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1. Jumper cable / NPC205 - 1J specifications

1.1 Scope

This specification covers the general requirements for the NPC type jumper cable single mode to be delivered.

1.2 Model

NPC205 - 1J - 0003 (cable length L = 3 m)

- Parts - connector: NPC205 or others
 - fibre cable : Siecor 9/125 SM - SMF 28 or others
 - resin: Epo-tek 353ND
 - adapter: FC/APC – 205 - XX or others

1.3 Requirements

1.3.1 Dimensions of the assembled plug shall conform to Fig. 1

1.3.2 Polishing conditions - SII technology OFL - 11

- (1) End curve radius 5 to 15 mm
- (2) End curve offset $\leq 50 \mu\text{m}$
- (3) End undercut - 50 to 50 nm

1.3.3 Insertion loss - IL

Measuring instrument RX 3000 - LD Light source wavelength 1300/1550/1650 nm and master cord MC. Max value for jumper which are shorter than 10 m are:

IL typ. 0.25 dB, < 0.50 dB (100%)

1.3.4 Return loss -RL

Measuring instrument RX 3000, wavelength 1300/1550/1650 nm.
 Min value for jumper which are shorter than 5 m are:

> 60 dB

1.3.5 Temperature cycling

-40 to 70 °C 10 cycles
 < 0.70 dB (Insertion loss)
 > 60 dB (Return loss)

1.3.6 High temperature

80 °C, 96 hours
 < 0.70 dB (Insertion loss)
 > 60 dB (Return loss)

1.3.7 Low temperature

-40 °C, 96 hours
 < 0.70 dB (Insertion loss)
 > 60 dB (Return loss)

1.3.8 High humidity

40 °C, 95% RH, 96 hours
 < 0.70 dB (Insertion loss)
 > 60 dB (Return loss)

1.3.9 Vibration

10 to 55 Hz, 1.5 mm p-p

< 0.70 dB (Insertion loss)

> 60 dB (Return loss)

1.3.10 Tensile strength

Cable diameter 3 mm F = 40 N*

< 0.70 dB (Insertion loss)

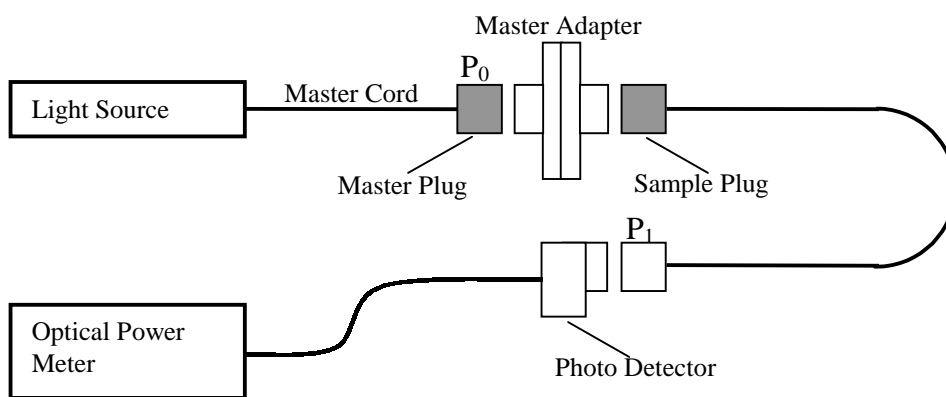
> 60 dB (Return loss)

1.3.11 Connection durability

more than 1,000 times

< 0.70 dB (Insertion loss)

> 60 dB (Return loss)

1.4 Measurement method**1.4.1 Insertion loss****Measurement system** (IEC 874-1 4.4.7.4 method 7)

$$\text{Insertion loss} = - 10 \log \frac{P_1}{P_0} \text{ [dB]}$$

Measurement conditions

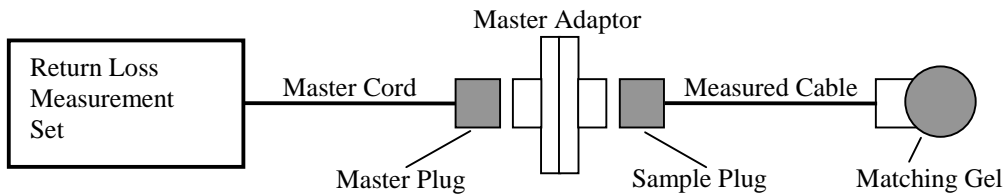
Item	Conditions
Light source - laser	LD ($\lambda = 1310 \text{ nm}, 1550 \text{ nm}, 1650 \text{ nm}$)
Optical power meter	$\lambda = 1310 \text{ nm}, 1550 \text{ nm}, 1650 \text{ nm}$
Master plug	Eccentricity of core and ferrule: less than $0.5 \mu\text{m}$ Outer dia of ferrule: $2499 \pm 0.5 \mu\text{m}$ Radius of convex endface: $5 - 15 \text{ mm}$ Eccentricity of convex endface: $\leq 30 \mu\text{m}$ Fibre cable Siecor 9/125 SM - SMF 28 Angle polished: $8 \pm 0.3^\circ$
Master adaptor	Variation of insertion losses at 5 times connection/disconnection used master plug: less than 0.1 dB
Measuring times	3

*) Note:

- Cable Siecor F = 300 N
- The others type of NPC connectors F = 40 N
- Fiber diameter 0.9 mm F = 5 N.

1.4.2 Return loss

Measurement method (IEC 874-1 4.4.12.4 method 3)



1.5 Shipping inspection

Insertion Loss and Return Loss are inspected before shipping and the inspection results are enclosed .

1.6 Packing

Jumper should be packaged in specific plastic bag. The product is packed to prevent damage during shipment.

1.7 Installation

Remove only dust caps during operation. Do not touch connector end surface and protect it from damage. Clean only with isopropyl alcohol and a cleaning tissue. When connecting carry out carefully, note anti-rotating-key. When bending mind smallest allowed bending radius. Do not bend or squeeze the cable. Prevent twisting the cable, be careful during unwinding.

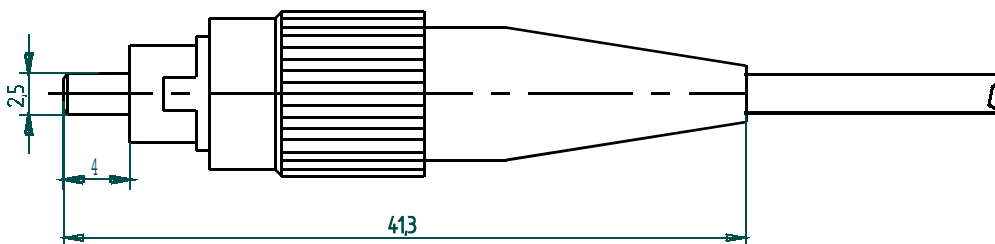


Figure 1 NPC205 Jumper Cable (diameter 2,8 mm Cable type):

- 1.Grip
2. Boot (green)
- 3.Optical fiber cable 9/125 Siecor