



SLOVENSKI STANDARD SIST EN 3155-047:2009

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Aerospace series - Electrical contacts used in elements of connection - Part 047:
Contacts, electrical, female, type A, double crimping, class S - Product standard

Luft- und Raumfahrt - Elektrische Kontakte zur Verwendung in Verbindungselementen -
Teil 047: Elektrischer Buchsenkontakt, Typ A, doppelt gecrimpt, Klasse S - Produktnorm
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Série aérospatiale - Contacts électriques utilisés dans les organes de connexion - Partie
047 : Contacts électriques, femelles, type A, double sertissage, classe S - Norme de
produit
9f32a69a5756/sist-en-3155-047-2009

Ta slovenski standard je istoveten z: EN 3155-047:2007

ICS:

49.060 Š^c^p \ æš Å^• [| | b \ æ Aerospace electric
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EUROPEAN STANDARD
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EUROPÄISCHE NORM

EN 3155-047

April 2007

ICS 49.060

English Version

Aerospace series - Electrical contacts used in elements of connection - Part 047: Contacts, electrical, female, type A, double crimping, class S - Product standard

Série aérospatiale - Contacts électriques utilisés dans les organes de connexion - Partie 047 : Contacts électriques, femelles, type A, double sertissage, classe S - Norme de produit

Luft- und Raumfahrt - Elektrische Kontakte zur Verwendung in Verbindungselementen - Teil 047: Elektrischer Buchsenkontakt, Typ A, doppelt gecrimpt, Klasse S - Produktnorm

This European Standard was approved by CEN on 13 January 2006.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

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Contents

Page

Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Required characteristics	5
4.1 Dimensions and mass	5
4.2 Material, protective plating	6
4.3 Permissible cables.....	6
4.4 Cable stripping.....	6
4.5 Tooling.....	6
4.6 Tests.....	6
4.7 Gauges.....	7
5 Designation	8
6 Marking	8
7 Technical specification.....	8

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Foreword

This document (EN 3155-047:2007) has been prepared by the European Association of Aerospace Manufacturers - Standardization (AECMA-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of AECMA, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2007, and conflicting national standards shall be withdrawn at the latest by October 2007.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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EN 3155-047:2007 (E)

1 Scope

This standard specifies the required characteristics, tests and tooling applicable to female electrical contacts 047, type A, double crimping, class S, used in elements of connection according to EN 3155-002.

It shall be used together with EN 3155-001.

The associated male contact is defined in EN 3155-046.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 2591*, *Aerospace series — Elements of electrical and optical connection — Test methods.*

EN 3155-001, *Aerospace series — Electrical contacts used in elements of connection — Part 001: Technical specification.* ¹⁾

EN 3155-002, *Aerospace series — Electrical contacts used in elements of connection — Part 002: List and utilization of contacts.*

EN 3155-046, *Aerospace series — Electrical contacts used in elements of connection — Part 046: Contacts, electrical, male, type A, double crimping, class S — Product standard.*

MIL-DTL-22520, *Crimping tools, wire termination, general specification for.* ²⁾

MIL-I-81969, *Installing and removal tools, connector electrical contact, general specification for.* ²⁾

3 Terms and definitions

For the purposes of this standard, the terms and definitions given in EN 3155-001 apply.

* All parts quoted in this standard.

1) Published as AECMA Prestandard at the date of publication of this standard.

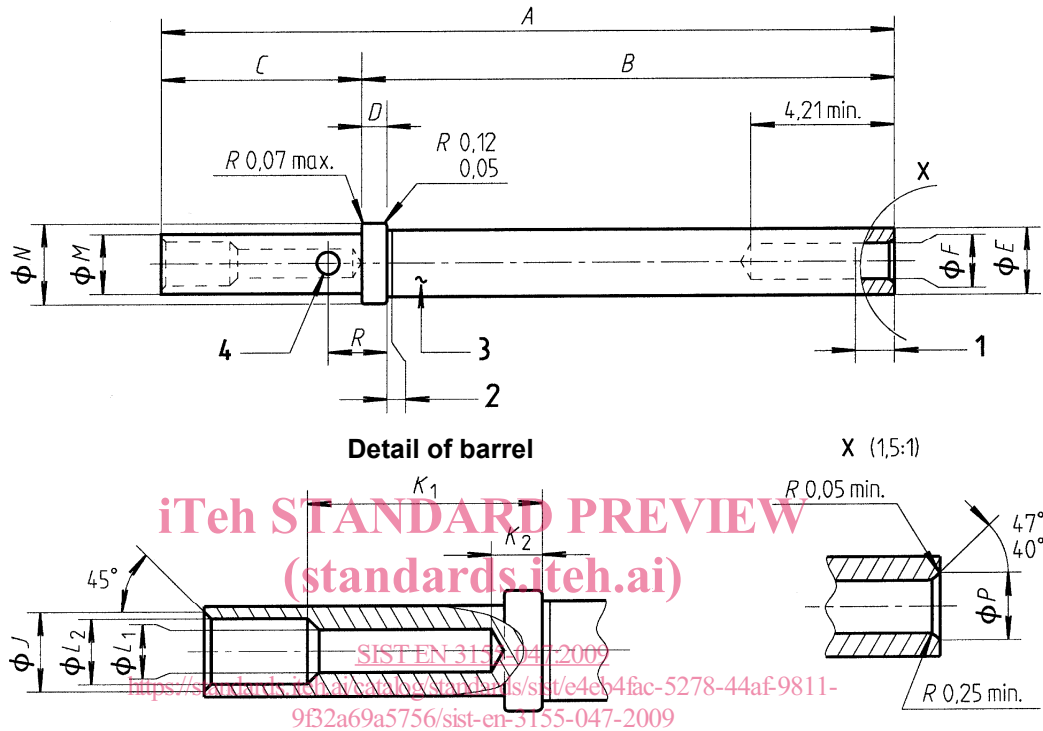
2) Published by: Department of Defense (DOD), The Pentagon, Washington D.C. 20301, USA.

4 Required characteristics

4.1 Dimensions and mass

See Figure 1 and Table 1.

Dimensions and tolerances are given in millimetres.



Key

- | | | | |
|---|------------------------|---|------------------------------|
| 1 | G max., see Note 2. | 3 | Manufacturer identification |
| 2 | 0,15 max., see Note 1. | 4 | Diameter H (one side only) |

NOTE 1 Clearance between sleeve and body of the contact

NOTE 2 Position of electrical contact point

Figure 1

Table 1

Size		A	B	C	D	E	F	G	H	J
Contact	Barrel	max.					min.	max.		
20	22	21,72	15,90 15,65	6,02 5,87	0,84 0,74	1,98 1,93	1,05	1,14	0,81 0,66	1,56 1,45

Size		K_1	K_2	L_1	L_2	M	N	P	R	Mass
Contact	Barrel							min.		g
20	22	4,60 4,30	1,00 0,70	0,89 0,84	1,34 1,29	1,78 1,73	2,39 2,31	1,34	1,73 1,35	0,38

EN 3155-047:2007 (E)

4.2 Material, protective plating

- Body material : copper alloy
- Protective plating : selective protection not permitted; minimum gold thickness: 1,27 µm nickel undercoat

4.3 Permissible cables

See Table 2.

Table 2

Size		Size of conductors				Rated test current A
Contact	Barrel	AECMA Code	Section mm ²	AWG ^a	∅ insulation max.	
20	22	004	0,4	22	1,25	5

^a AWG = American Wire Gage.

4.4 Cable stripping

See Table 3.

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Table 3

Size		Stripped length of cable mm
Contact	Barrel	± 0,3
20	22	2,9

4.5 Tooling

Conform to MIL-DTL-22520 and MIL-I-81969, see Table 4.

Table 4

Size		Cable size		Crimping tool			Insertion tool	Extraction tools	
Contact	Barrel	AECMA code	AWG ^a	Tool	Positioner	Selector number		Wired contact	Unwired contact
20	22	004	22	M22520/1-01	M22520/1-04	3	M81969/14-10	M81969/14-10	M81969/30-11

^a AWG = American Wire Gage.

4.6 Tests

See Table 5.

Table 5

EN 2591-	Test	Not applicable	Applicable	
			According to EN 3155-001	Remarks
101	Visual examination		X	
102	Examination of dimensions and mass		X	
201	Contact resistance - low level		X	
202	Contact resistance at rated current		X	
204	Discontinuity of contacts in the microsecond range		X	
206	Measurement of insulation resistance	X		
207	Voltage proof test	X		
210	Electrical overload		X	
211	Capacitance	X		
212	Surface transfer impedance	X		
213	Shielding effectiveness from 100 MHz to 1 GHz	X		
301	Endurance at temperature		X	$T = (200 \pm 2) ^\circ\text{C}$ Duration: 1 000 h
305	Rapid change of temperature		X	$T_A = (200 \pm 2) ^\circ\text{C}$ $T_B = (-65 \pm 2) ^\circ\text{C}$
306	Mould growth	X		
307	Salt mist		X	
315	Fluid resistance	X		
402	Shock		X	
403	Sinusoidal and random vibration		X	
406	Mechanical endurance		X	
415	Test probe damage (female contact)		X	
416	Contact bending strength	X		
417	Tensile strength (crimped connection)		X	Crimping on sheath, inoperative
418	Gauge insertion/extraction forces (female contacts)		X	
502	Restricted entry		X	
503	Contact deformation after crimping		X	
508	Measurement of thickness of coating on contacts		X	
509	Adhesion of coating on contacts		X	
513	Magnetic permeability		X	≤ 2

4.7 Gauges

See EN 3155-001 Table 2, tests EN 2591-415, EN 2591-418 and EN 2591-502.