



SLOVENSKI STANDARD
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01-julij-2023

**Optični spojni elementi in pasivne komponente - Vmesniki za optične konektorje -
13. del: Družina konektorjev vrste FC-PC**

Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces - Part 13: Type FC-PC connector family

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Interfaces de connecteurs pour fibres optiques - Partie 13: Connecteurs de type FC-PC

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SECRETARIAT: Japan	SECRETARY: Mr Shigeru Tomita
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TITLE: Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces - Part 13: Type FC-PC connector family

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NOTE FROM TC/SC OFFICERS:

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC INTERCONNECTING
DEVICES AND PASSIVE COMPONENTS –
FIBRE OPTIC CONNECTOR INTERFACES –**

Part 13: Type FC-PC connector family

FOREWORD

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International Standard IEC 61754-13 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

This third edition cancels and replaces the second edition published in 2006. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) Revising normative reference reflecting the latest documents.
- b) Addition of intermateability in 5.2.
- c) Changes of dimensions of the plug connector interface in Table 2 and 3.
- d) Addition of Grade A_m, B_m and C_m in Table 3.

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

FDIS	Report on voting
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86B/xxxx/FDIS	86B/xxxx/RVD
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81
82 Full information on the voting for the approval of this standard can be found in the report on
83 voting indicated in the above table.

iTeh STANDARD PREVIEW (standards.iteh.ai)

<https://standards.iteh.ai/catalog/standards/sist/b0901d6c-9ae8-4995-bcf8-53cc9f9ec137/osist-pren-iec-61754-13-2023>

84 **FIBRE OPTIC INTERCONNECTING**
85 **DEVICES AND PASSIVE COMPONENTS –**
86 **FIBRE OPTIC CONNECTOR INTERFACES –**

87
88 **Part 13: Type FC-PC connector family**
89

90 **1 Scope**

91 This part of IEC 61754 defines the standard interface dimensions for the type FC-PC family of
92 connectors.

93 **2 Normative references**

94 The following documents are referred to in the text in such a way that some or all of their content
95 constitutes requirements of this document. For dated references, only the edition cited applies.
96 For undated references, the latest edition of the referenced document (including any
97 amendments) applies.

98 IEC 61300-3-22, *Fibre optic interconnecting devices and passive components - Basic test and*
99 *measurement procedures - Part 3-22: Examinations and measurements - Ferrule compression*
100 *force*

101 IEC 61754-1, *Fibre optic interconnecting devices and passive components - Fibre optic*
102 *connector interfaces - Part 1: General and guidance*

103 IEC 61755-3-1, *Fibre optic connector optical interfaces – Part 3-1: Optical interface, 2,5 mm*
104 *and 1,25 mm diameter cylindrical full zirconia PC ferrule, single mode fibre*

105 IEC 63267-2-1, *Fibre optic interconnecting devices and passive components - Fibre optic*
106 *connector optical interfaces - Part 2-1: Connection of multimode non-angled physically*
107 *contacting fibres*

108 **3 Terms and definitions**

109 For the purposes of this document, the terms and definitions given in IEC 61754-1 and the
110 following apply.

111 ISO and IEC maintain terminological databases for use in standardization at the following
112 addresses:

- 113 • IEC Electropedia: available at <http://www.electropedia.org/>
- 114 • ISO Online browsing platform: available at <http://www.iso.org/obp>

115 **3.1**

116 **Screw coupling mechanism**

117 Coupling mechanism in which a plug connector is inserted into an adaptor connector or an
118 active device receptacle, and a female screw formed on a coupling nut of the plug connector is
119 tightened with a male screw formed on the adaptor connector or the active device receptacle

120 4 Description

121 The parent connector for type FC connector family is a single position plug connector set of
 122 plug/adaptor configuration which is characterized by a 2,5 mm nominal ferrule diameter. It
 123 includes a screw coupling mechanism, which is spring loaded relative to the ferrule in the
 124 direction of the optical axis. The coupling can be released by loosening the screw, and the plug
 125 connector can be detached from the optical adapter or the adaptor connector or the active
 126 device receptacle. The plug has a single male key which may be used to orient and limit the
 127 relative position between the connector and the component to which it is mated. The optical
 128 alignment mechanism of the connectors is of a rigid bore sleeve or a resilient sleeve style.

129 5 Interfaces

130 5.1 General

131 The following pages define the standard interfaces for the type FC connector family. This
 132 standard contains the following standard interfaces.

133 Interface IEC 61754-13-1: Plug connector interface (see Figure 1)

134 Interface IEC 61754-13-2: Adaptor connector interface (see Figures 2 and 3)

135 Interface IEC 61754-13-3: Active device receptacle interface (see Figures 4 and 5)

136 The plug of interface IEC 61754-13-1 has a ferrule with a spherically polished ferrule endface,
 137 and realizes physical contact (PC).

138 NOTE The standard interface (number is a number for distinguishing the standard interfaces,
 139 not the standard number.

140 <https://standards.iteh.ai/catalog/standards/sist/b0901d6c-9ae8-4995-bcf8-53cc9f9ee137/osist-pr-en-iec-61754-13-2023>

141 5.2 Intermateability

142 Table 1 shows the intermateability of interfaces.

143 **Table 1 – Intermateability of interfaces**

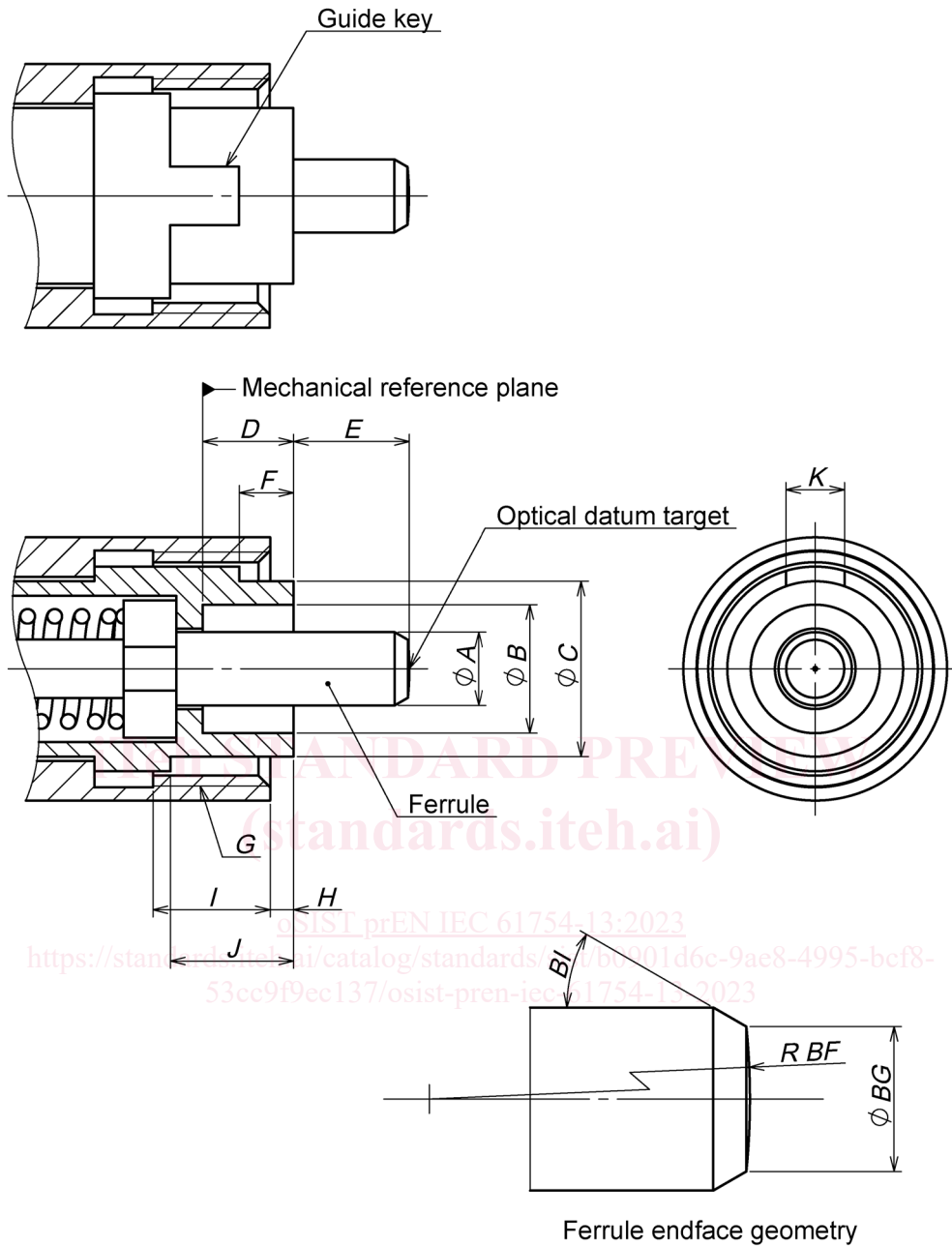
Plugs	Adaptors/active device receptacles	
	IEC 61754-13-2	IEC 61754-13-3
IEC 61754-13-1	Mate	Mate

144

145 5.3 Interfaces and dimensions

146 Figure 1 is an example of a plug connector interface. Table 2 gives dimensions of the plug
 147 connector interface and Table 3 gives the grade characteristics for plug connector interface.

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Figure 1 – Plug connector interface

152

Table 2 – Dimensions of the plug connector interface

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Dimensions in millimetres

Reference	Dimensions		Remarks
	Minimum	Maximum	
<i>A</i>			Diameter, see Table 3, ferrule grade, ^a
<i>B</i>	4,4	4,6	Diameter
<i>C</i>	5,8	6,0	Diameter
<i>D</i>	2,92	–	
<i>E</i>	3,75	4,10	^b
<i>F</i>	1,77	2,77	
<i>G</i>	M8 × 0,75-6 H		^c
<i>H</i>	–	1,1	^d
<i>I</i>	3,5	–	
<i>J</i>	3,95	–	
<i>K</i>	1,86	2,14	
<i>BF</i>	See IEC 61755-3-1		Radius, ^e
<i>BG</i>	See IEC 61755-3-1		Diameter, ^a
<i>BI</i> (°)	25	35	Degree, ^a

^a The outside diameter of the ferrule may be less than 2,498 mm in the range of 1,8 mm from the tip rearwards.

^b Dimension *E* is given for a plug endface when not mated. It is movable by a certain axial compression force, with direct contacting endfaces, and therefore dimension *E* is variable with a minimum length of 3,6 mm. Ferrule compression force shall be 7,8 N to 11,8 N when dimension *E* is from 3,6 mm to 3,7 mm.

^c M8 × 0,75 indicates a metric screw thread with a nominal diameter of 8 mm and a pitch of 0,75 mm. 6H represents the class of fit. It requires a way of escape from the thread rearwards.

^d The coupling sleeve shall be movable towards right and left directions. This dimension is given when the coupling sleeve is moved furthest to the right.

^e Dome eccentricity of the spherically polished endface shall be less than 0,05 mm.

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