INTERNATIONAL STANDARD

IEC 61754-4-1

First edition
2003-01

Fibre optic connector interfaces –

Part 4-1:
Type SC connector family –
Simplified receptacle SC-PC connector interfaces

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FIBRE OPTIC CONNECTOR INTERFACES –

Part 4-1: Type SC connector family – Simplified receptacle SC-PC connector interfaces

FOREWORD

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International Standard IEC 61754-4-1 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

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

FDIS	Report on voting
86B/1760/FDIS	86B/1809/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

IEC 61754 consists of multiple parts, under the general title *Fibre optic connector interfaces*.

– Part 1, entitled *General and guidance*, covers general information.
– Subsequent parts contain interfaces for various connector families.

The committee has decided that the contents of this publication will remain unchanged until 2007. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

FIBRE OPTIC CONNECTOR INTERFACES –

Part 4-1: Type SC connector family – Simplified receptacle SC-PC connector interfaces

1 Scope

This part of IEC 61754 defines the standard interface dimensions of simplified receptacles for the type SC family of connectors.

2 Description

The parent connector for the type SC connector family is a single-position plug which is characterized by a cylindrical, spring-loaded butting ferrule(s) of 2,5 mm typical diameter, and a push-pull coupling mechanism.

The simplified receptacles are made up of simplified receptacle housings and simplified plugs. The simplified receptacle housings are used to retain the connector plug and mechanically maintain the optical datum target of the plugs at a defined position within the simplified receptacle housings. A spring is not included in the simplified plug. The simplified plug is removed with aid of a tool. The optical alignment mechanism of the connector is of a resilient sleeve style.

3 Interfaces

This standard contains the following standard interfaces.

– Interface 4-21: simplified receptacles housings interface

– Interface 4-22: simplified plugs interface

The simplified plug has a ferrule with a spherical polished ferrule endface, and realizes physical contact (PC).

The following interfaces are intermateable:

Interface 4-21 mates with interface 4-22.

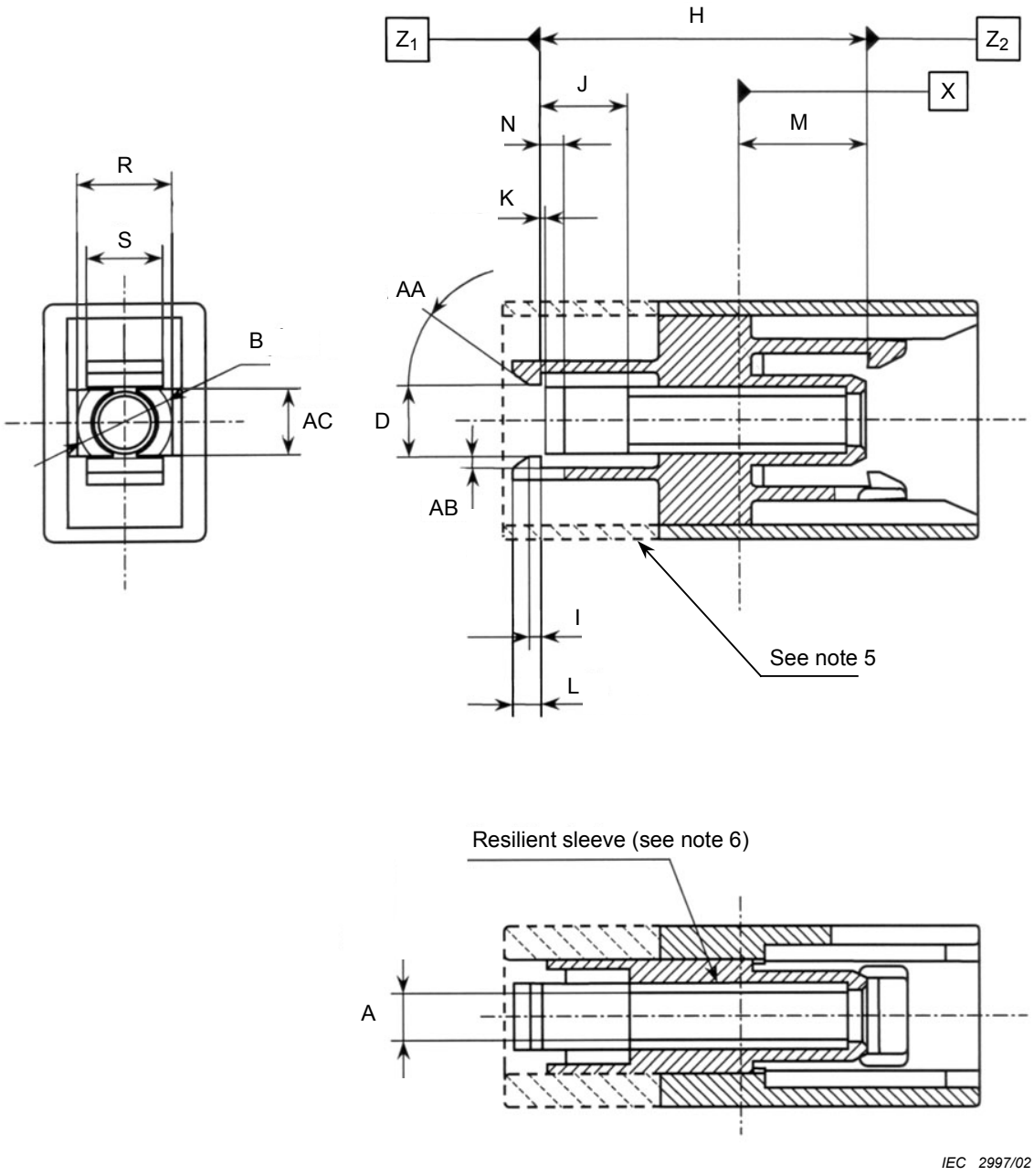

Figure 1a – Simplified receptacle housings interface

Table 1a – Dimensions of the simplified receptacles housings interface

Reference	Dimensions mm		Notes
	Minimum	Maximum	
A	–	–	Diameter, see Table 1b
B	5,01	5,11	Diameter
D	3,5	4,0	3
H	17,2	17,3	4
I	0,25	0,65	
J	4,6	4,7	
K	0,01	0,5	
L	1,3	1,7	
M	6,99	7,01	Reference
N	1,1	1,4	
R	5,01	5,11	
S	4,0	4,1	
AA	27°	35°	
AB	0,55	0,85	
AC	3,4	3,6	

NOTE 1 Plane X is the optical reference plane; it corresponds to the optical datum target in IEC 61754-4, Figure 1.

NOTE 2 The right-direction part from the optical reference plane X is the same structure and dimension as IEC 61754-4, Figure 2a.

NOTE 3 The dimension *D* shall become greater than 5 mm when a plug is coupled to or removed from the simplified receptacle housing.

NOTE 4 Plane Z_1, Z_2 is the mechanical reference plane; plane Z_1 corresponds to the plug plane Z in Figure 2 and plane Z_2 corresponds to plane X in IEC 61754-4, Figure 1.

NOTE 5 It may be free of a structure as shown by the dashed line in Figure 1a.

NOTE 6 It may be of a structure that the resilient sleeve is not able to take apart.

Table 1b – Grade

Grade	Dimensions mm		Notes
	Minimum	Maximum	
1			Resilient sleeve, 1 and 2

NOTE 1 The connector alignment feature is a resilient sleeve. The feature must accept a gauge pin to the center of the simplified receptacle with a force of 2 N to 5,9 N under the condition that another gauge pin is inserted into the feature from the other side. The center of the simplified receptacle is defined by the left side position of the dimension M. The gauge pin is shown in Figure 1b.

NOTE 2 Add the grade number to the interface reference number.

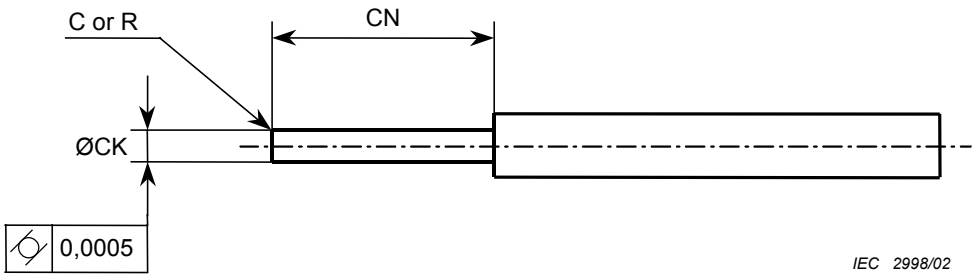

Figure 1b – Pin gauge for the resilient alignment sleeve

Table 1c – Pin gauge dimensions

Reference	Dimensions mm		Notes
	Minimum	Maximum	
CK	2,4985	2,4995	Surface roughness grade N4 (0,2 µm Ra)
CN	7	15	

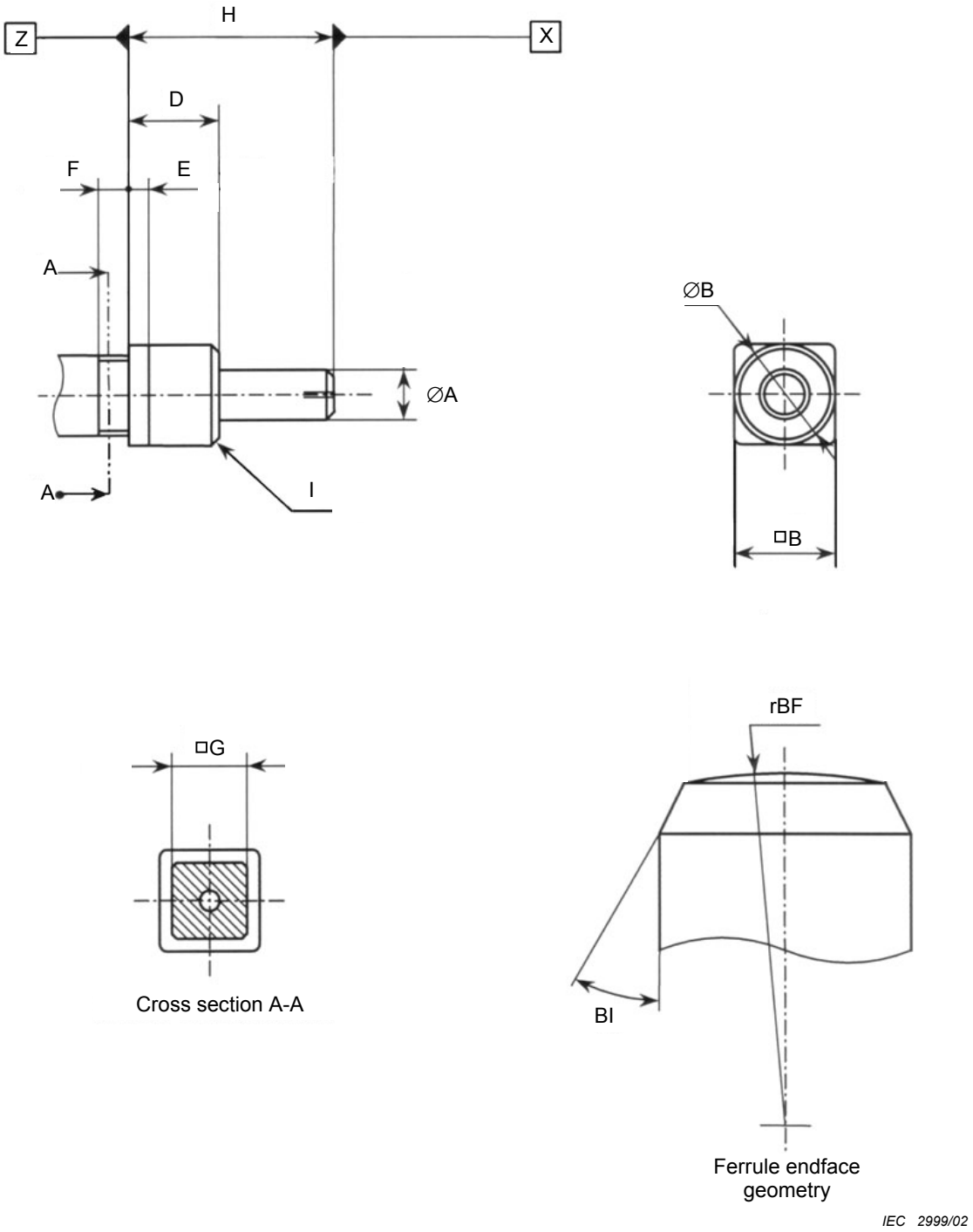

Figure 2 – Simplified plug interface

Table 2a – Dimensions of the simplified plug interface

Reference	Dimensions mm		Notes
	Minimum	Maximum	
A	–	–	1, see Table 2b, Diameter
B	4,9	5,0	Diameter
C	4,9	5,0	Rectangle
D	4,45	5,55	
E	0,9	1,1	
F	1,4	2.0	
G	3,7	3,8	Rectangle
H	10,16	10,35	3
I	0,1	0,5	45° chamfer
BF	10	25	Radius, 2
BI	25°	35°	

NOTE 1 A chamfer or radius is allowed to a maximum depth of 1,2 mm from the ferrule endface.

NOTE 2 Dome eccentricity of the spherical polished endface shall be less than 50 µm.

NOTE 3 Dimension *H* is defined as after polishing.

Table 2b – Grade

Grade	Dimensions mm		Notes
	A		
	Minimum	Maximum	
1	2,4985	2,4995	See note
2	2,4980	2,5000	See note
3	2,4970	2,5000	See note
4	2,4940	2,5000	See note

NOTE Add the grade number to the interface reference number.

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