

SLOVENSKI STANDARD

SIST EN 3155-053:2009

01-januar-2009

Aeronavtika - Električni kontakti za uporabo v veznih elementih - 053. del:
Kontakti, električni, ženski 053, tip A, nagubani, razred S - Standard za proizvod

Aerospace series - Electrical contacts used in elements of connection - Part 053:
Contacts, electrical, female 053, type A, crimp, class S - Product standard

Luft- und Raumfahrt - Elektrische Kontakte zur Verwendung in Verbindungselementen -
Teil 053: Elektrische Buchsenkontakte 053, Typ A, crimpbar, Klasse S - Produktnorm

Série aérospatiale - Contacts électriques utilisés dans les organes de connexion - Partie
053 : Contacts électriques, femelles 053, type A, à sertir, classe S - Norme de produit

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ICS:

49.060

Letalska in vesoljska
električna oprema in sistemi

Aerospace electric
equipment and systems

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en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 3155-053

April 2007

ICS 49.060

English Version

**Aerospace series - Electrical contacts used in elements of
connection - Part 053: Contacts, electrical, female 053, type A,
crimp, class S - Product standard**

Série aérospatiale - Contacts électriques utilisés dans les
organes de connexion - Partie 053 : Contacts électriques,
femelles 053, type A, à sertir, classe S - Norme de produit

Luft- und Raumfahrt - Elektrische Kontakte zur Verwendung
in Verbindungselementen - Teil 053: Elektrische
Buchsenkontakte 053, Typ A, crimpbar, 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.

CEN members are the national standards bodies of 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 United Kingdom.



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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, surface treatment	5
4.3 Permissible cables.....	6
4.4 Tooling.....	6
4.5 Cable stripping.....	6
4.6 Tests.....	6
4.7 Gauges for EN 2591-418 test	8
5 Designation	9
6 Marking	10
7 Technical specification.....	10

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Foreword

This document (EN 3155-053:2007) 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 3155-053:2007 (E)**1 Scope**

This standard specifies the required characteristics and tests applicable to female electrical contacts 053, type A, crimp, class S, used in elements of connection according to EN 3155-002.

It shall be used together with EN 3155-001.

The associated female contacts are defined in EN 3155-052.

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 2083, *Aerospace series — Copper or copper alloy conductors for electrical cables — Product standard.*

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 3155-052, *Aerospace series — Electrical contacts used in elements of connection — Part 052: Contacts, electrical, male 052, type A, crimp, class — Product standard.*

EN 4008-016, *Aerospace series — Elements of electrical and optical connection — Crimping tools and associated accessories — Part 016: Crimping tool for electrical contacts according to EN 3155-052 and EN 3155-053 — Product standard.* ²⁾

EUROCAE-ED-14E:2005, *Environmental conditions and test procedures for airborne equipment.* ³⁾

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) In preparation at the date of publication of this standard.

3) Published by: EUROCAE, 11 rue Hamelin 75783 PARIS CEDEX 16.

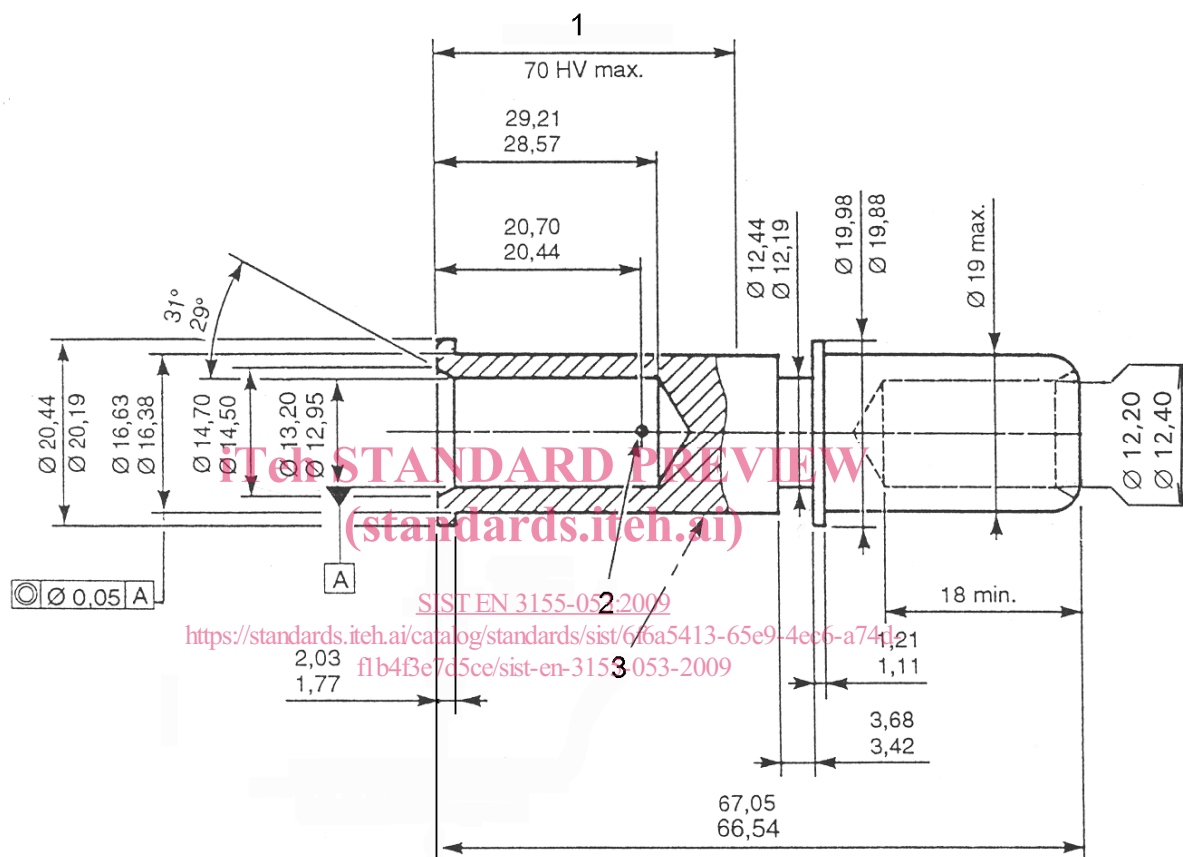
4 Required characteristics

4.1 Dimensions and mass

See Figure 1.

Mass: 90 g max.

Dimensions and tolerances are expressed in millimetres and apply after plating.



Key

- 1 Annealed area
- 2 1 hole Ø2,49
Ø2,23
- 3 Manufacturer marking (trademark, logo, ...)

Figure 1

4.2 Material, surface treatment

- Material : copper alloy
- Surface treatment : gold on appropriate undercoat

EN 3155-053:2007 (E)**4.3 Permissible cables**

See Table 1.

Table 1

Size				Size of conductor			Rated test current A
Contact		Barrel		AECMA Code ^a	Section mm ²	AWG ^b	
Size	Code	Size	Code				
4/0	4A	2/0	2A	680	68	2/0	260
^a See EN 2083.							
^b AWG = American Wire Gage.							

4.4 Tooling

See Table 2.

Table 2

Size		Crimping tool		
Contact	Barrel	Basic tool	Crimp die	Locator
4/0	2/0	EN 4008-016		

4.5 Cable stripping

See Table 3.

Table 3

Size		Stripped length of cable A mm	
Contact	Barrel	min.	max.
4/0	2/0	22,86	27,94

4.6 Tests

See Table 4.

Table 4

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	Measuring points on the cable, the two points 150 mm apart. Maximum voltage drop Initial: 60 mV After tests: 75 mV
204	Discontinuity of contacts in the microsecond range		X	
206	Measurement of insulation resistance	X		
207	Voltage proof test	X		
208	Temperature rise due to rated current		X	
210	Electrical overload		X	325 A for 5 min 435 A for 5 s
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	Method A Severity 300
403	Sinusoidal and random vibration		X	Part 1: Ambient temperature: 120 °C Current: — 200 A on three contacts — 100 mA on one contact Curve R of EUROCAE-ED-14E 3 h per axis on three axis Curve W of EUROCAE-ED-14E on OX lengthwise axis contact Duration : 40 h

continued