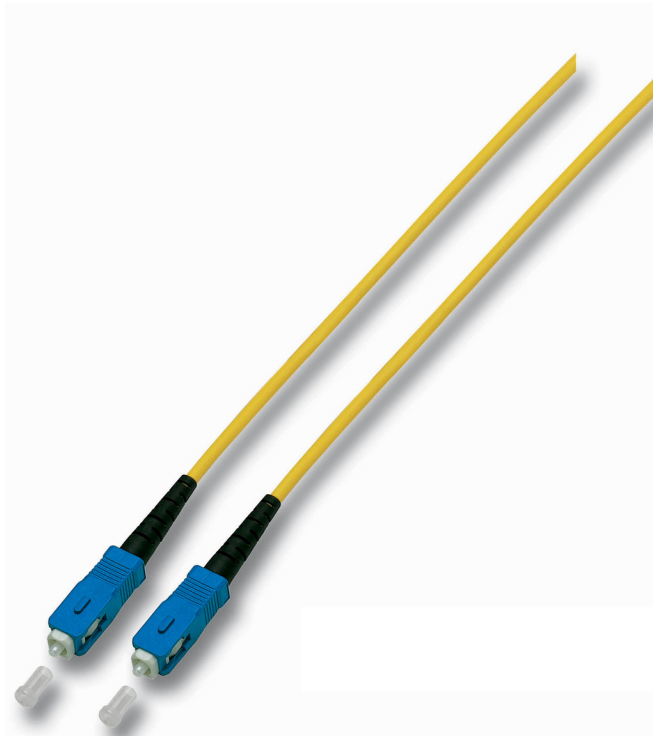


EFB Elektronik GmbH

O1323.1

Simplex Jumper E9/125 μ SC/SC Simplex, 1 Meter

Länge 1,00
Breite 0,00
Höhe 0,00

Nettogewicht (g) 17,04
Zollposition
Artikelgruppe SC/SC

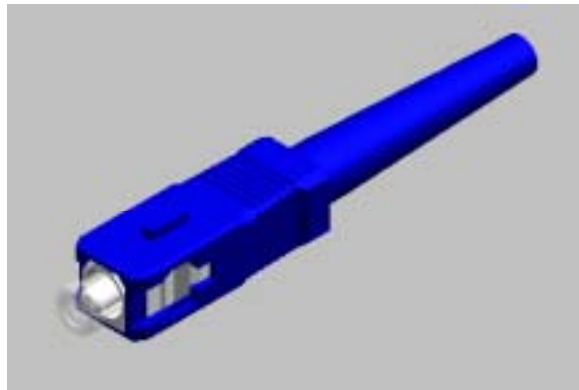
Katalogseite

SC-SC Singlemode
I-V(ZN)H 1E9/125 halogenfrei

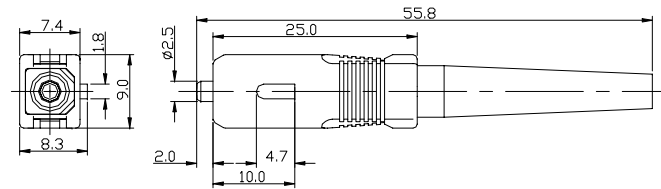


EFB 53213.3

Singlemode SC connector



Mechanical Diagram

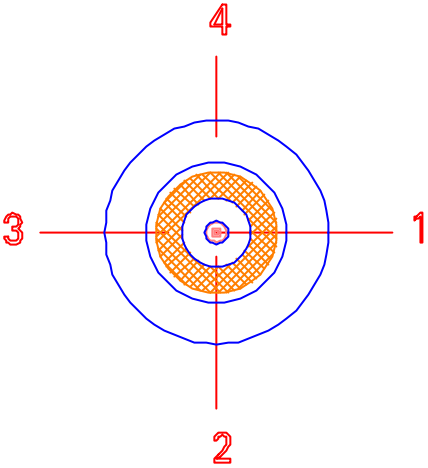


Specification

ITEM	Connector Parts	
	Singlemode	Multimode
Mode Type	Singlemode	Multimode
Typical Insertion Loss, dB	0.15	0.3
Typical Return Loss ⁽¹⁾ , dB	-50	..
Operating Temperature, °C	-40 - +75	
Storage Temperature, °C	-55 - +85	

Product Specification – Optical Fibre Cord
 Indoor use
 1 x SM 9/125 μm, Ø 3 mm

Design No B1105973
 Revision: 0
 Date of revision: 2-10-2001



A. Cable construction

- A.1. Description
 - 1. Optical fibre single-mode
 - 2. Secondary coating
 - 3. Strength member
 - 4. Outer sheath
 - Cable diameter 3 ^{+0.05}/_{-0.1} mm
- A.2. Colours
 - A.2.1. Fibre colour natural
 - A.2.2. Secondary coating natural
 - A.2.3. Outer sheath yellow
- A.3. Mass, approx. 8 kg/km

revision	design	date	approved	date
0	T. Keurentjes	2-10-2001		

Product Specification – Optical Fibre Cord

Indoor use
1 x SM 9/125 μm , \varnothing 3 mm

Design No B1105973
Revision: 0
Date of revision: 2-10-2001

B. Material Specification

B.1.	<u>Single-mode optical fibre</u>	standard	ITU-T G.652	
B.1.1.	Type of fibre	single mode,	matched cladding	
B.1.2.	Type of primary coating	dual layer UV-cured acrylate		
B.1.3.	Core material composition	germanium doped silica		
B.1.4.	<i>Dimensions</i>			
B.1.4.1	mode field diameter		9.3 \pm 0.3	μm
B.1.4.2	mode field eccentricity \leq		0.5	μm
B.1.4.3	cladding diameter		124.3 – 125.0	μm
B.1.4.4	cladding non-circularity		= 0.5	%
B.1.4.5	coating diameter uncoloured fibre		245 \pm 10	μm
B.1.4.6	coating non-circularity \leq		5 %	
B.1.4.7	coating/cladding eccentricity		\leq 12.5	μm
B.1.5.	<i>Mechanical properties</i>			
B.1.5.1	proof test entire length \geq		1 %	
B.1.5.2	bending sensitivity 100 turns \varnothing mandrel 60 mm		\leq 0.2	db
B.1.5.3	strippability ; stripping force		3	N/5cm
B.2.	<u>Secondary coating</u>	semi tight	extruded polymer	
B.2.1.	Material	Polyester Elastomer	\varnothing 0.9 \pm 0.09	mm
◆	Tube filling	oil		
◆	Fibre count	1		
B.3.	<u>Strength member</u>		synthetic fibres	
B.3.1.	Material	high-modulus aramide	\varnothing 1.6	mm (approx.)
B.3.2.	Tensile strength		\geq 2	GPa
B.3.3.	E-modulus		\geq 100	GPa
B.3.4.	Elongation at break		\geq 1.5	%
B.4.	<u>Outer sheath</u>	loose	extruded polymer	
B.4.1.	Material	LSZH	\varnothing 3	mm
B.4.2.	thickness	nom	0.45	mm
B.4.3.	LOI		\geq 30	%
B.4.4.	Halogen content		\leq 0.5	%
B.4.5.	Corrosivity			
◆	pH		\geq 4	
◆	Conductivity		\leq 20	$\mu\text{S/cm}$

Product Specification – Optical Fibre Cord

Indoor use
1 x SM 9/125 μm , \varnothing 3 mm

Design No B1105973
Revision: 0
Date of revision: 2-10-2001

C. Product Characteristics**C.1. Optical performance**

C.1.1.	mode field diameter		9.3 ± 0.3	μm
C.1.2.	attenuation			
◆	1310 nm		≤ 0.4	dB/km
◆	1550 nm		≤ 0.3	dB/km
C.1.3.	chromatic dispersion			
◆	1310 nm		≤ 3.5	ps.nm.km
◆	1550 nm		≤ 18	ps/nm.km
C.1.4.	cut off wavelength	λ_c	≤ 1260	nm

C.2. Mechanical Performance

C.2.1.	Max. tension			
◆	During installation	T_{MAX}	≤ 135	N
C.2.2.	Cable strain		≤ 0.30	%
C.2.3.	bend radius			
C.2.3.1	during installation	MBR	≥ 60	mm
C.2.3.2	installed	1x	≥ 45	mm
C.2.4.	crush		≤ 3	kN/m
C.2.5.	torsion		360	$^\circ/\text{m}$
C.2.6.	kink	radius	30	mm
C.2.7.	impact	1x	≤ 1.5	Joule

C.3. Environmental Performance

C.3.1.	Temperature range			
◆	Transport & storage	T_{a2}/T_{b2}	-30/+70	$^\circ\text{C}$
◆	During the installation		-5/+50	$^\circ\text{C}$
◆	In operation	cable on drum T_{a1}/T_{b1}	-10/+50	$^\circ\text{C}$
◆	In operation	short lengths T_a/T_b	-25/+70	$^\circ\text{C}$

C.4. Marking outer sheath

Marking: TWENOPTO – 1 x SM 9/125

Marking colour: Black or blue

Spacing between 2 markings: 40 –0/+10 cm.

Product Specification – Optical Fibre Cord

Indoor use
1 x SM 9/125 μm , \varnothing 3 mm

Design No B1105973
Revision: 0
Date of revision: 2-10-2001

D. Tests

Test	Tensile performance	Test Method	FG-BW-0922
designation	TT, ST		IEC 794-1-E1B
Details	Value	Test Criteria	
T _{MAX}	C.2.1	<i>e_F</i> \leq C.2.2	
sample length	\pm 100 m	No broken fibres.	
temperature	ambient	No visual damage to the cable and its components.	
# of monitored fibres	1		

Test	Temperature Cycling	Test Method	OT-KV-1306
designation	TT, ST	Cable on a drum	IEC 794-1-F1
Details	Value	Test Criteria	
Ta ₁	C.3.1	Single-mode fibres: <i>Da</i> ₁₅₅₀ \leq 0.05 dB/km	
Tb ₁	C.3.1		
Ta ₂	C.3.1	No permanent increase of the attenuation.	
Tb ₂	C.3.1		
sample length	\pm 1000 m		
rise time + t ₁	\pm 8 hr		
cooling/heating rate	\pm 5°C/hr		
# of cycles	1		
# of monitored fibres	1		

Test	Temperature Cycling	Test Method	OT-KV-1311
designation	TT, ST	10 m – lengths of cable	IEC 794-1-F1
Details	Value	Test Criteria	
Ta	C.3.1	Single-mode fibres: <i>Da</i> ₁₅₅₀ \leq 1dB	
Tb	C.3.1		
sample length	\pm 10 m		
t ₁	\pm 1 hr		
cooling/heating rate	\pm 1°C/min		
# of cycles	20		
# of monitored fibres	1		

Product Specification – Optical Fibre Cord

Indoor use
1 x SM 9/125 μm , \varnothing 3 mm

Design No B1105973
Revision: 0
Date of revision: 2-10-2001

Test	Crush	Test Method	OT-KV-1302
designation	TT		IEC 794-1-E3
Details	Value	Test Criteria	
temperature	ambient	<i>Free axial movement of the optical fibres up to the required load. Record the indentation at the required load.</i>	
sample length	± 0.3 m		
crushing length	100 mm		
crushing load $F_{\text{semi tight}}$	1 kN/m		
crushing load F_{CABLE}	C.2.4		

Test	Repeated Bending	Test Method	OT-KV-1303 using sheaves
designation	TT		IEC 794-1-E6
Details	Value	Test Criteria	
# of cycles	100	<i>No visual damage to the outer sheath and the cable composing elements. No broken fibres.</i>	
Sheaf diameter	C.2.3.1		
sample length	± 2 m		
temperature	ambient		
tensile load	± 10 N		
cycling rate	$\pm 15/\text{min}$		

Test	Torsion	Test Method	OT-KV-1307
designation	TT		IEC 794-1-E7
Details	Value	Test Criteria	
# of cycles	1	<i>No visual damage to the outer sheath and the cable composing elements. No broken fibres.</i>	
rotation	C.2.5		
sample length	± 2 m		
temperature	ambient		
tensile load	± 10 N		

Test	Cable Bend	Test Method	OT-KV-1301
designation	TT, ST		IEC 794-1-E11
Details	Value	Test Criteria	
Bend Radius	C.2.3.2	<i>no visual damage to the cable</i>	
sample length	± 5 m		
temperature	ambient		
n turns/helix	3		
n cycles	3		

Test	Kink	Test Method	
designation	TT		IEC 794-1-E10

Product Specification – Optical Fibre Cord Indoor use 1 x SM 9/125 μm , \varnothing 3 mm
--

Design No	B1105973
Revision:	0
Date of revision:	2-10-2001

Details	Value	Test Criteria
temperature	ambient	No kink of the cable.
sample length	$\pm 10 \times \text{MBR}$	
loop diameter	C.2.6	
		Note: MBR = Minimum Bending Radius

Test designation	Impact	Test Method
	TT	OT-KV-1305 IEC 794-1-E4
Details	Value	Test Criteria
temperature	ambient	No broken fibres. No ruptured outer sheath.
sample length	$\pm 0.5 \text{ m}$	
impact energy	C.2.7	
# impacts/location	1	
rate of impact	0.5/s	
hammer dimensions		
length x width	50 x 20 mm	
hammer surface	r = 10 mm	

Characteristic	unit	Requirement	Test Method & Details	
Indoor cable sheath material			SI-212320104, Table 2	
Virgin material:				
Tensile strength	N/mm ²	9	Tensioning rate	250mm/min
Elongation at break	%	125	Tensioning rate	250mm/min
After ageing:			Temperature	100 °C
Tensile strength	%	Max. variation ± 30	Duration	7x24 hrs
Elongation at break	%	Max. variation ± 40 Median 100		
Heat shock		No cracks	Temperature	130 °C
Elongation without break	%	20	Tensioning rate	250mm/min
			Temperature	-15 °C
Oxygen Index	%	B.4.3		
Corrosivity: -pH		B.4.5		
-G	$\mu\text{S/cm}$	B.4.5		