SLOVENSKI STANDARD
SIST EN 61169-1:1998/A1:1998

01-april-1998

Radio-frequency connectors - Part 1: Generic specification - General requirements and measuring methods - Amendment A1 (IEC 61169-1:1992/A1:1996)

Radio-frequency connectors -- Part 1: Generic specification - General requirements and measuring methods

Hochfrequenz-Steckverbinder -- Teil 1: Fachgrundspezifikation - Allgemeine Anforderungen und Meßverfahren

Connecteurs pour fréquences radioélectriques -- Partie 1: Spécification générique - Prescriptions générales et méthodes de mesure

Ta slovenski standard je istoveten z: **EN 61169-1:1994/A1:1996**

ICS:

33.120.30	Radiofrekvenčni konektorji (RF)	R.F. connectors

SIST EN 61169-1:1998/A1:1998 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61169-1/A1

July 1996

UDC 621.316.541.029.5/.7
ICS 33.120.30

Descriptors: Radio frequency connectors, generic specification

English version

Radio-frequency connectors
Part 1: Generic specification
General requirements and measuring methods
(IEC 1169-1:1992/A1:1996)

Connecteurs pour fréquences radioélectriques
Partie 1: Spécification générique
Prescriptions générales et méthodes de mesure
(CEI 1169-1:1992/A1:1996)

Hochfrequenz-Steckverbinder
Teil 1: Fachgrundspezifikation
Allgemeine Anforderungen und Meßverfahren
(IEC 1169-1:1992/A1:1996)

This amendment A1 modifies the European Standard EN 61169-1:1994; it was approved by CENELEC on 1996-07-02. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 Central Secretariat or to any CENELEC member.

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

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 46D/245/FDIS, future amendment 1 to IEC 1169-1:1992, prepared by SC 46D, RF connectors, of IEC TC 46, Cables, wires, waveguides, R.F. connectors, and accessories for communication and signalling, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 61169-1:1994 on 1996-07-02.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1997-04-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 1997-04-01

Endorsement notice

The text of amendment 1:1996 to the International Standard IEC 1169-1:1992 was approved by CENELEC as an amendment to the European Standard without any modification.

NORME INTERNATIONALE
INTERNATIONAL STANDARD

CEI
IEC
1169-1

QC 220000

1992
Amendement 1
Amendment 1

1996-05

Amendement 1

Connecteurs pour fréquences radioélectriques

Partie 1:
Spécification générique – Prescriptions générales et méthodes de mesure

Amendment 1

Radio-frequency connectors

Part 1:
Generic specification – General requirements and measuring methods

Bureau Central de la Commission Electrotechnique Internationale 3, rue de Varembé Genève, Suisse

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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For price, see current catalogue

FOREWORD

This amendment has been prepared by sub-committee 46D: RF connectors, of IEC technical committee 46: Cables, wires, waveguides, r.f. connectors, and accessories for communication and signalling.

The text of this amendment is based on the following documents:

DIS	Report on voting
46D/245/FDIS	46D/276/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

Page 3

CONTENTS

Add, on page 5, the title of annex C as follows:

C Guidelines for the determination of tensile forces and torsional moments to be applied when testing the effectiveness of cable retention with recommended values for some typical cables

Page 75

9.2.3.4 *Information to be given in the relevant specification*

Add the following new item d):

d) When performing continuity measurements on mated cabled connectors, precautions should be taken to avoid erroneous results due to the thermal coefficient of resistance of the cable.

Page 121

Add the following new subclause:

9.3.15 *Safety wire hole pull-out*

A single strand of safety wire shall be looped through the safety hole and secured to itself. A specified force shall be applied in two directions to the safety wire pulling away from the connector. One pull shall be parallel to the connector axis and one pull shall be perpendicular to the connector axis (see figure 24). This test is to be conducted under static conditions. All holes are to be tested individually.

The safety wire shall be made of corrosion-resistant steel 0,50 mm in diameter or 0,35 mm in diameter.

The preferred value for this test shall be:

- applied force: 67 N minimum;
- duration: 30 s.

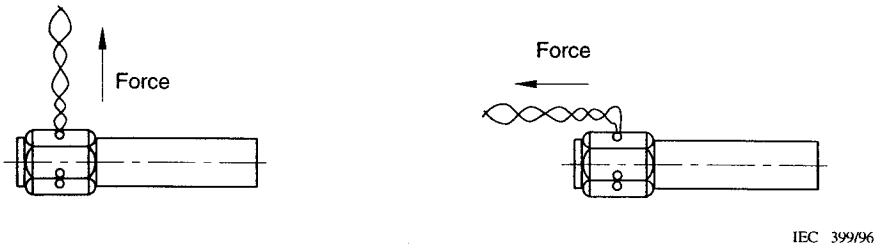


Figure 24 – Safety wire hole pull-out procedure

Last test in *Group D1*

	Assessment level M				Assessment level H			
Test method QC 220000 Subclause	Test required	IL	AQL %	Period	Test required	IL	AQL %	Period
9.3.15	ia	S4	0.4	Lot	ia	S3	4	Lot

Effectiveness of safety wire locking holes; piece parts (D)

Page 163

Add, after annex B, the new annex C as follows:

Annex C
(informative)

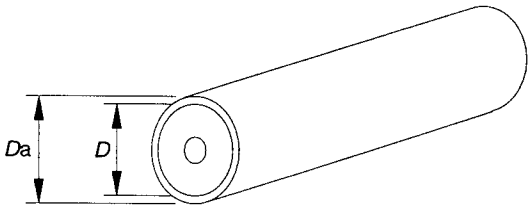
Guidelines for the determination of tensile forces and torsional moments to be applied when testing the effectiveness of cable retention with recommended values for some typical cables

C.1 General

The details given below, including the recommended values for tensile forces and torsional moments for typical cables in clause C.3, are applicable to both clamp and crimp methods of cable retention.

C.2 Cable construction and calculation of outer conductor cross-sectional area

C.2.1 *Semi-rigid cable*



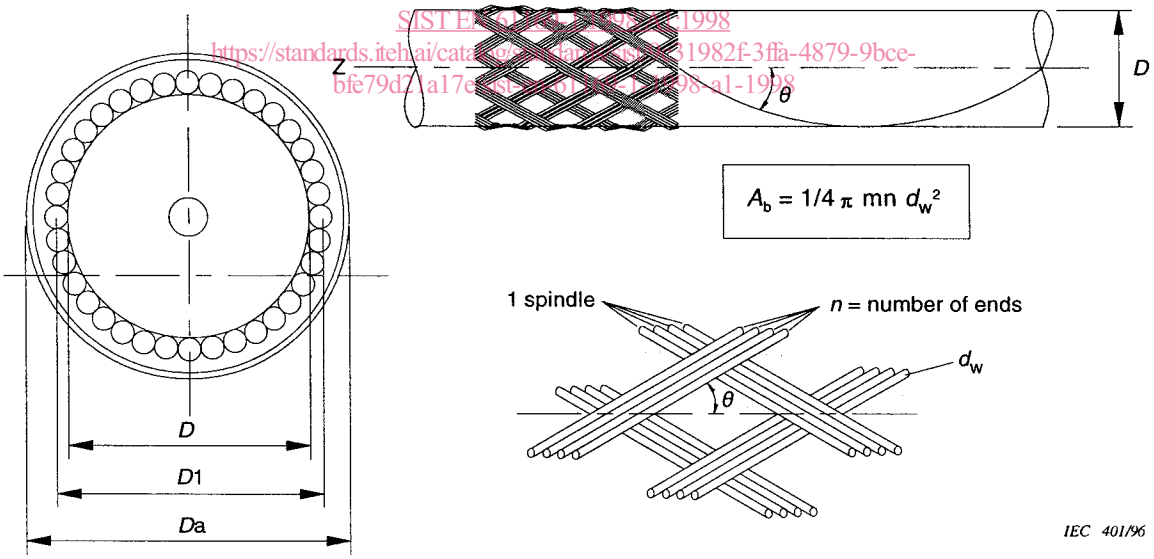
$A = 1/4\ \pi\ (Da^2 - D^2)$

IEC 400/96

Examples:

Diameter mm		Cross-sectional *A*
Da	*d*	mm²
1,194	0,940	0,426
2,197	1,676	1,584
3,581	2,984	3,076

C.2.2 *Flexible cable, single screened*



$A_b = 1/4\ \pi\ mn\ d_w^2$

IEC 401/96

A_b = cross-sectional area of the braid strands multiplied by their number

d_w = diameter of braid wire

D = dielectric diameter

$D1$ = average braid diameter ($D + 2{,}25\ d_w$)

Da = jacket diameter

m = number of spindles (carriers)

n = number of braid wires (ends) per spindle

θ = braid angle

Examples:

IEC 96	Diameter mm			Braid	Cross-sectional A_b
	D	d_w	$D1$	$m \times n$	mm²
50-1-1	0,84	0,10	1,065	16 × 3	0,3770
50-2-2	1,50	0,10	1,725	16 × 5	0,6283
–	2,44	0,13	2,733	16 × 6	1,2742
50-3-1	2,95	0,13	3,243	16 × 7	1,4866
75-4-4	3,70	0,15	4,038	16 × 7	1,9792
50-7-4	7,25	0,18	7,655	24 × 8	4,8858

C.2.3 *Flexible cable, double screened*

Examples:

IEC 96	Diameter mm			Inner braid	Outer braid	Cross-sectional area A_b
	D	d_w	$D1$	$m \times n$	$m \times n$	mm²
–	2,95	0,13	3,535	16 × 7	16 × 7	2,9732
50-7-3	7,25	0,16	7,970	24 × 6	24 × 7	6,2731

C.3 Calculation of tensile forces

$$F_z = \sigma A_b \cos\theta = \sigma A$$

where

F_z is the axial force, in newtons (N);

σ is the tensile stress, in megapascals (MPa);

θ is the average braid angle, in degrees;

A is the effective cross-sectional area of the outer conductor (mm²);

A_b is the cross-sectional area of the braid strands (mm²) multiplied by their number.

C.3.1 *Semi-rigid cable*

$$\theta = 0° \ (\cos 0° = 1)$$

Admissible tensile stress for copper σ = 98 MPa (100 % safety margin)

Cable O/D	A	F_z rounded
mm	mm²	N
1,194	0,4260	42
2,197	1,5841	155
3,581	3,0759	302