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INTERNATIONAL STANDARD

Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces –
Part 4: Type SC connector family

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

Part 4: Type SC connector family

FOREWORD

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

This second edition cancels and replaces the first edition published in 1997 and constitutes a technical revision.

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

a) addition of the duplex plug and adaptor connector interface;

b) reconsideration of the overall content of the standard.

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

FDIS	Report on voting
86B/3620/FDIS	86B/3652/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.

A list of all parts of the IEC 61754 series, under the general title *Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces,* can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. 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- withdrawn,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 INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – FIBRE OPTIC CONNECTOR INTERFACES –

Part 4: Type SC connector family

1 Scope

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

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

IEC 61755-3-2, *Fibre optic connector optical interfaces – Part 3-2: Optical interface, 2,5 mm and 1,25 mm diameter cylindrical full zirconia ferrules for 8 degrees angled-PC single mode fibres*

3 Description

The parent connector for the type SC connector family is a single position plug connector which is characterized by a 2,5 mm nominal ferrule diameter. It includes a push-pull coupling mechanism which is spring loaded relative to the ferrule in the direction of the optical axis. The plug has a single male key which may be used to orient and limit the relative position between the connector and the component to which it is mated. The optical alignment mechanism of the connector is of a resilient sleeve style.

This part of IEC 61754 defines the standard interface dimensions of active device receptacles for the type SC connectors. The receptacles are used to retain the connector plug and mechanically maintain the optical datum target of the plugs at a defined position within the receptacle housings.

4 Interfaces

This standard contains the following standard interfaces:

Interface IEC 61754-4-1: simplex plug connector interface – push/pull, PC

Interface IEC 61754-4-2: simplex adaptor connector interface – push/pull

Interface IEC 61754-4-3: duplex plug connector interface – push/pull, PC

Interface IEC 61754-4-4: duplex adaptor connector interface – push/pull

Interface IEC 61754-4-5: simplex plug connector interface – push/pull, APC 8°

Interface IEC 61754-4-6: duplex plug connector interface – push/pull, APC 8°

Interface IEC 61754-4-X1: simplex active device receptacle interface – for APC 8°connector plug

Interface IEC 61754-4-X2: simplex active device receptacle interface – for PC connector plug

Interface IEC61754-4-X3: duplex active device receptacle interface – for APC 8°connector plug

Interface IEC 61754-4-X4: duplex active device receptacle interface – for PC connector plug

The plug of interface IEC 61754-4-1 and interface IEC 61754-4-3 has a ferrule with a spherically polished endface (PC). The plug of interface IEC 61754-4-5 and interface IEC 61754-4-6 has a ferrule with a spherically polished angled endface which may take any of the angled PC (APC) forms and realizes a physical contact.

Table 1 shows the intermateability of interface.

Table 1 – Intermateability of interface

Plugs	Adaptors/active device receptacles interfaces					
	61754-4-2	61754-4-4	61754-4-X1	61754-4-X2	61754-4-X3	61754-4-X4
61754-4-1	Mate	Mate	Not mate	Mate	Not mate	Mate
61754-4-3	Not mate	Mate	Not mate	Not mate	Not mate	Mate
61754-4-5	Mate	Mate	Mate	Not mate	Mate	Not mate
61754-4-8	Not mate	Mate	Not mate	Not mate	Mate	Not mate

Figure 1 is an example of a simplex plug connector interface. Table 2 gives dimensions of the simplex plug connector interface and Table 3 gives the grade of the simplex PC plug connector interface.

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

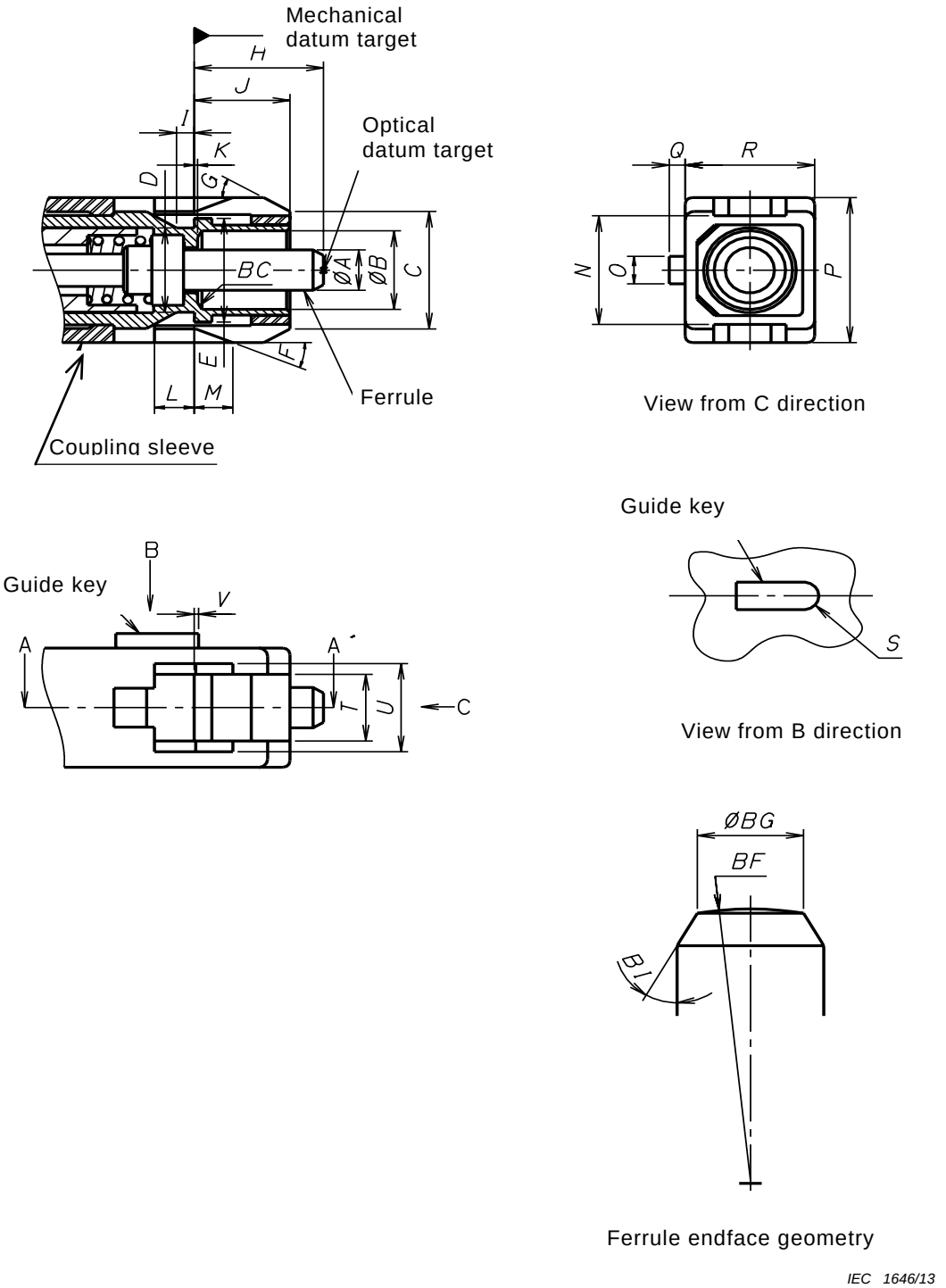

Figure 1 – Simplex PC plug connector interface

Table 2 – Dimensions of the simplex PC plug connector interface

Reference	Dimensions		Remarks
	Minimum	Maximum	
A		2,500 mm	See Table 3
B	4,8 mm	4,9 mm	
C	6,8 mm	7,4 mm	
D	4,9 mm	5,3 mm	
E	6,7 mm	6,8 mm	
F	19º	23°	
G	25º	35°	
H	7,15 mm	7,5 mm	[a]
I	0,8 mm	1,2 mm	
J	5,3 mm	5,5 mm	
K	–	0,05 mm	
L	2,11 mm	–	[b]
M	2,0 mm	2,8 mm	[b] and [c]
N	6,6 mm	6,8 mm	
O	1,6 mm	1,8 mm	
P	8,89 mm	8,99 mm	
Q	0,8 mm	1,0 mm	
R	7,29 mm	7,39 mm	
S	0,8 mm	0,90 mm	Radius
T	4,05 mm	4,15 mm	
U	5,4 mm	5,6 mm	
V	0 mm	0,5 mm	[b]
BC	0°	0,5°	45° chamfer
BF	5 mm	30 mm	Radius, [d]
BG	0,8 mm	–	Diameter [e]
BI	25°	35°	Angle

[a] Dimension *H* is given for plug endface when not mated. It is movable by a certain axial compression force, with direct contacting endfaces, and therefore dimension *H* is variable. Ferrule compression force shall be 7,8 N to 11,8 N when the dimension *H* is 7 mm ± 0,1 mm.

[b] Coupling sleeve shall be movable toward right and left direction. These dimensions are given when the coupling sleeve is moved in its most right-direction position.

[c] Dimension *M* shall be below 0 mm, when a coupling sleeve is moved to its most left-direction position.

[d] Dome eccentricity of the spherical polished endface shall be less than 70 µm.

[e] See IEC 61755-3-1.

Table 3 – Grade

Grade	Dimensions mm		Remarks
	A		
	Minimum	Maximum	
A	–	–	[a]
B	–	–	[a]
C	–	–	[a]
D	–	–	[a]
Am	2,497	2,500	[b]
Bm	2,497	2,500	[b]
Cm	2,494	2,500	[b]

[a] See IEC 61755-3-1.

[b] See IEC 61755-6-1.

Figure 2 is an example of a simplex adaptor connector interface. Table 4 gives dimensions of the simplex adaptor connector interface and Table 5 gives the grade of the simplex adaptor connector interface.

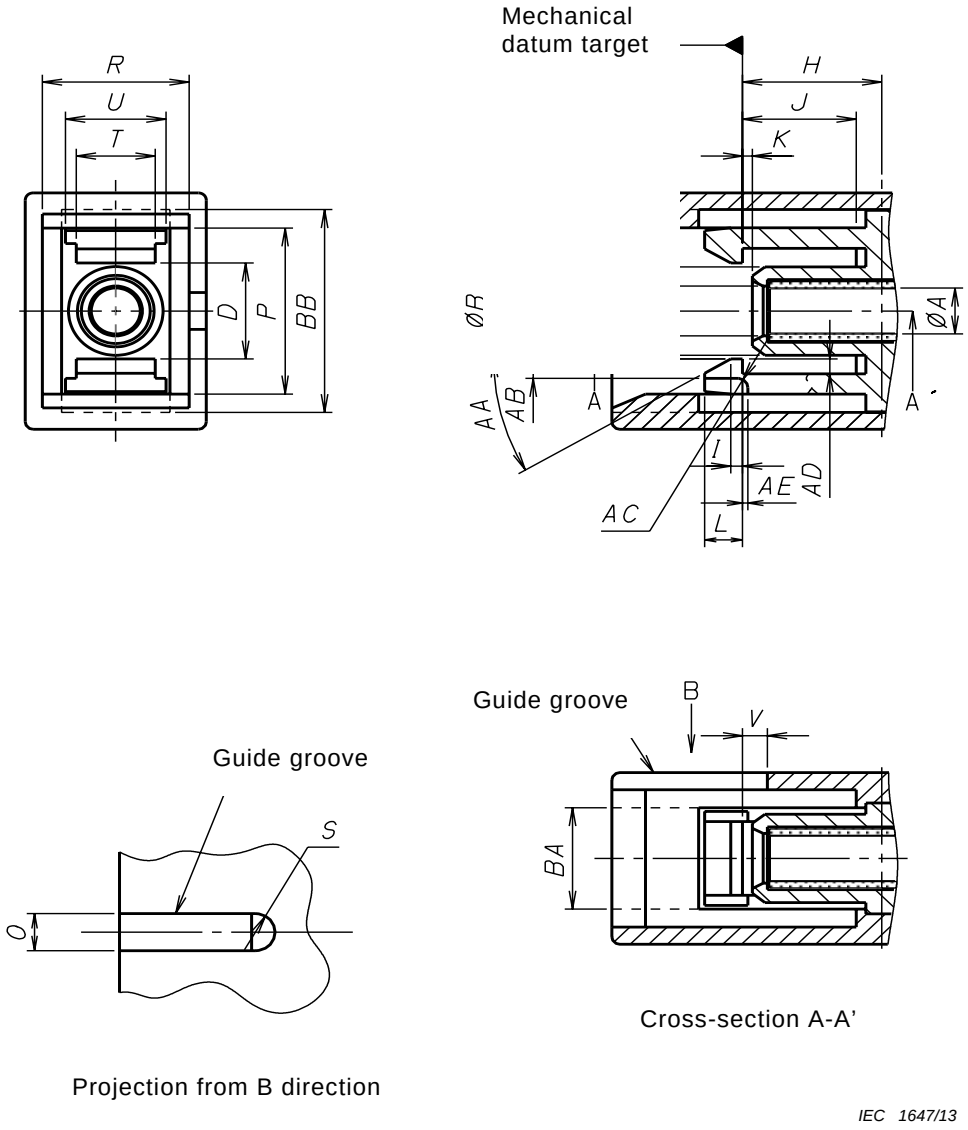

Figure 2 – Simplex adaptor connector interface

Table 4 – Dimensions of the simplex adaptor connector interface

Reference	Dimensions		Remarks
	Minimum	Maximum	
A			See Table 5
B	4,69 mm	4,79 mm	
D	4,9 mm	5,5 mm	
H	6,9 mm	7,1 mm	
I	0,4 mm	0,8 mm	
J	5,51 mm	5,90 mm	
K	0,06 mm	1,00 mm	
L	1,9 mm	2,1 mm	
O	2,0 mm	2,2 mm	
P	9,0 mm	9,1 mm	
R	7,4 mm	7,5 mm	
S	1,0 mm	1,1 mm	Radius
T	3,80 mm	4,04 mm	
U	5,0 mm	5,3 mm	
V	0,6 mm	1,6 mm	
AA	27°	33°	Angle
AB	0,8 mm	1,0 mm	
AC	0,4 mm	0,6 mm	Radius
AD	0,7 mm	0,8 mm	
AE	0,4 mm	0,6 mm	
AI	2,7 mm	2,8 mm	
BA	5,4 mm	5,6 mm	[a]
BB	10,8 mm	11,2 mm	[a]

[a] It may be of a structure as shown by an alternate long and short dash line shown in Figure 2.

Table 5 – Grade

Grade	Dimensions mm		Remarks
	A		
	Minimum	Maximum	
See Note	–	–	Resilient sleeve, [a] and Note
NOTE Add the grade number to the interface reference number.			
[a] The connector alignment feature is a resilient sleeve. The feature shall accept a gauge pin shown in Figure 3 to the centre of the adaptor 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 centre of the adaptor is defined by the right side position of the dimension *H*.			

Figure 3 is an example of a pin gauge for adaptor. Table 6 gives pin gauge dimensions.

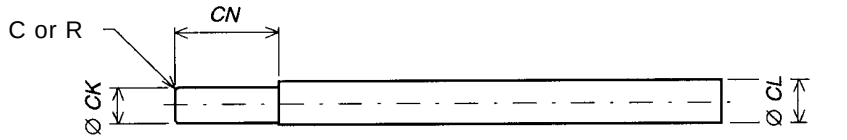

Figure 3 – Pin gauge for adaptor

Table 6 – Pin gauge dimensions

Reference	Dimensions mm		Remarks
	Minimum	Maximum	
CK	2,498 5	2,499 5	Surface roughness Grade N4 (0,2 µm radius)
CL	2,8	4,8	
CN	7	15	

Figure 4 is an example of a duplex PC plug connector interface. Table 7 gives dimensions of the duplex PC plug connector interface and Table 8 gives the grade of the duplex PC plug connector interface.

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

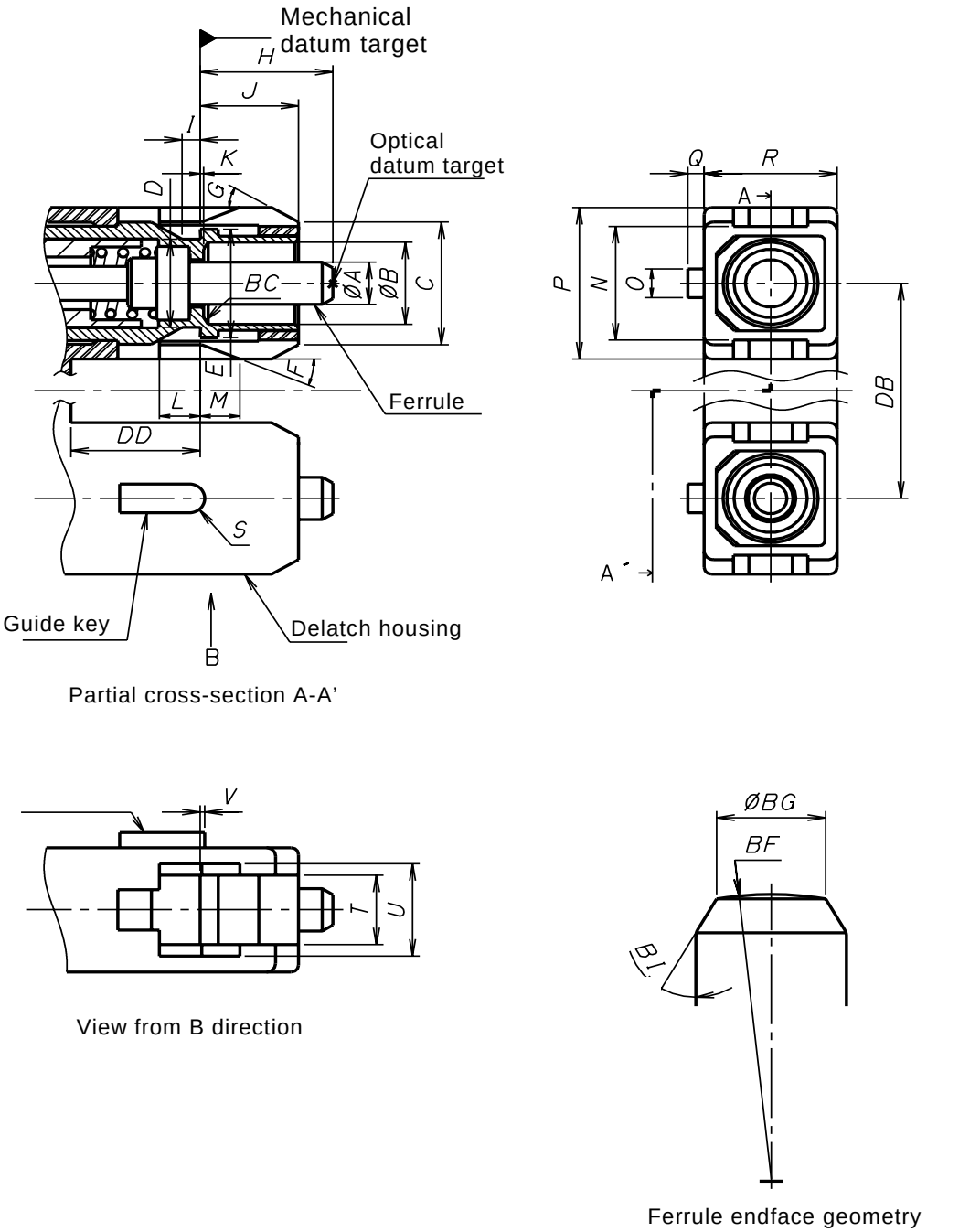

Figure 4 – Duplex PC plug connector interface

Table 7 – Dimensions of the duplex PC plug connector interface

Reference	Dimensions		Remarks
	Minimum	Maximum	
A		2,500 mm	See Table 8
B	4,8 mm	4,9 mm	
C	6,8 mm	7,4 mm	
D	4,9 mm	5,3 mm	
E	6,7 mm	6,8 mm	
F	19°	23°	Angle
G	25°	35°	Angle
H	7,15 mm	7,5 mm	[a]
I	0,8 mm	1,2 mm	
J	5,3 mm	5,5 mm	
K	–	0,05 mm	
L	2,11 mm	–	[b]
M	2,0 mm	2,8 mm	[b] and [c]
N	6,6 mm	6,8 mm	
O	1,6 mm	1,8 mm	
P	8,79 mm	8,89 mm	[d]
Q	0,8 mm	1,0 mm	
R	7,29 mm	7,39 mm	
S	0,8 mm	0,9 mm	Radius
T	4,05 mm	4,15 mm	
U	5,4 mm	5,6 mm	
V	0 mm	0,5 mm	[b]
BC	0 mm	0,5 mm	Degree chamfer
DB	12.65 mm	12.75 mm	[e]
DD	7	–	
BF	5 mm	30 mm	Radius, [f]
BG	–	–	Diameter [g]
BI	25°	35°	

[a] Dimension *H* is given for plug endface when not mated. It is movable by a certain axial compression force, with direct contacting endfaces, and therefore dimension *H* is variable. Ferrule compression force shall be 7,8 N to 11,8 N when the dimension *H* is 7 mm ± 0,1 mm.

[b] The delatch housing shall be movable towards right and left direction. Dimensions *L*, *M* and *V* are given when the delatch housing is moved in its extreme right-direction position.

[c] Dimension *M* shall be below 0 mm, when the delatch housing is moved to its most left-direction position.

[d] The delatch housing may be a rigid sleeve. When two simplex plugs are retained together by a flexible sleeve, the dimension *P* shall be from 8,89 mm to 8,99 mm.

[e] The delatch housing may be a rigid sleeve. When two simplex plugs are retained together by a flexible sleeve, the dimension *DB* shall be from 12,25 mm to 13,15 mm.

[f] The dome eccentricity of the spherical polished endface shall be less than 70 µm.

[g] See IEC 61755-3-1.

Table 8 – Grade

Grade	Dimensions mm		Remarks
	A		
	Minimum	Maximum	
A	–	–	[a]
B	–	–	[a]
C	–	–	[a]
D	–	–	[a]
Am	2,497	2,500	[b]
Bm	2,497	2,500	[b]

[a] See IEC 61755-3-1.

[b] See IEC 61755-6-1.

Figure 5 is an example of a duplex adaptor connector interface. Table 8 gives dimensions of the duplex adaptor connector interface and Table 9 gives the grade of the duplex adaptor connector interface.

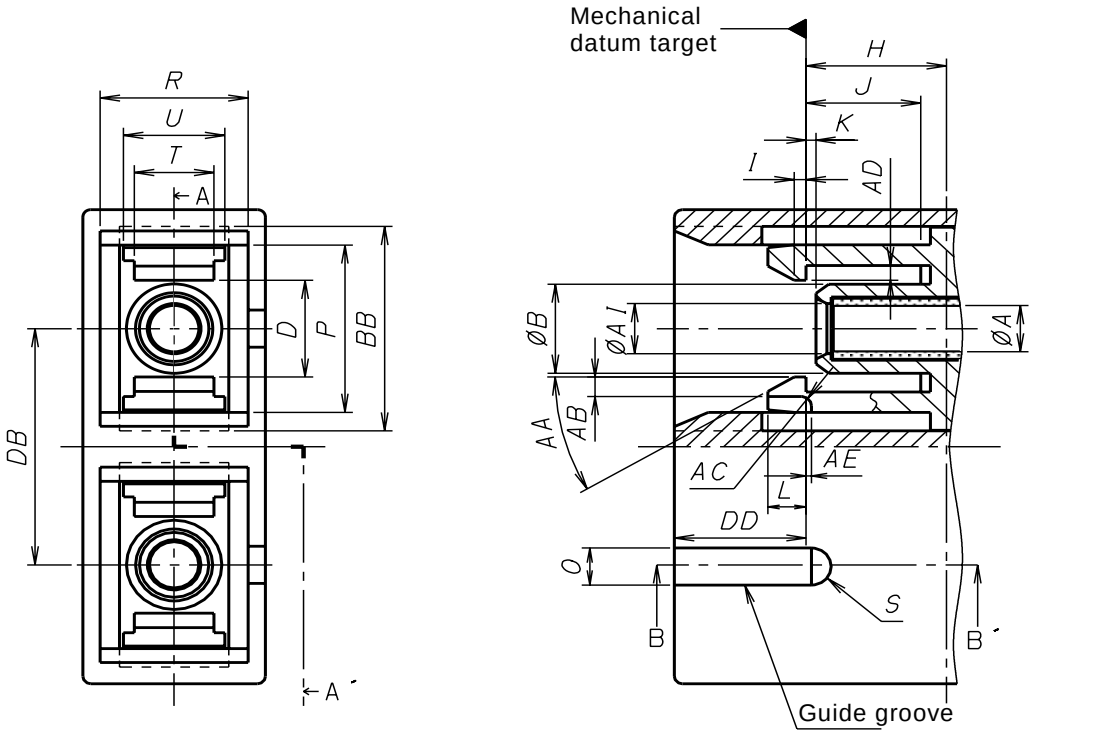

Figure 5 – Duplex adaptor connector interface

Table 9 – Dimensions of the duplex adaptor connector interface

Reference	Dimensions		Remarks
	Minimum	Maximum	
A			See Table 10
B	4,39 mm	4,69 mm	
D	4,9 mm	5,5 mm	
H	6,9 mm	7,1 mm	
I	0,4 mm	0,8 mm	
J	5,51 mm	5,90 mm	
K	0,06 mm	1,00 mm	
L	1,9 mm	2,1 mm	
O	2,0 mm	2,2 mm	
P	9,0 mm	9,1 mm	
R	7,4 mm	7,5 mm	
S	1,0 mm	1,1 mm	Radius
T	3,80 mm	4,04 mm	
U	5,0 mm	5,3 mm	
V	0,6 mm	1,6 mm	
AA	27°	33°	Angle
AB	0,8 mm	1,0 mm	
AC	0,4 mm	0,6 mm	Radius
AD	0,7 mm	0,8 mm	
AE	0,4 mm	0,6 mm	
AI	2,7 mm	2,8 mm	
BA	5,4 mm	5,6 mm	[a]
BB	10,8 mm	11,2 mm	[a]
DB	12,65 mm	12,75 mm	
DD	–	6,99 mm	

[a] It may be of a structure as shown by a dash line in Figure 5.

Table 10 – Grade

Grade	Dimensions mm		Remarks
	A		
	Minimum	Maximum	
See note			Resilient sleeve, [a] and Note
NOTE Add grade number to the interface reference number.			
[a] The connector alignment feature is a resilient sleeve. The feature shall accept a gauge pin shown in Figure 3 to the centre of the adaptor 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 centre of the adaptor is defined by the right side position of the dimension *H*.			

Figure 6 is an example of a simplex APC plug connector interface. Table 11 gives dimensions of the simplex APC plug connector interface.

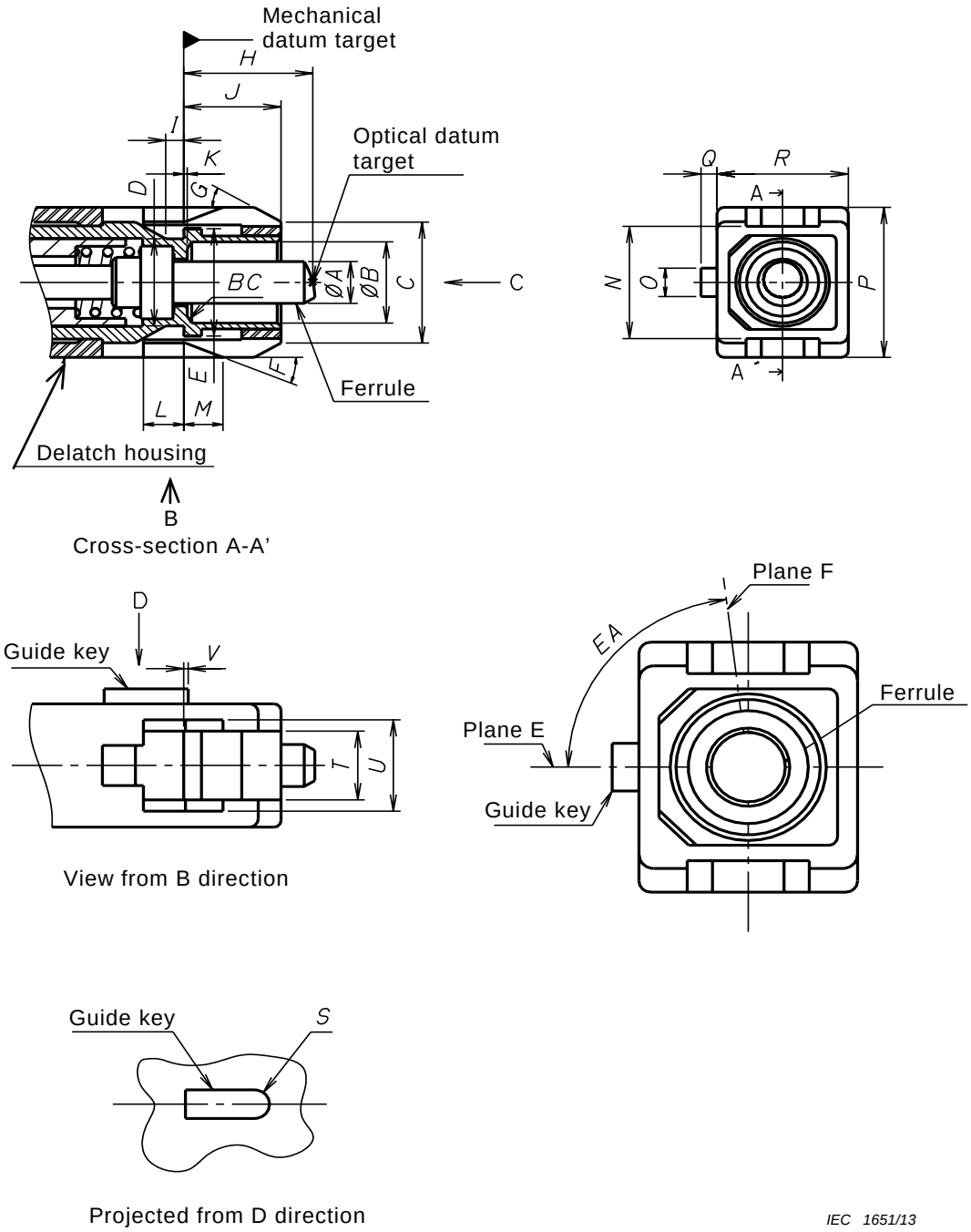

Figure 6 *(continued overleaf)*

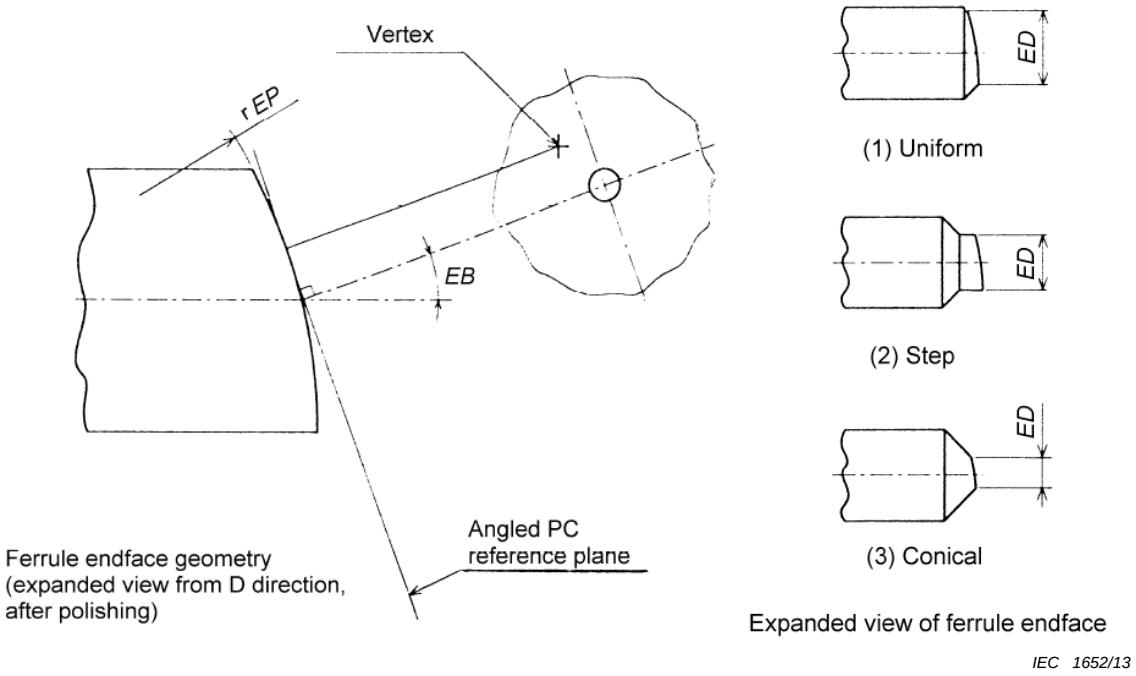

Figure 6 – Simplex APC plug connector interface

Table 11 – Dimensions of the simplex APC plug connector interfaces

Reference	Dimensions		Remarks
	Minimum	Maximum	
A		2,500 mm	[a]
B	4,8 mm	4,9 mm	
C	6,8 mm	7,4 mm	
D	4,9 mm	5,3 mm	
E	6,7 mm	6,8 mm	
F	19°	23°	Angle
G	25°	35°	Angle
H	7,15 mm	7,5 mm	[b]
I	0,8 mm	1,2 mm	
J	5,3 mm	5,5 mm	
K	–	0,05	
L	2,11 mm	–	[c]
M	2,0 mm	2,8 mm	[c] and [d]
N	6,6 mm	6,8 mm	
O	1,6 mm	1,8 mm	
P	8,89 mm	8,99 mm	
Q	0,8 mm	1,0 mm	
R	7,29 mm	7,39 mm	
S	0,8 mm	0,9 mm	Radius
T	4,05 mm	4,15 mm	
U	5,4 mm	5,6 mm	
V	0 mm	0,5 mm	[c]
BC	0 mm	0,5 mm	Degree chamfer
EA			[e]

[a] Detail dimensions and the grade number of the ferrule is required in IEC 61755-3-2. Add grade number to the interface reference number.

[b] Dimension *H* is given for plug endface when not mated. It is movable by a certain axial compression force, with direct contacting endfaces, and therefore dimension *H* is variable. Ferrule compression force shall be 7,8 N to 11,8 N when the dimension *H* is 7 mm ± 0,1 mm.

[c] The delatch housing shall be moveable towards right and left directions. Dimensions *L*, *M* and *V* are given when the delatch housing is moved in its extreme right direction position.

[d] Dimension *M* shall be below 0 mm, when the delatch housing is moved to its extreme left direction position.

[e] Dimension *EA* is defined as an angle between two planes: one plane, plane A, passes through the axis of the ferrule and axis of symmetry of the key of the angled endface connector plug. The other plane, plane B, passes through the axis of the ferrule and the normal to the angled PC reference plane. The dimension EA shall be 90° as a basic dimension.

Figure 7 is an example of a duplex APC plug connector interface. Table 12 gives dimensions of the duplex APC plug connector interface.

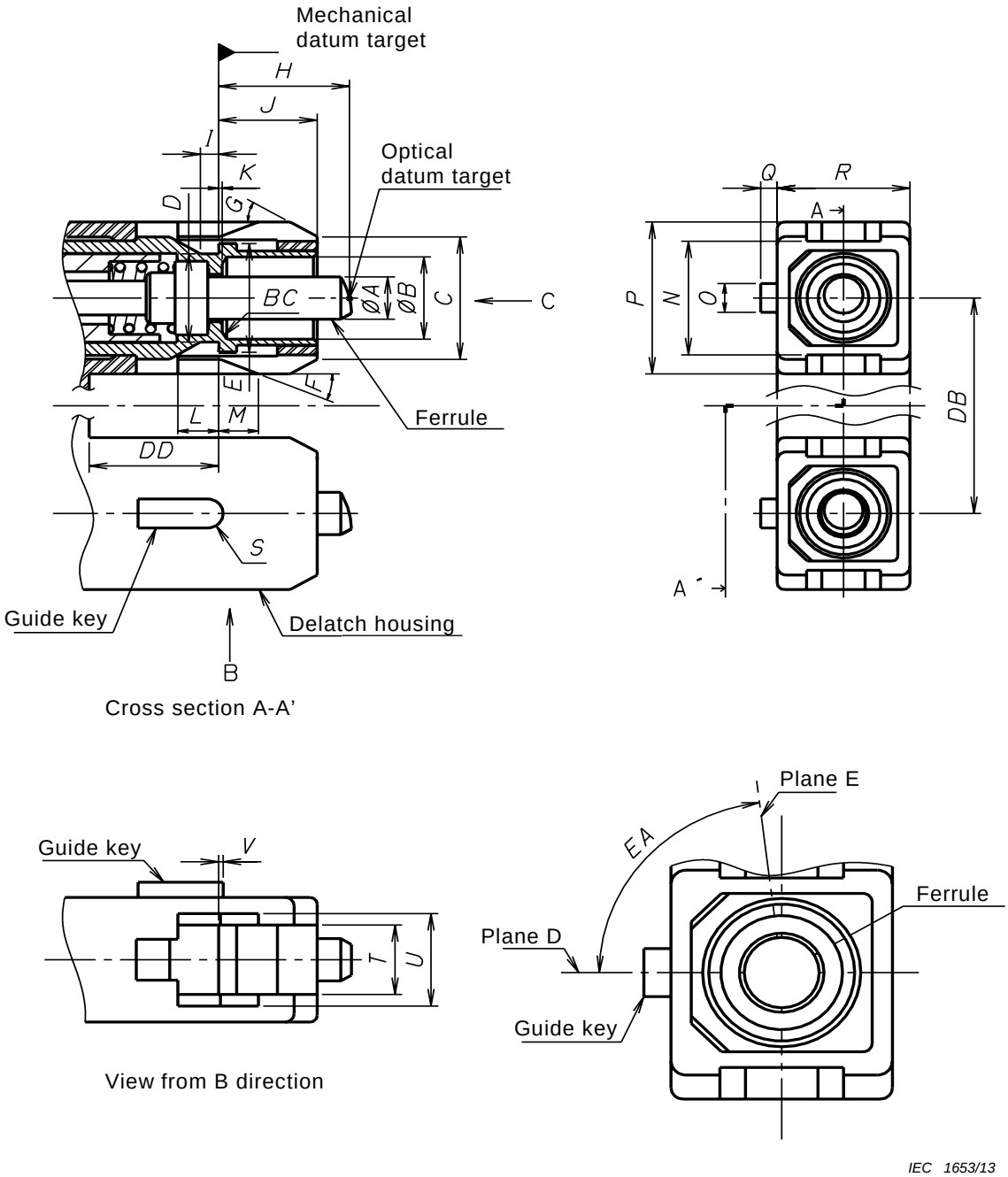

Figure 7 *(continued overleaf)*

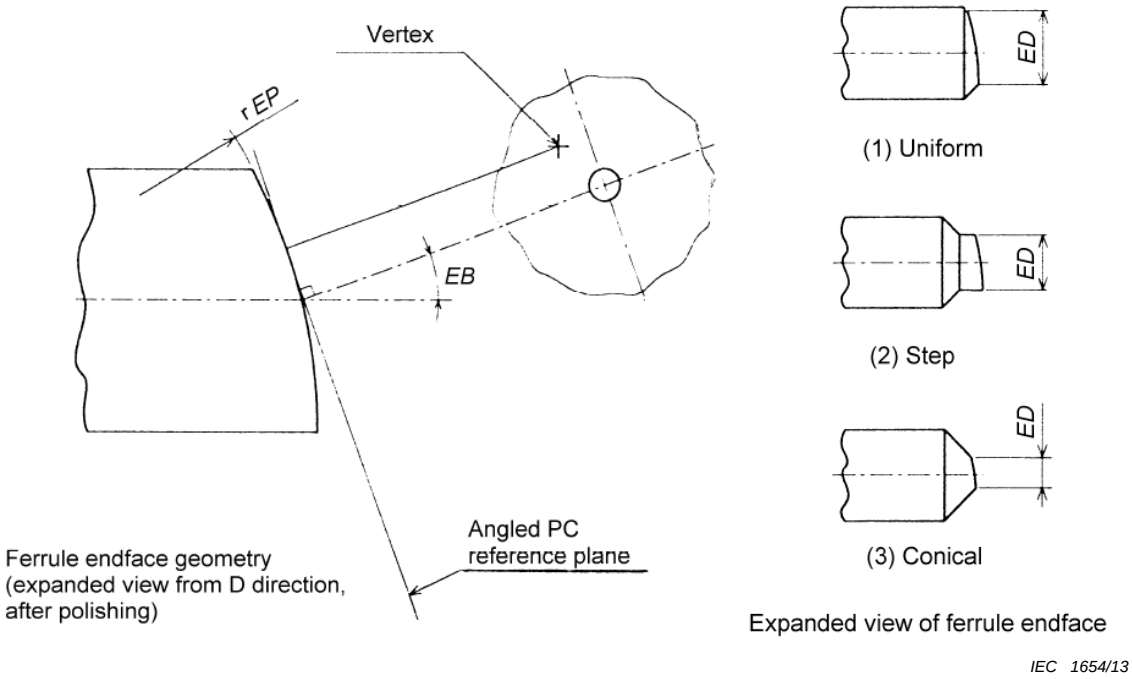

Figure 7 – Duplex APC plug connector interface

Table 12 – Dimensions of the duplex APC plug connector interfaces

Reference	Dimensions mm		Remarks
	Minimum	Maximum	
A		2,500 mm	[a]
B	4,8 mm	4,9 mm	
C	6,8 mm	7,4 mm	
D	4,9 mm	5,3 mm	
E	6,7 mm	6,8 mm	
F	19°	23°	Angle
G	25°	35°	Angle
H	7,15 mm	7,5 mm	[b]
I	0,8 mm	1,2 mm	
J	5,3 mm	5,5 mm	
K	–	0,05 mm	
L	2,11	–	[c]
M	2 mm	2,8 mm	[c] and [d]
N	6,6 mm	6,8 mm	
O	1,6 mm	1,8 mm	
P	8,79 mm	8,89 mm	[e]
Q	0,8 mm	1,0 mm	
R	7,29 mm	7,39 mm	
S	0,8 mm	0,9 mm	Radius
T	4,05 mm	4,15 mm	
U	5,4 mm	5,6 mm	
V	0 mm	0,5 mm	[c]
BC	0 mm	0,5 mm	Degree chamfer
DB			[f]
DD	7,0		
EA			[g]

[a] Detail dimensions and the grade number of the ferrule is required in IEC 61755-3-2. Add grade number to the interface reference number.

[b] Dimension *H* is given for plug endface when not mated. It is movable by a certain axial compression force, with direct contacting endfaces, and therefore dimension *H* is variable. Ferrule compression force shall be 7,8 N to 11,8 N when the dimension *H* is 7 mm ± 0,1 mm.

[c] The delatch housing shall be moveable towards right and left directions. Dimensions *L*, *M* and *V* are given when the delatch housing is moved in its extreme right direction position.

[d] Dimension *M* shall be below 0 mm, when the delatch housing is moved to its extreme left direction position.

[e] The delatch housing may be rigid sleeve. When two simplex plugs are retained together by a flexible sleeve, the dimension *P* shall be from 8,89 mm to 8,99 mm.

[f] When two simplex plugs are retained together by a flexible sleeve, the dimension *DB* shall be from 12,25 mm to 13,15 mm.

[g] Dimension *EA* is defined as an angle between two planes: one plane, plane A, passes through the axis of the ferrule and axis of symmetry of the key of the angled endface connector plug. The other plane, plane B, passes through the axis of the ferrule and the normal to the angled PC reference plane. The dimension *EA* shall be 90° as a basic dimension.

Figure 8 is an example of a simplex active device receptacle interface for angled PC connector plug. Table 13 gives dimensions of the simplex active device receptacle interface for angled PC connector plug.

Table 14 and 15 gives alignment feature grade and mechanical stop feature grade for the simplex active device receptacle interface for angled PC connector plug.

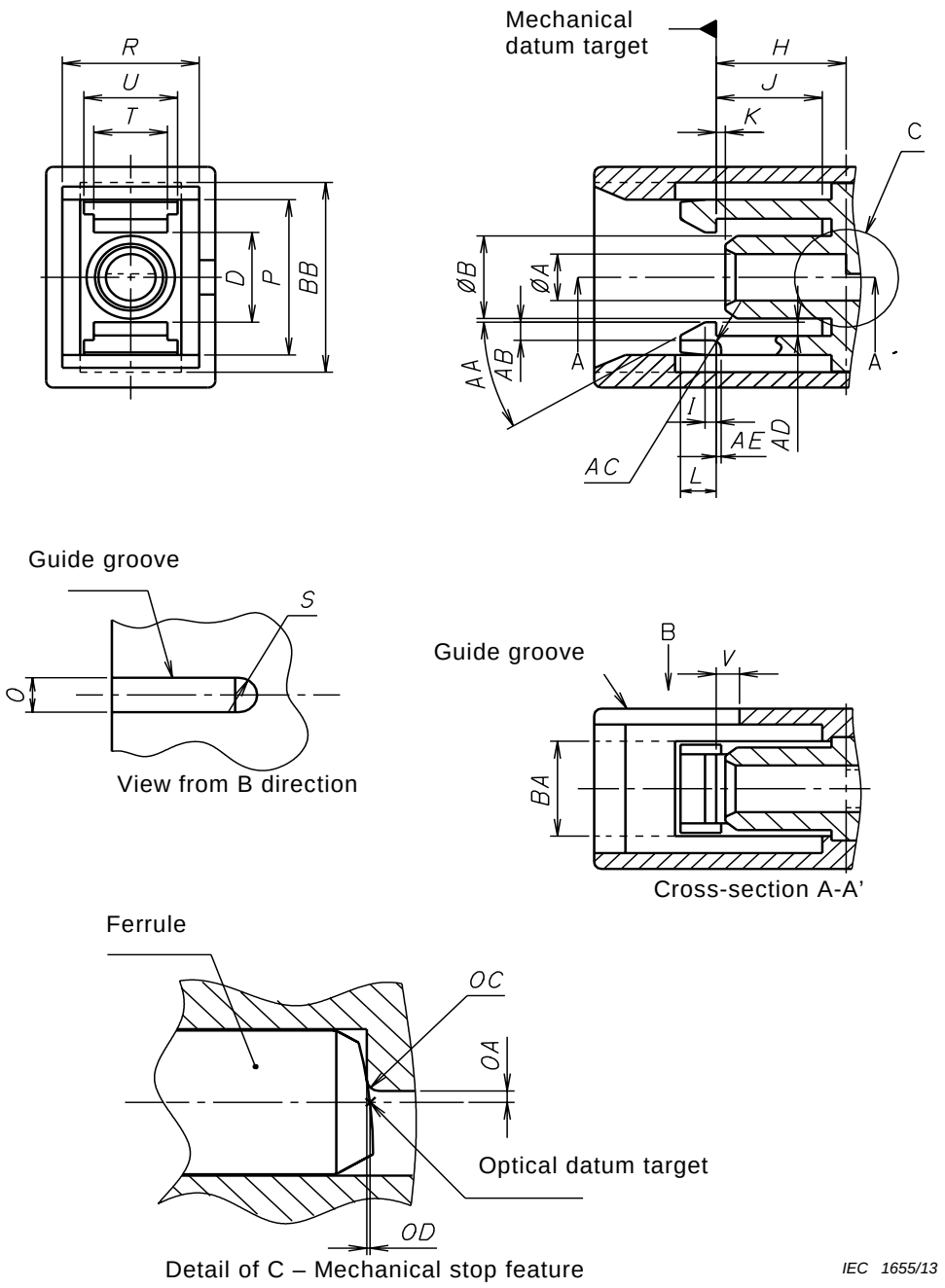

Figure 8 – Simplex active device receptacle interface for APC connector plug

Table 13 – Dimensions of the simplex active device receptacle interface for APC connector plug

Reference	Dimensions		Remarks
	Minimum	Maximum	
A			See Table 14
B	4,39 mm	4,79 mm	
D	4,9 mm	5,5 mm	
H	6,9 mm	7,1 mm	[a]
I	0,4 mm	0,8 mm	
J	5,51 mm	5,90 mm	
K	0,06 mm	1,00 mm	
L	1,9 mm	2,1 mm	
O	2,0 mm	2,2 mm	
P	9,0 mm	9,2 mm	
R	7,4 mm	7,5 mm	
S	1,0 mm	1,1 mm	Radius
T	3,80 mm	4,04 mm	
U	5,0 mm	5,3 mm	
V	0,6 mm	1,6 mm	
AA	27°	33°	Angle
AB	0,8 mm	1,0 mm	
AC	0,4 mm	0,6 mm	Radius
AD	0,7 mm	0,8 mm	
AE	0,4 mm	0,6 mm	
BA	5,4 mm	5,6 mm	[b]
BB	11,0 mm	11,2 mm	[B]
OA			[a], see Table 15
OC	0 mm	0,05 mm	Radius
OD			[a], see Table 15

[a] An example of a mechanical stop feature is shown in Figure 8. A mechanical stop feature is required in IEC 61755-3-2 within the clearances specified in Table 15 depending upon the application.

[b] This may be a structure as shown by a dashed line shown in Figure 8.

Table 14 – Alignment feature grade

Grade	Dimensions mm		Remarks
	A		
	Minimum	Maximum	
1	2,500	2,502	[a] and [b]
2	2,501	2,504	[a] and [b]
3	2,501	2,510	[a] and [b]
4	2,501	2,525	[a] and [b]
5			Resilient sleeve, [b] and [c]

[a] The connector alignment feature is a rigid bore.

[b] Add the grade number to the interface reference number.

[c] The connector alignment feature is a resilient sleeve. The feature accepts a gauge pin shown in Figure 3 to the centre of the receptacle with a force of 2,9 N to 5,9 N. The centre of the receptacle is defined by the right side position of the dimension *H*. The measurement is performed using a single gauge pin.

Table 15 – Mechanical stop feature grade

Grade	Dimensions mm		Dimensions µm	Remarks
	OA minimum	OA maximum	OD clearance	
A	0,150	0,2	±15	[a] and [b]
B	0,150	0,35	±40	[a] and [b]
N	0,150	–		[a] and [b]
X				[a] and [b]

[a] The connector alignment feature is a rigid bore.

[b] Add the grade number to the alignment feature grade number.

[c] The connector alignment feature is a resilient sleeve.

Figure 9 is an example of a simplex active device receptacle interface for PC connector plug. Table 16 gives dimensions of the simplex active device receptacle interface for PC connector plug.

Table 17 and 18 gives alignment feature grade and mechanical stop feature grade for simplex active device receptacle interface for PC connector plug.

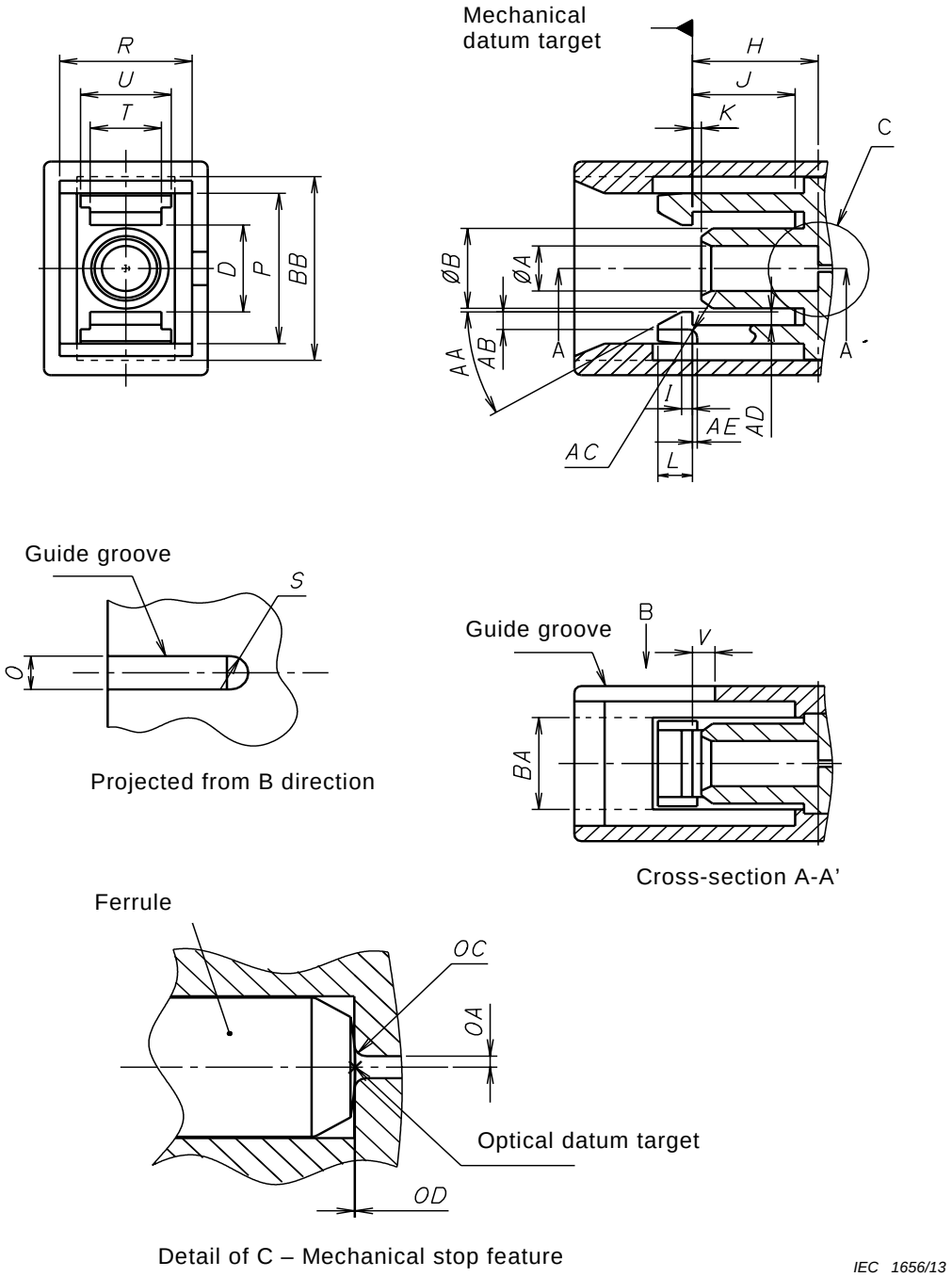

Figure 9 – Simplex active device receptacle interface for PC connector plug

Table 16 – Dimensions of the simplex active device receptacle interface for PC connector plug

Reference	Dimensions		Remarks
	Minimum	Maximum	
A			See Table 17
B	4,39 mm	4,79 mm	
D	4,9 mm	5,5 mm	
H	6,9 mm	7,1 mm	[a]
I	0,4 mm	0,8 mm	
J	5,51 mm	5,90 mm	
K	0,06 mm	1,00 mm	
L	1,9 mm	2,1 mm	
O	2,0 mm	2,2 mm	
P	9,0 mm	9,2 mm	
R	7,4 mm	7,5 mm	
S	1,0 mm	1,1 mm	Radius
T	3,80 mm	4,04 mm	
U	5,0 mm	5,3 mm	
V	0,6 mm	1,6 mm	
AA	27°	33°	Angle
AB	0,8 mm	1,0 mm	
AC	0,4 mm	0,6 mm	Radius
AD	0,7 mm	0,8 mm	
AE	0,4 mm	0,6 mm	
BA	5,4 mm	5,6 mm	[b]
BB	11,0 mm	11,2 mm	[b]
OA			[a] radius and see Table 18
OC	0 mm	0,15 mm	Radius
OD			[a] see Table 18

[a] An example of a mechanical stop feature is shown in Fgure 9. A mechanical stop feature is required in Table 3 within the clearances specified in Table 18 depending upon the application.

[b] This may be a structure as shown by a dashed line shown in Figure 9.

Table 17 – Alignment feature grade

Grade	Dimensions mm		Remarks
	A		
	Minimum	Maximum	
1	2,500	2,502	[a] and [b]
2	2,501	2,504	[a] and [b]
3	2,501	2,510	[a] and [b]
4	2,501	2,525	[a] and [b]
5			Resilient sleeve, [b] and [c]

[a] The connector alignment feature is a rigid bore.

[b] Add the grade number to the interface reference number.

[c] The connector alignment feature is a resilient sleeve. The feature accepts a gauge pin shown in Figure 3 to the centre of the receptacle with a force of 2 N to 5,9 N. The centre of the receptacle is defined by the right side position of the dimension *H*.

Table 18 – Mechanical stop feature grade

Grade	Dimensions mm		Dimensions µm	Remarks
	OA minimum	OA maximum	OD clearance	
A	0,150	0,2	±5	[a] and [b]
B	0,150	0,35	±10	[a] and [b]
N	0,150	1,250		[a] and [b]
X				[b] and [c]

[a] The connector alignment feature is a rigid bore.

[b] Add the grade number to the alignment feature grade number.

[c] The connector alignment feature is a resilient sleeve.

Figure 10 is an example of a duplex active device receptacle interface for angled PC connector plug. Table 19 gives dimensions of the duplex active device receptacle interface for angled PC connector plug.

Table 20 and 21 gives alignment feature grade and mechanical stop feature grade for the duplex active device receptacle interface for angled PC connector plug.

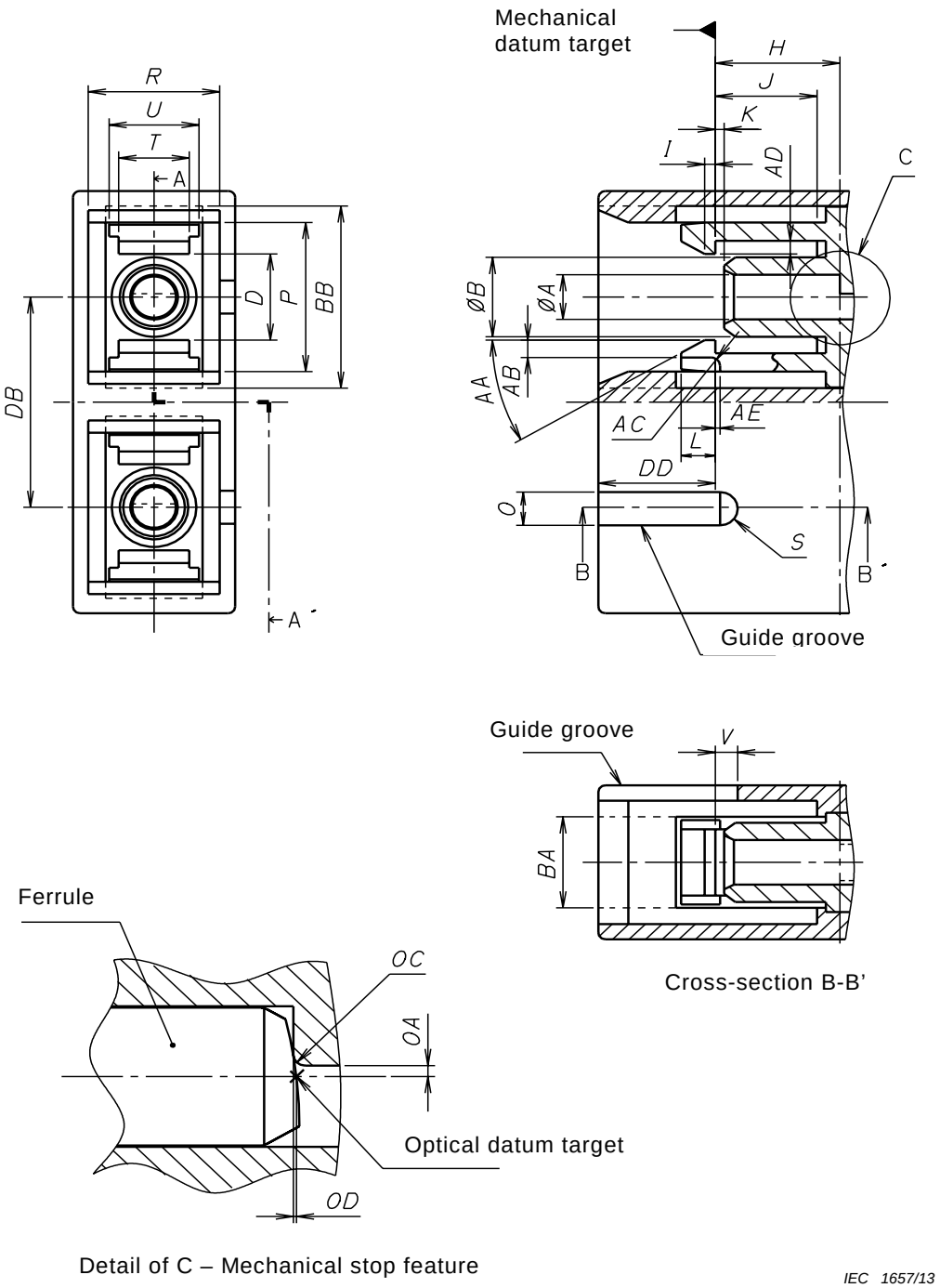

Figure 10 – Duplex active device receptacle interface for APC connector plug

Table 19 – Dimensions of the duplex active device receptacle interface for APC connector plug

Reference	Dimensions		Remarks
	Minimum	Maximum	
A			See Table 20
B	4,39 mm	4,69 mm	
D	4,9 mm	5,5 mm	
H	6,9 mm	7,1 mm	[a]
I	0,4 mm	0,8 mm	
J	5,51 mm	5,90 mm	
K	0,06 mm	1,00 mm	
L	1,9 mm	2,1 mm	
O	2,0 mm	2,2 mm	
P	9,0 mm	9,1 mm	
R	7,4 mm	7,5 mm	
S	1,0 mm	1,1 mm	Radius
T	3,80 mm	4,04 mm	
U	5,0 mm	5,3 mm	
V	0,6 mm	1,6 mm	
AA	27°	33°	Angle
AB	0,8 mm	1,0 mm	
AC	0,4 mm	0,6 mm	Radius
AD	0,7 mm	0,8 mm	
AE	0,4 mm	0,6 mm	
BA	5,4 mm	5,6 mm	[b]
BB	11,0 mm	11,2 mm	[b]
DB	12,65 mm	12,75 mm	
DD	–	6,99 mm	
OA			[a], see Table 21
OC	0 mm	0,15 mm	Radius
OD			[a], see Table 21

[a] It may be a structure as shown by a dashed line shown in Figure 10.

[b] An example of a mechanical stop feature is shown in Figure 10. A mechanical stop feature is required in IEC 61755-3-2 within the clearances specified in Table 21 depending upon the application.

Table 20 – Alignment feature grade

Grade	Dimensions mm		Remarks
	A		
	Minimum	Maximum	
1	2,500	2,502	[a] and [b]
2	2,501	2,504	[a] and [b]
3	2,501	2,510	[a] and [b]
4	2,501	2,525	[a] and [b]
5			Resilient sleeve, [b] and [c]

[a] The connector alignment feature is a rigid bore.

[b] Add the grade number to the interface reference number.

[c] The connector alignment feature is a resilient sleeve. The feature accepts a gauge pin shown in Figure 3 to the centre of the receptacle with a force of 2,9 N to 5,9 N. The centre of the receptacle is defined by the right side position of the dimension *H*. The measurement is performed using a single gauge pin.

Table 21 – Mechanical stop feature grade

Grade	Dimensions mm		Dimensions µm	Remarks
	OA minimum	OA maximum	OD clearance	
A	0,150	0,2	±15	[a] and [b]
B	0,150	0,35	±40	[a] and [b]
N	0,150	–		[a] and [b]
X				[b] and [c]

[a] The connector alignment feature is a rigid bore.

[b] Add the grade number to the alignment feature grade number.

[c] The connector alignment feature is a resilient sleeve.

Figure 11 is an example of a duplex active device receptacle interface for PC connector plug. Table 22 gives dimensions of the duplex active device receptacle interface for PC connector plug.

Table 23 and 24 gives alignment feature grade and mechanical stop feature grade for the duplex active device receptacle interface for PC connector plug.

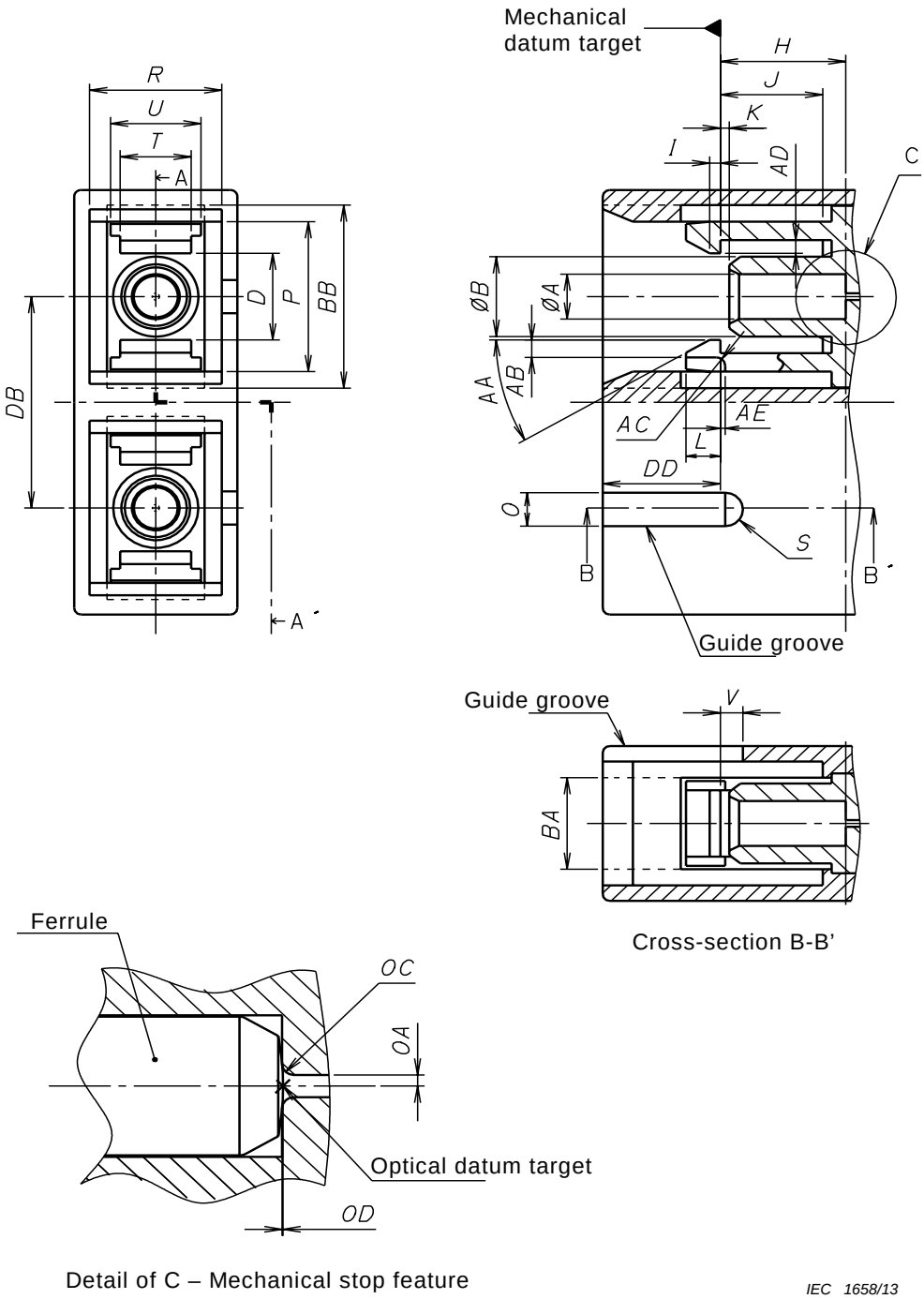

Figure 11 – Duplex active device receptacle interface for PC connector plug

Table 22 – Dimensions of the duplex active device receptacle interface for PC connector plug

Reference	Dimensions		Remarks
	Minimum	Maximum	
A			See Table 23
B	4,39 mm	4,69 mm	
D	4,9 mm	5,5 mm	
H	6,9 mm	7,1 mm	[a]
I	0,4 mm	0,8 mm	
J	5,51 mm	5,90 mm	
K	0,06 mm	1,00 mm	
L	1,9 mm	2,1 mm	
O	2,0 mm	2,2 mm	
P	9,0 mm	9,1 mm	
R	7,4 mm	7,5 mm	
S	1,0 mm	1,1 mm	Radius
T	3,80 mm	4,04 mm	
U	5,0 mm	5,3 mm	
V	0,6 mm	1,6 mm	
AA	27°	33°	Angle
AB	0,8 mm	1,0 mm	
AC	0,4 mm	0,6 mm	Radius
AD	0,7 mm	0,8 mm	
AE	0,4 mm	0,6 mm	
BA	5,4 mm	5,6 mm	[b]
BB	11,0 mm	11,2 mm	[b]
DB	12,65 mm	12,75 mm	
DD	–	6,99 mm	
OA			[a], radius and see Table 24
OC	0 mm	0,05 mm	Radius
OD			[a], see Table 24

[a] An example of a mechanical stop feature is shown in Figure 11. A mechanical stop feature is required in Table 3 within the clearances specified in Table 24 depending upon the application.

[b] This may be a structure as shown by a dashed line in Figure 11.

Table 23 – Alignment feature grade

Grade	Dimensions mm		Remarks
	A		
	Minimum	Maximum	
1	2,500	2,502	[a] and [b]
2	2,501	2,504	[a] and [b]
3	2,501	2,510	[a] and [b]
4	2,501	2,525	[a] and [b]
5			Resilient sleeve, [b] and [c]

[a] The connector alignment feature is a rigid bore.

[b] Add the grade number to the interface reference number.

[c] The connector alignment feature is a resilient sleeve. The feature accepts a gauge pin shown in Figure 3 to the centre of the receptacle with a force of 2 N to 5,9 N. The centre of the receptacle is defined by the right side position of the dimension *H*.

Table 24 – Mechanical stop feature grade

Grade	Dimensions mm		Dimensions µm	Notes
	OA minimum	OA maximum	OD clearance	
A	0,150	0,2	±5	[a] and [b]
B	0,150	0,35	±10	[a] and [b]
N	0,150	1,250		[a] and [b]
X				[b] and [c]

[a] The connector alignment feature is a rigid bore.

[b] Add the grade number to the alignment feature grade number.

[c] The connector alignment feature is a resilient sleeve.

Bibliography

IEC 61755-6-1, *Fibre optic interconnecting devices and passive components – Fibre optic connector optical interfaces – Part 6-1: Optical interfaces for 50,0 μm multimode fibres – General and guidance* [1]

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1 Under consideration.

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