

- 1.F49-F4055/02 v. 21.09.01
- 2.Porentest an flacher und
- 3.verzinkter Probe n.F49-F6255
- 4.BP n. F49-F6229
- 5.Ausg. 03 v. 26.09.01 /
- 6.Beiblatt v. 07.02.03
- 7.BP Probenbreite 10 mm
- 8.Verp. n. F49-F4176 Ausg. 7

Bemerkungen:

Ihre Material-Nr.: 2-705675-5

Chemische Zusammensetzung nach 3.1 EN 10204 : 2004

Cu Kupfer-Gehalt
Mg Magnesium-Gehalt
Mn Mangan-Gehalt

Fe Eisen-Gehalt
1B 1B = Nickel + Cobalt

Pb Blei-Gehalt
Zn Zink-Gehalt

Prüfmerkmal	CU	FE	PB	MG	1B	ZN	MN
Einheit	%	%	%	%	%	%	%
Minimum /Richtwert(R)							
Maximum/Richtwert(R)							

Meßwerte:

Gussnummer

5256F	Rest	0,0163	< 0,0001	0,073	2,2157	0,126	0,0067
5274F	Rest	0,0094	< 0,0001	0,06	2,2128	0,0425	0,001

Abnahmeprüfzeugnis 3.1 nach EN 10204 : 2004

Tyco Electronics Belgium EC bvba

Ihre Bestell-Nr.	: 2550059187
vom	:
Ihre Materialnummer	: 2-705675-5

Unsere Auftrags-Nr.	: 20000437 001
Unsere Fertigungsauftrags-Nr.	: **36443072**
Unsere Prüflös-Nr.	: 040004650462
Unsere Lieferschein-Nr.	: 82040801 010
Liefermenge	: 12.559,0 KG
Datum	: 25.10.2016

Si Silizium-Gehalt

Prüfmerkmal	SI
Einheit	%
Minimum /Richtwert(R)	
Maximum/Richtwert(R)	

Meßwerte:

Gussnummer

5256F	0,419
5274F	0,424

Mechanische Prüfmerkmale

RP0,2	Dehngrenze 0,2 %	RM	Zugfestigkeit Rm
A2"	Bruchdehnung A2"	HV1	Härte Vickers HV1
Prüfmerkmal	RP0,2	RM	A2"
Einheit	MPa	MPa	%
Minimum /Richtwert(R)	500	600	10,0
Maximum/Richtwert(R)	580	780	

Meßwerte:

Probennummer

B5256.0001_A	544	683	17,2	207
B5256.0001_E	543	684	17,0	205
B5256.0002_A	541	684	17,4	208
B5256.0002_E	539	683	17,3	203
F5274.0001_A	539	683	17,2	206
F5274.0001_E	539	684	16,9	206
F5274.0002_A	537	683	17,2	204
F5274.0002_E	537	679	17,5	204

Weitere Prüfungen

Prüfmerkmal	Einheit	Soll-Werte bzw. Richtwert (R)	Ist-Werte
		Min. Max.	Min. Max.
elektrische Leitfähigkeit - Resistomat	MS/m	23	27,7 27,79

Abnahmeprüfzeugnis 3.1 nach EN 10204 : 2004

Tyco Electronics Belgium EC bvba

Ihre Bestell-Nr. : 2550059187
vom :
Ihre Materialnummer : 2-705675-5

Unsere Auftrags-Nr. : **20000437 001**
Unsere Fertigungsauftrags-Nr. : **36443072**
Unsere Prüflös-Nr. : 040004650462
Unsere Lieferschein-Nr. : 82040801 010
Liefermenge : 12.559,0 KG
Datum : 25.10.2016

Weitere Prüfungen (Fortsetzung)

Prüfmerkmal	Einheit	Soll-Werte bzw. Richtwert (R)		Ist-Werte	
		Min.	Max.	Min.	Max.
Korngröße	µm		30	8	9
Biegebarkeit 90° quer, verz.Band R=0 W=10	Ergebnis	gut			
Porentest Siemens a.d.Flachprobe	Ergebnis	gut			
Schichtdicke, Feuerverzinnung Reinzinn	µm	2	4	2,23	3,91

BPTPZ *Biegeprobe 180° parallel verzinnt TYCO R* **RA** *Ra - arithm.Mittenrauhwert*

Prüfmerkmal	BPTPZ	RA
Einheit		µm
Minimum /Richtwert(R)		
Maximum/Richtwert(R)	Note B (+/-)	0,300

Meßwerte:

Probennummer

B5256	Note A (+)	
B5256_O		0,107
B5256_U		0,104
F5274	Note A (+)	
F5274_O		0,128
F5274_U		0,128

Maßprüfungen

Prüfmerkmal	Einheit	Soll-Werte bzw. Richtwert (R)		Ist-Werte	
		Min.	Max.	Min.	Max.
Breite	mm	53,8	54	53,921	53,934
Dicke	mm	0,235	0,245	0,24	0,24
Säbelförmigkeit auf 1000mm	mm		3	0,05	0,13

Abnahmeprüfzeugnis 3.1 nach EN 10204 : 2004

Tyco Electronics Belgium EC bvba

Ihre Bestell-Nr.	: 2550059187
vom	:
Ihre Materialnummer	: 2-705675-5

Unsere Auftrags-Nr.	: 20000437 001
Unsere Fertigungsauftrags-Nr.	: **36443072**
Unsere Prüflös-Nr.	: 040004650462
Unsere Lieferschein-Nr.	: 82040801 010
Liefermenge	: 12.559,0 KG
Datum	: 25.10.2016

Konformitätserklärung

Wir erklären als Hersteller, daß die hier beschriebene Ware den mit dem Käufer vereinbarten Spezifikationen sowie den oben aufgeführten Normen und normativen Vorschriften, der angegebenen Beschreibung, der genannten Menge und den in diesem Zeugnis gemachten Angaben entspricht.

Diese Ware wurde unter einem zertifizierten Qualitätsmanagementsystem nach ISO/TS 16949:2009 hergestellt. Unser Qualitätsmanagementsystem wird laufend überwacht (IATF Zertifikats Nr. 0219082).

Die Prüfergebnisse zur chemischen Analyse, zu den mechanisch-technologischen und physikalischen Prüfverfahren wurden durch ein zertifiziertes und / oder akkreditiertes Prüflabor festgestellt.

Die Lieferung erfolgt bezüglich Cd und Pb konform nach RoHS, ELV und WEEE.

In Bändern und Blechen aus Kupfer und Kupferlegierungen nicht enthalten sind: Cr(VI) und seine Verbindungen CFC, HCFC, PCB, PCN, CP, Mirex, PBB, BDE, PBDE, TBBP - A - bis, organische Zinnverbindungen, Asbest und Azo-Verbindungen, Hg - Analysen an Muster zeigen Werte < 0.0005% (m/m).

I.A. Wolfgang Baur (Abnahmebeauftragter des Herstellers)
Telefon: +49-731-944-3637 Fax: +49-731-944-43637
e-mail: wolfgang.baur@wieland.de
Maschinell erstelltes Abnahmeprüfzeugnis