SLOVENSKI STANDARD
SIST EN 122130:1999

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Sectional Specification: Radio frequency coaxial connectors - Series SMB

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Rahmenspezifikation: Hochfrequenz-Koaxial-Steckverbinder - Serie SMB

Spécification intermédiaire: Connecteurs coaxiaux pour fréquence radioélectrique - Série SMB

Ta slovenski standard je istoveten z: **EN 122130:1993**

ICS:

33.120.30	Radiofrekvenļ ni konektorji (RF)	R.F. connectors

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 122130

May 1993

Supersedes CECC 22 130 Issue 1: 1984

Descriptors: Quality, electronic components, connectors

English version

Sectional specification: Radio frequency coaxial connectors. Series SMB

Spécification intermédiaire: Connecteurs coaxiaux pour fréquence radioélectrique. Série SMB

Rahmenspezifikation: Hochfrequenz-Koaxial-Steckverbinder. Serie SMB

This European Standard was approved by CENELEC Electronic Components Committee (CECC) on 7 May 1993. CENELEC 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 Central Secretariat or to any CENELEC 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 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.

CECC

CENELEC Electronic Components Committee
Comité des Composants Electroniques du CENELEC
CENELEC - Komitee für Bauelemente der Elektronik

General Secretariat: Gartenstr. 179, W-6000 Frankfurt/Main 70

Foreword

The CENELEC Electronic Components Committee (CECC) is composed of those member countries of the European Committee for Electrotechnical Standardization (CENELEC) who wish to take part in a harmonized System for electronic components of assessed quality.

The object of the System is to facilitate international trade by the harmonization of the specifications and quality assessment procedures for electronic components, and by the grant of an internationally recognized Mark, or Certificate, of Conformity. The components produced under the System are thereby acceptable in all member countries without further testing.

This European Standard was prepared by CECC WG 22, 'RF Connectors'.

The text of the draft based on document CECC 22 130 Issue 1 : 1994 (with A1 to A3) was submitted to the formal vote for conversion to a European Standard; together with the voting report, circulated as document CECC(Secretariat)3339, it was approved by CECC as EN 122130 on 7 May 1993.

The following dates were fixed:

- latest date of announcement of the EN at national level (doa) 1993-09-03
- latest date of publication of an identical national standard* (dop) 1994-03-03
- latest date of withdrawal of conflicting national standards* (dow) 1995-03-03

* National Standard (excluding National implementation of IECQ Specifications).

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This specification has been formally approved by the CECC and has been prepared for those countries taking part in the System who wish to issue national harmonized specifications for RADIO FREQUENCY COAXIAL CONNECTORS AND ACCESSORIES SERIES SMB. It should be read in conjunction with the current regulations for the CECC System.

At the date of printing of this specification the member countries of the CECC are Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom, and copies of it can be obtained from the addresses shown on the blue flysheet.

PREFACE

This sectional specification (SS) was prepared by CECC Working Group 22: R.F. Connectors.

It is based, wherever possible, on the Publications of the International Electrotechnical Commission and in particular on IEC 169-10 Radio-frequency connectors, Part 10: R.F. coaxial connectors with inner diameter of outer conductor 3 mm (0,12 in) with snap-on coupling - Characteristic impedance 50 Ω (Type SMB). Technical deviations from IEC 169-10 are indicated by vertical lines.

This SS and its associated blank detail specification(s) (BDS) are specific to Series SMB radio frequency connectors and their related accessories.

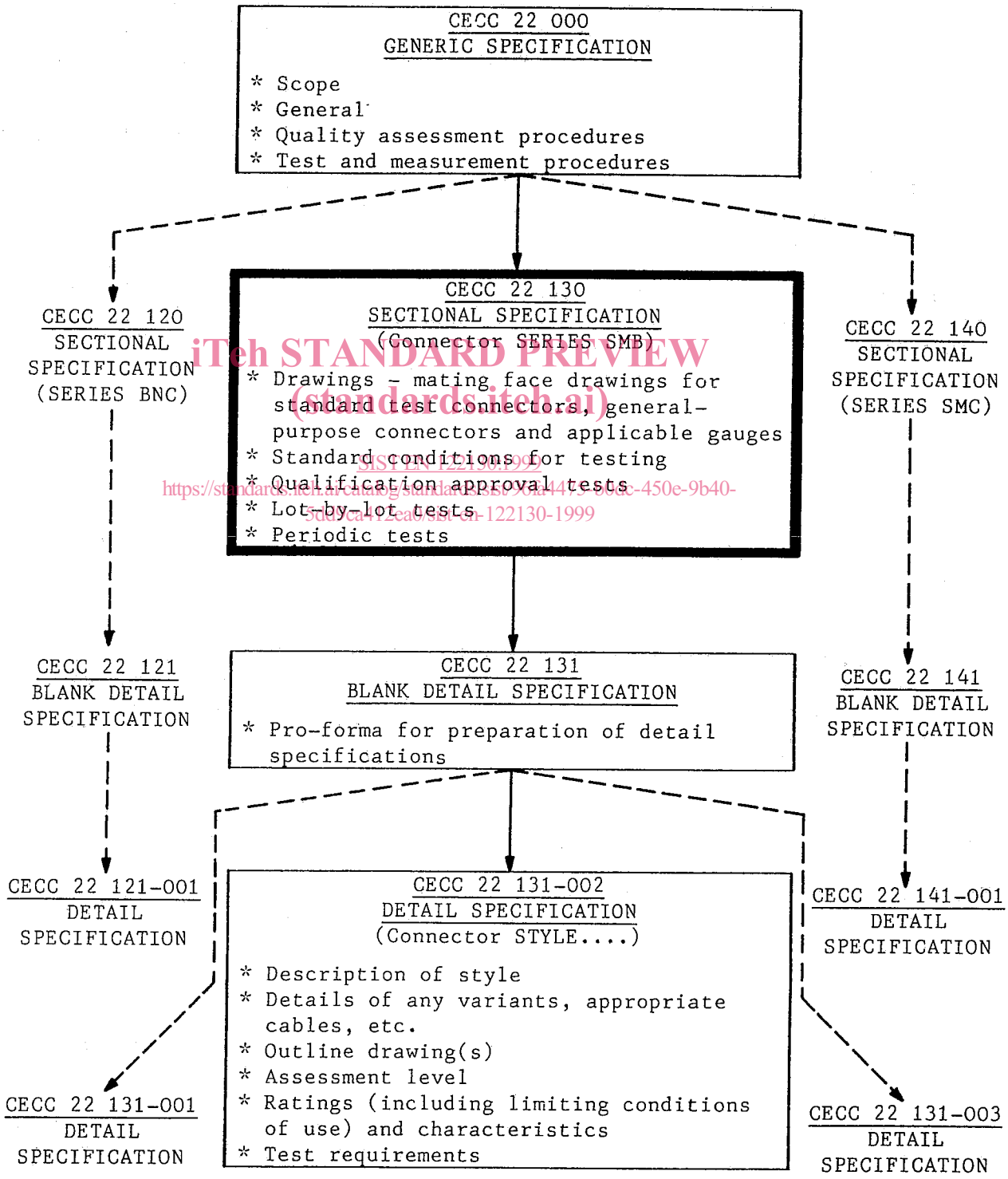
The text of this specification was circulated to the CECC for voting in the documents listed below and was ratified by the President of the CECC for printing as a CECC specification:

Document	Voting date	Report on the Voting
CECC (Secretariat) 927	July 1980	CECC (Secretariat) 1008
CECC (Secretariat) 1231	December 1982	CECC (Secretariat) 1318

Series SMB connectors have a characteristic impedance of 50 Ω and are normally used for low power applications, in conjunction with flexible coaxial cables having a dielectric diameter of 0,86 to 1,6 mm. The connectors are usable up to a frequency of at least 4 GHz, and may be used at higher frequencies if a reflection factor greater than 0,15 can be tolerated for straight connectors and 0,24 for right-angle styles.

Document numbering for r.f. connector specifications follows clause 2.2(1) o CECC 00 400: Part III, in order to permit the issue of more than nine sectional specifications: The approved numbering system applicable to r.f. connector specifications is illustrated in the diagram below.

CECC SPECIFICATION SYSTEM
for R.F. Connectors



NOTE: A detail specification is a 'completed' blank detail specification.

SECTION 1 - SCOPE

This sectional specification (SS) provides information and rules for the preparation of detail specifications (DS) for miniature snap-on coaxial connectors Series SMB.

It prescribes mating-face dimensions for general purpose connectors, dimensional details for standard test connectors, Grade 0, together with gauging information and the mandatory tests, selected from CECC 22 000, applicable to all DS relating to Series SMB connectors.

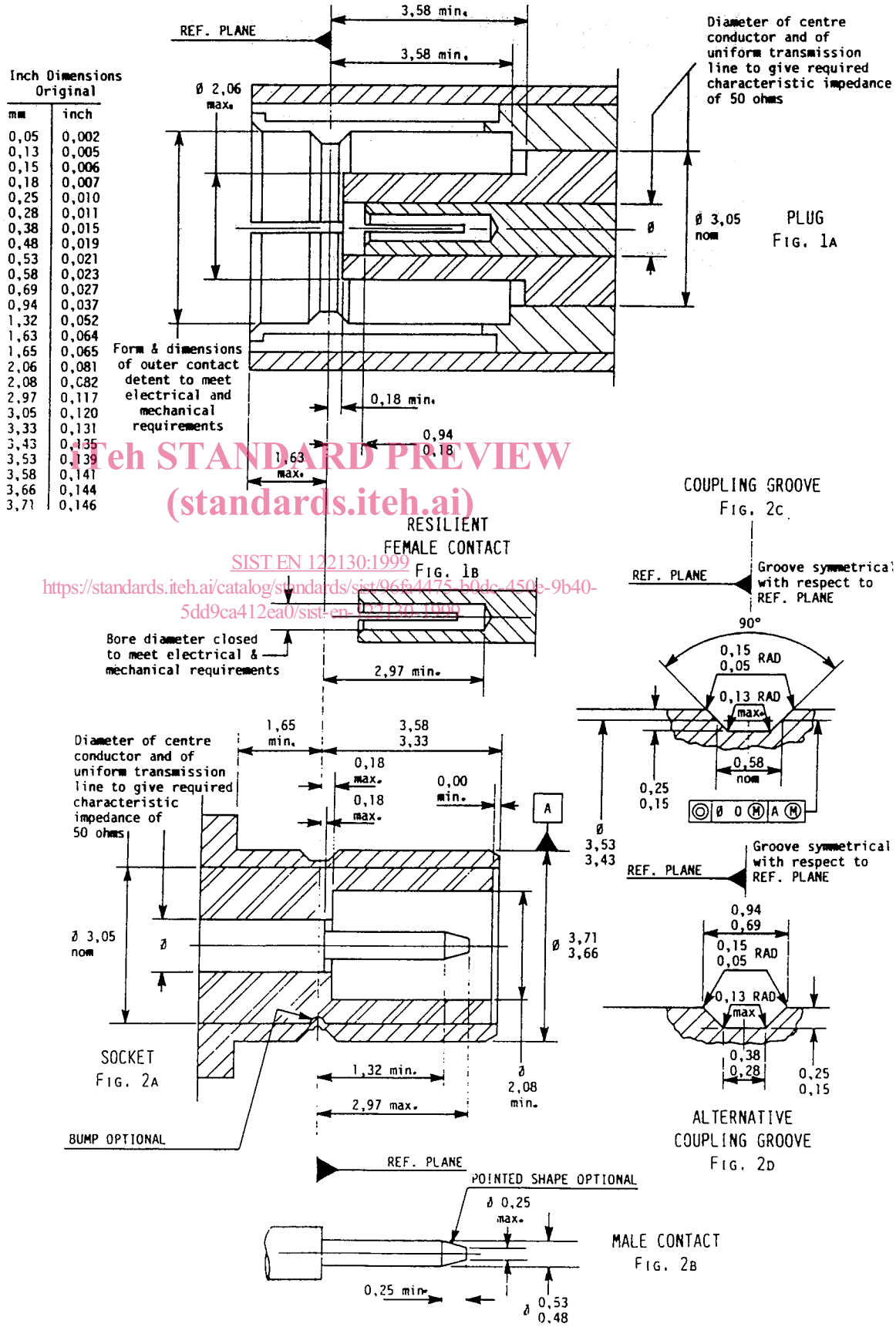
This specification indicates the recommended performance characteristics to be considered when writing a DS, and covers test schedules and inspection requirements for Assessment Levels H, M and U.

SECTION 2 - MATING FACE AND GAUGE INFORMATION

2.1 Dimensions - general purpose connectors

All undimensioned pictorial configurations are for reference purposes only.

Inch Dimensions Original	
mm	inch
0,05	0,002
0,13	0,005
0,15	0,006
0,18	0,007
0,25	0,010
0,28	0,011
0,38	0,015
0,48	0,019
0,53	0,021
0,58	0,023
0,69	0,027
0,94	0,037
1,32	0,052
1,63	0,064
1,65	0,065
2,06	0,081
2,08	0,082
2,97	0,117
3,05	0,120
3,33	0,131
3,43	0,135
3,53	0,139
3,58	0,141
3,66	0,144
3,71	0,146



2.2 Gauges for general purpose connectors

Inch dimensions are original dimensions. All undimensioned pictorial configurations are for reference purposes only.

2.2.1 Gauge for female centre contact

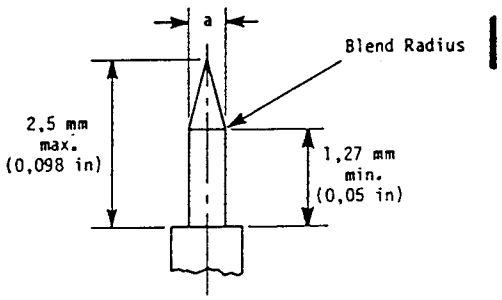


FIGURE 3. Gauge pin for centre contact of socket connector (for dimension 'a' see below)

TABLE

Gauge A – maximum material for sizing purposes					Gauge B – minimum material – for measurement of gauge retention force Mass (weight) of gauge: 28 ± 1 g			
	mm		in		mm		in	
Ref.	min.	max.	min.	max.	min.	max.	min.	max.
a Ø	0,533	0,538	0,0210	0,0212	0,477	0,482	0,0188	0,0190
Material: Steel, polished surface roughness Ra – 0,4 µm (16 µin) max.								

Test procedure (see 4.5.1 of CECC 22 000)

Gauge A shall be inserted once only into the female centre contact. This is a sizing operation.

After this, Gauge B shall be inserted into the female centre contact. The contact shall support the mass of the gauge suspended in a vertical attitude.

Additional test

Following the sizing operation, and if prescribed in the DS, the force necessary to insert Gauge A fully into the female centre contact shall be measured. When this test is required, the maximum permitted insertion force shall then be specified and shall not exceed 11 N.

Notes: (for information only)

Gauge A is used for qualification approval tests only, see 4.5.1. The minimum diameter of Gauge A corresponds to the maximum diameter of a male contact pin.

2.2.2 Gauge for outer contact of plug

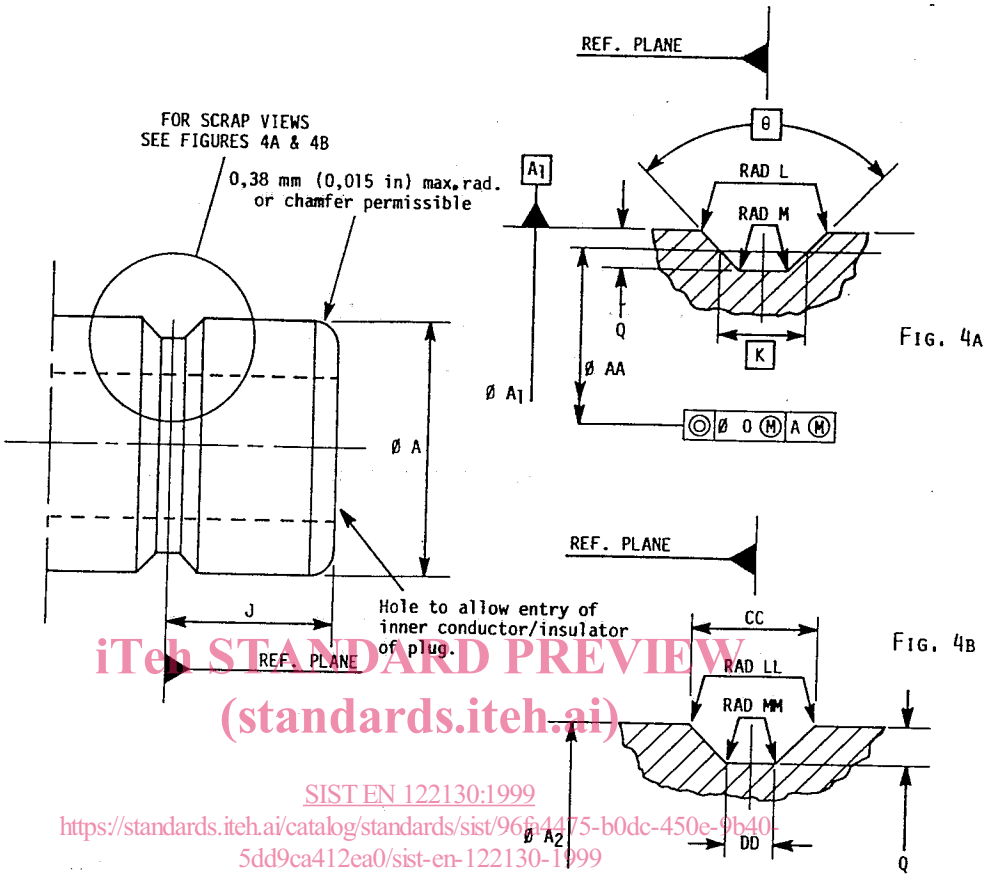


FIG. 4A

FIG. 4B

FIGURE 4. Outer contact sizing and retention force gauges A and B (for dimensions see table below).

TABLE

Gauge A – Maximum material – for sizing purposes					Gauge B – Minimum material – for measurement of retention force Mass (weight) of gauge 800 ± 10 g			
Ref.	mm		in		mm		in	
	min.	max.	min.	max.	min.	max.	min.	max.
A_1 Ø	3,70	3,71	0,1455	0,1460	3,66	3,67	0,1440	0,1445
A_2 Ø	3,68	3,71	0,1450	0,1460	3,68	3,71	0,1450	0,1460
J	3,33	3,58	0,131	0,141	3,33	3,58	0,131	0,141
K	0,584		0,0230		0,584		0,0230	
L rad	0,05	0,08	0,002	0,003	0,10	0,13	0,004	0,005
M rad	–	0,08	–	0,003	0,08	0,10	0,003	0,004
Q	0,25	0,28	0,010	0,011	0,13	0,15	0,005	0,006
AA Ø	3,48	3,49	0,1370	0,1375	3,48	3,49	0,1370	0,1375
CC	0,91	0,94	0,036	0,037	0,69	0,71	0,027	0,028
DD	0,36	0,38	0,014	0,015	0,28	0,30	0,011	0,012
LL rad	0,05	0,15	0,002	0,006	0,05	0,15	0,002	0,006
MM rad	–	0,13	–	0,005	–	0,13	–	0,005
θ	79°		79°		109°		109°	

Material: Steel, polished
surface roughness Ra – 0,4 µm (16 µin max).

Test requirements (see 4.5.1 of CECC 22 000).

Gauge A shall be inserted once only into the outer contact of the plug, and then removed. This is a sizing operation.

After this, gauge B shall be inserted into the outer contact of the plug. The contact shall support the mass of the gauge in a vertical attitude.

Additional test

Following the sizing operation, and if prescribed in the DS, the force necessary to insert Gauge A into the outer contact of the plug shall be measured. When this test is required, the maximum permitted insertion force shall then be specified and shall not exceed 63 N.