TECHNICAL SPECIFICATION

Optical Pigtail SC/UPC 0.9mm

Product Code	**60565 / 60566**
BOM Product No	**-**
Distribution Depts.	□ **Quality Assurance Team** □ **Manufacturing Division** □ **Sales Division** □ **Management Division**
Revision	**V. 0**

R&DCenter
A. Manager

1. GENERAL

This specification apply to the Single mode SC/UPC Type Pigtail

2. OPTICAL PIGTAIL

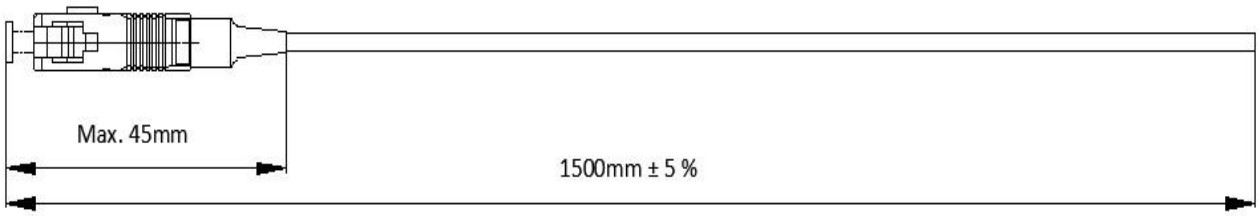
2.1. Parts and materials

Parts and materials for Ø 0.9 tight buffered fiber are shown in Table 1.

Table 1. Part and Materials for Ø 0.9 buffered fiber

No.	Part Name	Unit	Q`ty	Material	Notes
1	Ferrule with Flange	PCS	1	Zirconia ceramic steel	-
2	Housing	PCS	1	PBT	Blue / Beige Sink marking
2	Frame	PCS	1	PBT	White
3	Stopper	PCS	1	Nickel Plate Brass	N/A
4	Spring	PCS	1	Stainless Steel	N/A
5	Boot	PCS	1	Silicon	Blue / Beige
6	Cap	PCS	1	PE	Transparent

2.2. Physical Dimensions



2.3. Ferrule Endface Geometry Parameters

Ferrule endface geometry parameters are shown in Table 2 and Figure 1, 2.

Table 2. Ferrule Endface Geometry Parameters

Parameters	UPC
Radius of curvature.	7-25mm
Fiber undercut	± 50 nm
Dome offset	MAX 50μm

Figure 1. Ferrule Endface Geometry Parameters

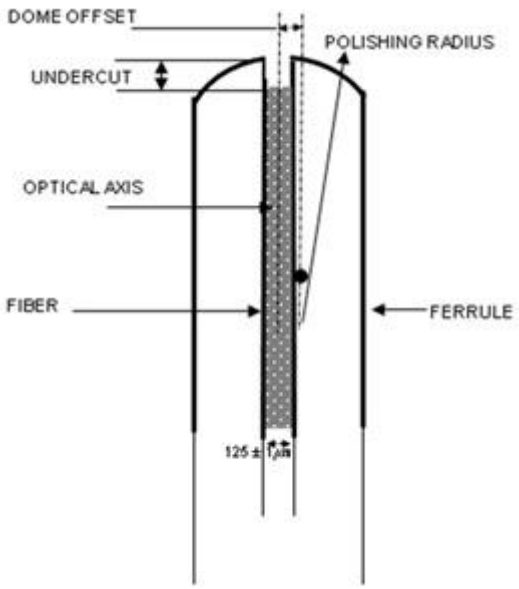
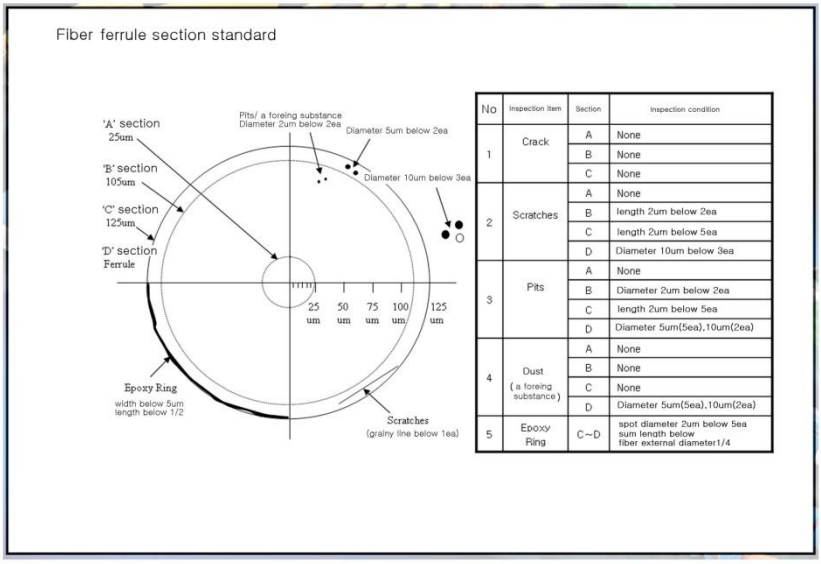


Figure 2. Ferrule Endface section



No	Inspection Item	Section	Inspection condition
1	Crack	A	None
		B	None
		C	None
2	Scratches	A	None
		B	length 2um below 2ea
		C	length 2um below 5ea
		D	Diameter 10um below 3ea
3	Pits	A	None
		B	Diameter 2um below 2ea
		C	length 2um below 5ea
		D	Diameter 5um(5ea),10um(2ea)
4	Dust (a foreing substance)	A	None
		B	None
		C	None
		D	Diameter 5um(5ea),10um(2ea)
5	Epoxy Ring	C~D	spot diameter 2um below 5ea sum length below fiber external diameter1/4

2.4. Optical specifications

Optical specifications are shown in Table 3.

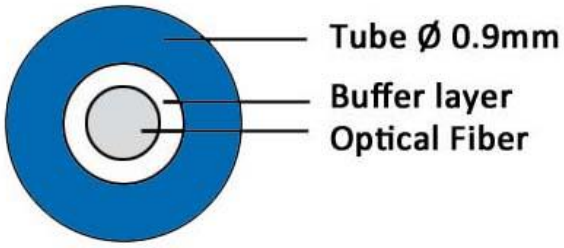
Table 3. Optical Specification

Description	UNIT	Specifications		Remarks
Insertion Loss	dB	≤ 0.3		
Return Loss	dB	SM	≥ 50	
		MM	≥ 20	

2.5. Optical Cable specification

Optical Cable Cross section and Cable specification are shown in Figure 3.

Figure 3. Cable Cross section (SM: Yellow Color / MM: Orange Color)



Optical Fiber – SMF: G652D, G657A
MMF: 62.5(OM1), 50.0(OM2), 50.0(OM3)

Jacket Material – PVC

3. REQUIREMENTS

3.1. Optical Test Description

Insertion loss and return loss in the optical parameter tests. The parameters were measured at 1310/1550nm using an optical analyzer of JDS Uniphase (RX-3000 series). The measurements of the equipment are listed in Table 1.

<Table 1. Optical Test Descriptions>

Parameter	Wavelength	Unit	Descriptions	
Insertion loss	1310 nm	dB	UPC ≤0.3	
	1550 nm			
Return loss	1310 nm	dB	SM	UPC ≥50
	1550 nm		MM	UPC ≥20

3.2. Environmental Test Descriptions

The environmental test conditions were given in Table 2.

<Table 2. Environmental test condition>

No.	Items	Conditions	Measurement
1	Thermal age	85℃, No humidity, 336 hrs. (2 weeks)	Before / After
2	Humidity	75℃, 95%RH, 336 hrs. (2 weeks)	Before/During/After
3	Thermal Cycle	-40℃ ~ 75℃, No humidity, 42 cycles (336 hrs.)	Before/During/After
4	Temperature Humidity Cycle	-40℃ ~ 75℃, 90%RH, 5 sequences (345 hrs.)	Before/During/After
5	Dust	A heavy concentration of coarse dust, 1 hr.	Before / After

3.3. Mechanical Test Descriptions

The mechanical test conditions were given in Table 3.

<Table 3. Mechanical test condition>

No.	Items	Conditions	Measurement
1	Flex	0°, 90°, 0°, –90°, 0° at 0.9kg, 100 cycles	Before / After
2	Twist	The number of turn: X-2.5, Y-5 at 1.35kg	Before / After

3	Proof	4.8kg, 6.8kg at 0° / 1.5kg, 2kg at 90°	Before / After
4	Transmission with applied tensile load	0.25kg at 0°/ 0.17kg at 90°, 135°/ 0.7kg at 0°, 0.47kg at 90°/ 1.5kg at 0°, 1kg at 90°/ 2 kg at 0°, 1.3kg at 90°	Before / during / After
5	Equilibrium Tensile Loading	1.25 kg at 90°	Before/After
6	Impact	1.5m drop, 8 impacts	Before / After
7	Durability	The disconnect & reconnect at 6 ft/4.5 ft/ 3 ft/ 4.5 ft/6 ft (200cycles)	Before/During/After
8	Vibration	45Hz per min., between 10~50Hz, 1.52mm amplitude, 3 axis, 2hrs	Before / After

3.4. Material Test Descriptions

The material test conditions were given in Table 4.

<Table 4. Material test condition>

No.	Items	Conditions	Measurement
1	Salt Spray	35 ℃, 5 wt% NaCl, 168 hrs. (7 days)	Before / After
2	Adhesive Testing	0.9 kg load, 85 ℃, 24 hrs.	Before / After

3.5. Design Requirement Test Descriptions

The design requirement test conditions were given in Table 5.

<Table 5. Design test condition>

No.	Items	Conditions	Measurement
1	Fiber Extension	-0.05 < X < 0.05 ㎛	-
2	Ferrule End Geometry	10 ≤ R ≤ 30	-
3	Connector Installation	Should be capable of functioning within a cabinet or other enclosure in which the space available is limited	Before / After

3.6. Pass/Fail Criteria

Table 6, list the pass/fail criteria for insertion loss, return loss and loss change measured before, during and after each test.

<Table 6. Pass/Fail criteria for each test>

Parameter	Unit	Limit
Insertion loss (IL)	Max. (dB)	≤ 0.3
Return loss (RL)	Min. (dB)	UPC ≥ 50(Single Mode) UPC ≥ 20(Multi Mode)
Loss change	Max. (dB)	± 0.2

4. PACING AND MARKING

4.1. Packing

The Optical pigtail shall be packed in 10 pcs and wrapped in a protective plastic or wooden and placed in a box with test result data and design criteria.
The individual Patch cord or pigtail shall be package in multi-packed in a strong, weather resistance carton boxes, suitable for shipping, handling and storage.

4.2. Marking

Details given below shall be distinctly marked with a weather proof material on the both outer sides of the shipping carton. Other shipping mark is also available if requested by customer.

(1) Product item
(2) Country of origin
(3) Manufacturer's name and/or trademark
(4) Gross weight
(5) Caution mark, i.e. maximum stacking height

-The end of Specification-