

JIS

JAPANESE INDUSTRIAL STANDARD

**F08 Type Connectors for
Optical Fiber Cords**

JIS C 5977—1990

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In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

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F 08 Type Connectors for Optical Fiber Cords

C 5977-1990

1. Scope

This Japanese Industrial Standard specifies, based on JIS C 5962, F 08 type connectors for optical fiber cords (hereafter referred to as the "optical connectors") which are applicable to the multicomponent glass multimode optical fibers, plastic cladding multimode optical fibers and all plastic multimode optical fibers that are mainly used in a device, between devices, between floors and in precincts.

Remarks 1. F 08 type optical connectors are employing two push-on engagement systems i.e. lever-lock mechanism or friction-lock mechanism, and also the following systems:

- (1) Optical engagement system: butt joint system
- (2) Mechanical engagement system: plug-adapter-plug system
- (3) Optical fiber array system: ferrule system (outside diameter 2.5 mm)

The plugs have two kinds of construction i.e. lever-lock and friction-lock, and the adapters are so constructed that they are applicable to plugs of two kinds.

- 2. The units and numerical values given in { } in this Standard are based on the traditional units and are currently the criteria in force.

2. Definitions

For the main terms used in this Standard the definitions in JIS C 5962 apply, and the rest of the terms shall be as follows:

- (1) lever-lock mechanism Such a mechanism that the adapter and the plug are engaged and locked by insertion of the plug into the adapter and they are separated by withdrawal of the plug while releasing the lock by pressing the lock lever attached to the plug.

Applicable Standards:

JIS C 5961-Test Methods for Connectors for Optical Fiber Cords

JIS C 5962-General Rules of Optical Connectors for Glass Fiber Cords

JIS C 6820-General Rules of Optical Fibers

Reference Standard:

JIS C 5975-F 06 Type Connectors for Optical Fiber Cords

- (2) friction-lock mechanism Such a mechanism that the adapter and the plug are engaged and locked by insertion of the plug into the adapter and they are separated, due to release of the lock, when the plug is withdrawn at a prescribed force or more.

3. Structure of Type Designation

The structure of type designation shall be as specified in 3.1 of JIS C 5962.

4. Classification and Grading

4.1 Classification Optical fibers are classified as given in Table 1 (expressed by type designation).

Table 1. Classification of Optical Connector

Type designation	Shape of optical connector	Shape of ferrule array	Grade	Type designation of applicable optical fiber cord (see JIS C 6820)	Shape and dimension
CNF 08 PAFI	Adapter	F-F	I	—	Attached Fig. 1
CNF 08 PAFQ			Q		Attached Fig. 2
CNF 08 SPM 250 I 61 ⁽¹⁾	Plug	M	I	OFC 4.3-Y-CSI-200/250-H	Attached Fig. 3
CNF 08 SPM 250 I 62 ⁽²⁾			Q	OFC 2.2-PSI-980/1000	Attached Fig. 4
CNF 08 SPM 1.0 Q 51 ⁽³⁾					Attached Fig. 5

Notes ⁽¹⁾ Optical connector with lever-lock mechanism applicable to multi-component glass multimode optical fiber (see Attached Fig. 3).

⁽²⁾ Optical connector with friction-lock mechanism applicable to multicomponent glass multimode optical fiber (see Attached Fig. 4).

⁽³⁾ Optical connector with lever-lock mechanism applicable to all plastic multimode optical fiber (see Attached Fig. 5).

4.2 Grading Optical connectors are graded as follows:

- (1) Adapter Adapters are graded as given in Table 2.

Table 2. Grading of Adapter

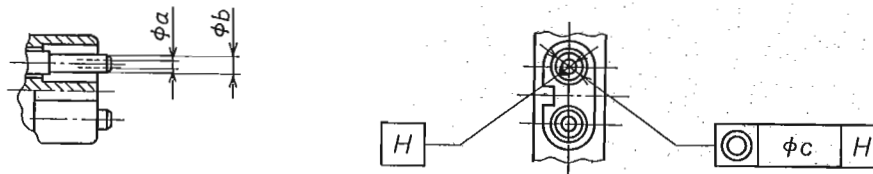
Grade	Insertion loss dB ⁽⁴⁾	
	OFC 4.3-Y-CSI-200/250-H	OFC 2.2-PSI-980/1000
I	2.0 max.	—
Q	—	3.0 max.

Note ⁽⁴⁾ The value when this component is connected with the master optical connector is shown.

(2) Plug Plugs are graded as given in Table 3.

Table 3. Grading of Plug

Grade	Insertion loss dB (4)		Dimension of ferrule mm		
	OFC 4.3-Y-CSI-200/250-H	OFC 2.2-PSI-980/1000	Tolerance on dimension a	Dimension b	Dimension c
I	2.0 max.	—	$+0.015$ 0	$2.5_{-0.01}^0$	0.015 max.
Q	—	3.0 max.	± 0.02	$2.5_{-0.02}^0$	0.1 max.



5. Construction

In this optical connector, the adapter is employed as the reference, and the plug has two kinds of construction i.e. lever-lock and friction-lock. The construction, shapes and dimensions of the engaging parts of optical connectors shall be as given in Figs. 1 to 3. The dimensions of individual connector shall be as given in Attached Figs. 1 to 5 specified in Table 1. If dimensions of the same part are specified in Figs. 1 to 3 and Attached Figs. 1 to 5, Attached Figs. 1 to 5 preceed.

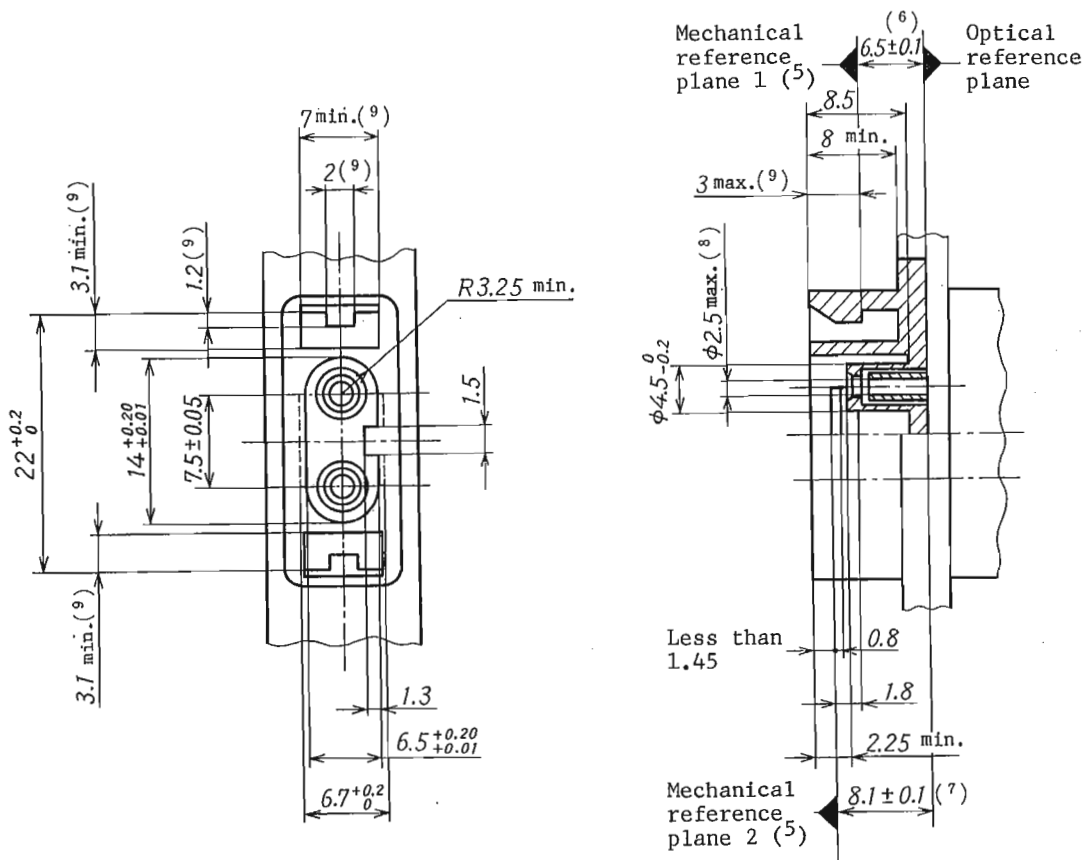
The dimensions of metal parts are those after surface treatment.

The construction and shape of the part for which no dimension is specified are exemplified as an informative reference.

The tolerances on the part for which dimensional tolerances are not specified shall be as specified in 4.1 of JIS C 5962.

Fig. 1. Engaging Part of Optical Connector (Adapter)

Unit: mm



Note (5) The mechanical reference plane 1 corresponds to the mechanical reference plane 3 of plug (see Fig. 2) and the mechanical reference plane 2 corresponds to the mechanical reference plane 4 of plug (see Fig. 3).

(6) This dimension is the designed distance from the mechanical reference plane 1 to the ferrule end plane in adapter under optically connected state engaged with the plug and is not the subject of measurement.

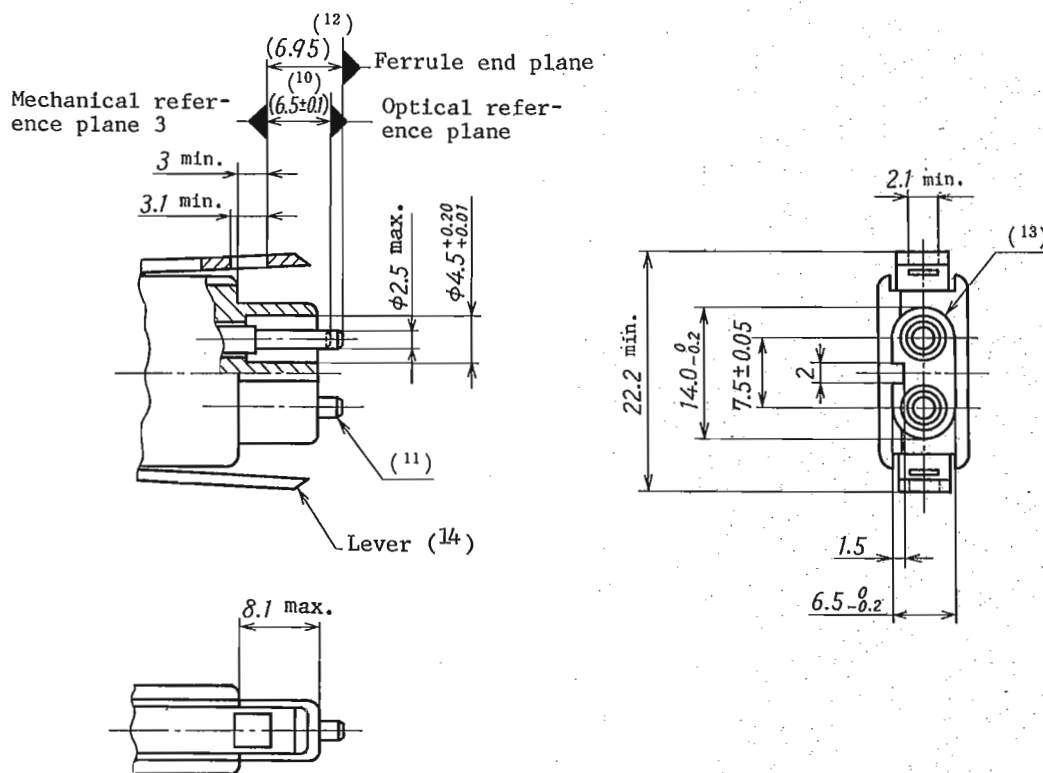
(7) This dimension is the designed distance from the mechanical reference plane 2 to the ferrule end plane in adapter under optically connected state engaged with plug and is not the subject of measurement.

(8) This dimension is that when an elastic sleeve is used, and shall be more than $\phi 2.5$ when a non-elastic sleeve is used.

(9) The part shown by the dimensions with this note is the space into which the lever of plug is pushed in for locking and corresponds to Note (14) of the plug.

Fig. 2. Engaging Part of Optical Connector (Plug) Lever-lock Type

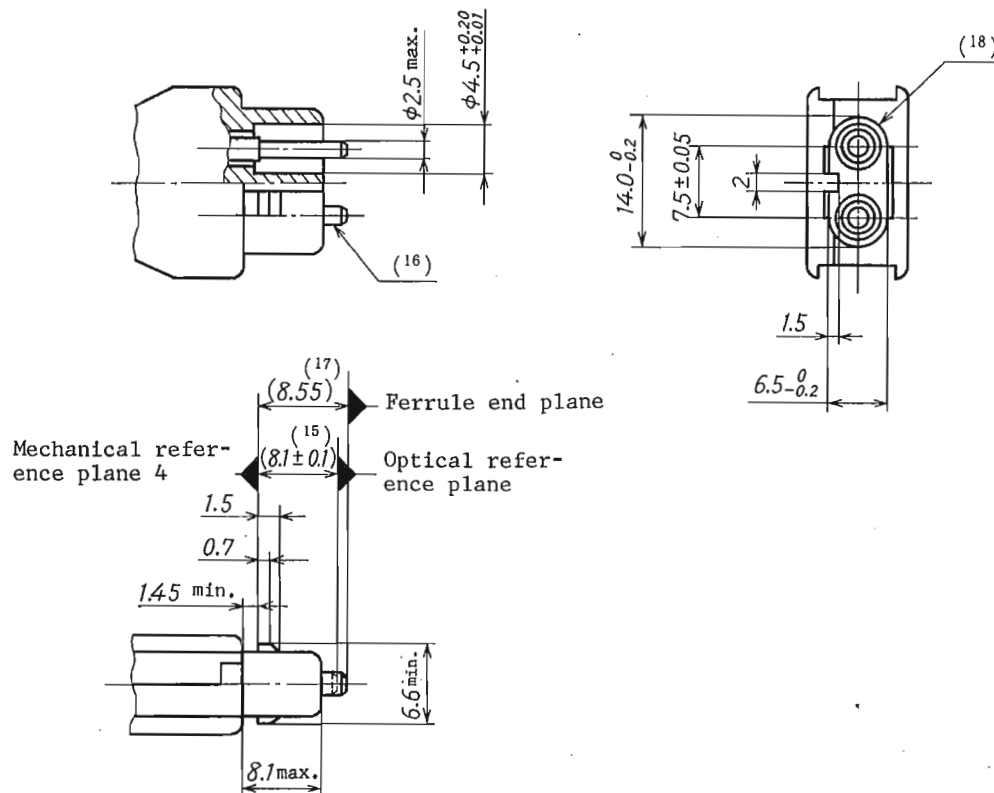
Unit: mm



- Notes (10) This dimension is the designed distance from the mechanical reference plane 3 to the ferrule end plane under optically connected state engaged with the mate optical connector and is not the subject of measurement.
- (11) The ferrule shall be so constructed that it can move to the left in this Figure against the elastic force.
- (12) This dimension is the minimum necessary dimension after mirror finishing of the ferrule end plane, and is not the subject of measurement.
- (13) This part can be inserted into the part of adapter shown by R 3.25 or more in the figure of adapter.
- (14) This lever shall be so constructed that it corresponds to the part represented by the dimensions with Note (9) in the figure of adapter.

Fig. 3. Engaging Part of Optical Connector (Plug) Friction-lock Type

Unit: mm



- Notes (15) This dimension is the designed distance from the mechanical reference plane 4 to the ferrule end plane under optically connected state engaged with the mate optical connector, and is not the subject of measurement.
- (16) The ferrule shall be so constructed that it can move to the left in this Figure against the elastic force.
- (17) This dimension is the minimum necessary dimension after mirror finishing of the ferrule end plane, and is not the subject of measurement.
- (18) This part can be inserted into the part of adapter shown by R 3.25 or more in the figure of adapter.

6: Performances

The performances shall be as given in Table 4.