

# Specification Sheet

SH-1001-1.0

( MAP-5814 )

High-Performance Plastic Optical Fiber

E s k a™

**mitsubishi**  
**RAYON CO.,LTD.**

Plastic Molding Material Department

1-1, Marunouchi 1-Chome, Chiyoda-ku, Tokyo 100-8253, Japan

Phone :+81-3-6748-7518

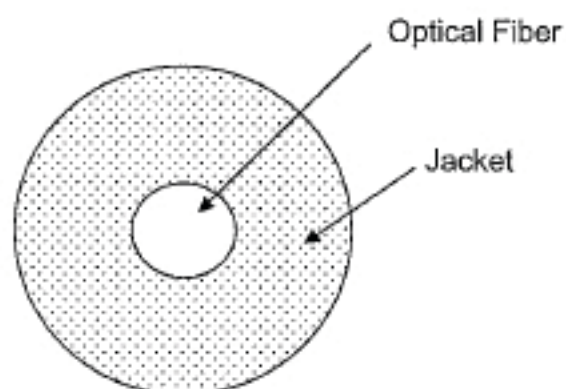
Facsimile:+81-3-3286-1366

1. Scope  
This specification covers basic requirements for the structure and optical performances of SH-1001-1.0.
2. Structure

Table 1

SH-1001-1.0

Item		Specification			
		Unit	Min.	Typ.	Max.
Optical Fiber	Core Material	—	Polymethyl-Methacrylate Resin		
	Cladding Material	—	Fluorinated Polymer		
	Core Refractive Index	—	1.49		
	Refractive Index Profile	—	Step Index		
	Numerical Aperture	—	0.5		
	Core Diameter	μm	217	240	263
	Cladding Diameter	μm	227	250	273
Jacket	Material	—	Polyethylene		
	Color	—	Black		
	Diameter	mm	0.95	1.00	1.05
Approximate Weight		g/m	0.7		
Indication on the Jacket		—	None		

Sectional View

## 3. Performances

Table 2

SH-1001-1.0

Item		Acceptance Criterion and/or [ Test Condition ]	Specification			
			Unit	Min.	Typ.	Max.
Maximum Rating	Storage Temperature	No Physical Deterioration [ in a Dry Atmosphere ]	℃	-55	—	+70
	Operation Temperature	No Deterioration in Optical Properties* [ in a Dry Atmosphere ]	℃	-55	—	+70
		No Deterioration in Optical Properties** [ under 95%RH condition ]	℃	—	—	+60
Optical Properties	Transmission Loss [ 650nm Collimated Light ]	[ 25℃ 50%RH ]	dB/km	—	—	400
		[ Operation Temperature ]	dB/km	—	—	420
Mechanical Characteristics	Minimum Bend Radius	Loss Increment $\leq 0.5$ dB [ A Quarter Bend ]	mm	5	—	—
	Repeated Bending Endurance	Loss Increment $\leq 1$ dB [ in Conformity to the JIS C 6861 ]***	Times	—	—	—
	Tensile Strength	Tensile Force at 5% Elongation [ in Conformity to the JIS C 6861 ]	N	4	—	—
	Twisting Endurance	Loss Increment $\leq 1$ dB [ Sample Length : 1m Tensile Force : 4.9N ]	Times	—	—	—
	Impact Endurance	Loss Increment $\leq 1$ dB [ in Conformity to the JIS C 6861 ]	N·m	—	—	—

All tests are carried out under temperature of 25℃ unless otherwise specified.

\* Attenuation change shall be within +/- 10% after 1,000 hours.

\*\* Attenuation change shall be within +/- 10% after 1,000 hours, except that due to absorbed water.

\*\*\* Bend Angle +/-90°, Bend Radius 15mm, Tension 500g

## 4. Revision

REVISION No.	DATE	REMARK	DRAWN	APPVD
	Dec 7, 2011	new issue	Takenaka	Okita