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Aerospace series – Electrical contacts used in elements of connection –
Part 069: Contacts, electrical, coaxial, size 16, female, type D, solder, class P – Product standard

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 3155-069

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English Version

Aerospace series - Electrical contacts used in elements of connection - Part 069: Contacts, electrical, coaxial, size 16, female, type D, solder, class P - Product standard

Série aérospatiale - Contacts électriques utilisés dans les organes de connexion - Partie 069: Contacts, électriques, coaxiaux, taille 16, femelles, type D, à souder, classe P - Norme de produit

Luft- und Raumfahrt - Elektrische Kontakte zur Verwendung in Verbindungselementen - Teil 069: Elektrische koaxial Bushenkontackte Größe 16, typ D, zum Löten, Klasse P - Produktnorm

This European Standard was approved by CEN on 4 July 2008.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. EN 3155-069:2009: E

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Foreword

This document (EN 3155-069:2009) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-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 ASD, 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of an identical text or by endorsement, at the latest by August 2009, and conflicting national standards shall be withdrawn at the latest by August 2009.

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Introduction

The contact defined by this standard is derived and interchangeable with that of SAE-AS39029/78.

1 Scope

This standard specifies the required characteristics, tests and tooling applicable to size 16, female coaxial electrical contacts, type D, solder, class P, used in elements of connection according to EN 3155-002.

It shall be used together with EN 3155-001.

The associated male contacts are defined in EN 3155-058.

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 3155-058, *Aerospace series — Electrical contacts used in elements of connection — Part 058: Contacts, electrical, coaxial, size 16, male, type D, solder, class R — Product standard*

QQ-S-571, *Solder, tin alloy: tin-lead alloy and lead alloy* [2]

MIL-I-81969/08, *Installing and removal tools, connector electrical contact, type I and II, class 2, composition A* [2]

MIL-I-81969/14, *Installing and removal tools, connector electrical contact, type III, class 2, composition B* [2]

MIL-PRF-5606, *Hydraulic fluid, petroleum base, aircraft, missile and ordnance* [2]

MIL-PRF-7808, *Lubricating oil, aircraft turbine engine, synthetic base, NATO code number O-148* [2]

MIL-PRF-7870, *Lubricating oil: general purpose, low temperature* [2]

MIL-PRF-23699, *Lubricating oil, aircraft turbine engine, synthetic base, NATO code number O-156* [2]

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* All parts quoted in this document.

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

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

MIL-PRF-87937, *Cleaning compound aerospace equipment* [2]

SAE-AMS1424, *Fluid, deicing/anti-icing, aircraft, SAE type I* [3]

SAE-AS1241, *Fire resistant phosphate ester hydraulic fluid for aircraft* [3]

SAE-AS39029/78, *Contacts, electrical connector, socket, crimp removable, shielded, size 16 (for MIL-C-38999 series II and MIL-C-24308 connectors.* [3]

TR 6058, *Aerospace series — Cable code identification list* [4]

3 Terms and definitions

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

4 Required characteristics

4.1 Specific characteristics

Type D contacts are for general application and class P corresponds to an operating temperature range from – 65 °C to 125 °C.

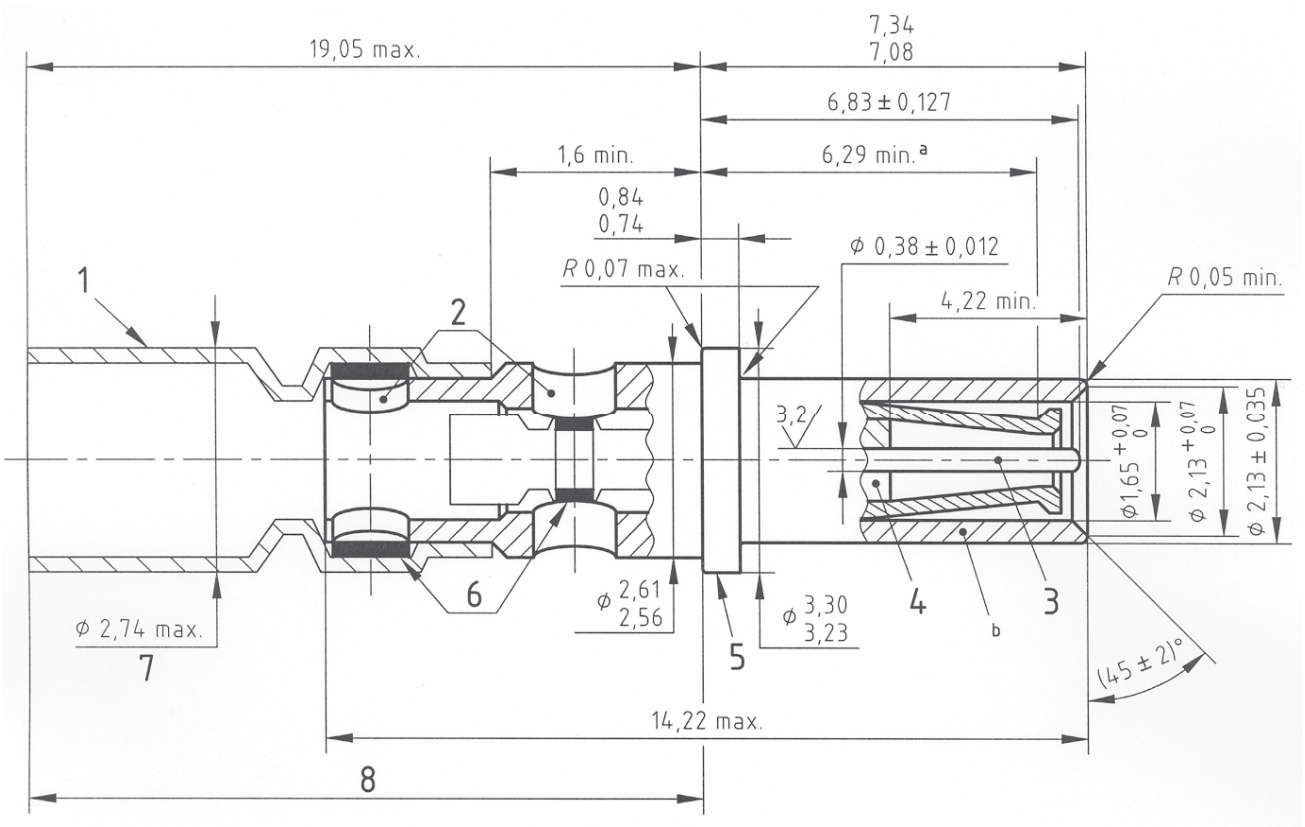
4.2 Dimensions and mass

See Figure 1.

Dimensions and tolerances are given in millimetres and apply after surface treatment.

3 Published by: Society of Automotive Engineering (SAE), 400 Commonwealth Drive, Warrendale, PA 15096, USA.

4 Published as ASD Technical Report at the date of publication of this standard.



Key

1 Heat shrinkable tubing
2 Inspection windows
3 Male central contact body
4 Dielectric
5 Female external contact body
6 Weld rings
7 Diameter after use
8 Heating zone

a See Note 1

b See Note 2

Figure 1

NOTE 1 Point at which a square ended gauge pin of the same basic diameter as the mating contact first engages the female contact spring member.

NOTE 2 Outer contact mates with 1,61/1,57 male contact diameter.

Mass: 0,60 g.

4.3 Marking by colour code

Not applicable.

4.4 Material, surface treatment

4.4.1 Material

Contact body: copper alloy.

4.4.2 Protective coating

Gold on appropriate undercoat for copper alloy parts (except silver).

Thickness not specified.

4.4.3 Dielectric

ETFE Fluoropolymer.

4.4.4 Heat shrinkable tubing.

Radiation cross linked polyvinylidene fluoride.

4.4.5 Weld rings

Sn63 as per QQ-S-571.

4.5 Permissible cables

The cables should have dimensions within the values specified in Table 1.

Table 1

Dimensions in millimetres

Cable diameter ∅		min.	max.
Jacket	*A*	2,59	2,79
Shield	*B*	1,67	2,13
Dielectric	*C*	0,91	1,72
Conductor	*D*	0,22	0,58
Permissible cable code according to TR 6058		XE, XY , WL	

4.6 Stripping of cables and wiring method

4.6.1 Assembly instructions

Strip cable as shown in Figure 2, 3 or 4.

Pretin central conductor with SN63.

Insert cable into contact until it is fully seated.

Heat contact with appropriate tools as shown on Figure 5 until solder melts and flows and strain relief tubing conforms to cable.

4.6.2 Preparation of coaxial cable:

Depending upon dielectric diameter value there are three possibilities: