

# Specification Sheet

SHCP-4001

High-Performance Plastic Optical Fiber

E s k a™

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## 1. Scope

This specification covers basic requirements for the structure and optical performances of SHCP-4001.

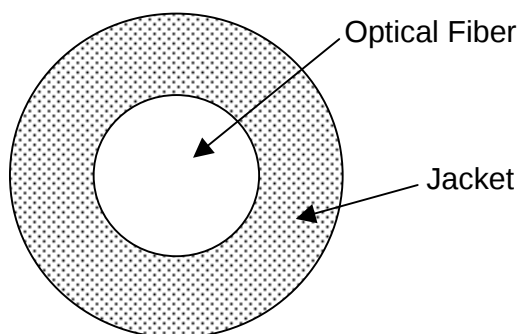
## 2. Structure

Table 1

|                          |                          | SHCP-4001     |                                                                |       |       |
|--------------------------|--------------------------|---------------|----------------------------------------------------------------|-------|-------|
| 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            | 920                                                            | 980   | 1,040 |
|                          | Cladding Diameter        | μm            | 940                                                            | 1,000 | 1,060 |
| Jacket                   | Material                 | -             | Chlorinated Polyethylene                                       |       |       |
|                          | Color                    | -             | Black                                                          |       |       |
|                          | Diameter                 | mm            | 2.13                                                           | 2.20  | 2.27  |
| Approximate Weight       |                          | g/m           | 6                                                              |       |       |
| Indication on the Jacket |                          | -             | White; refer the margin of the table (as following indication) |       |       |

Indication : E89328-A MITSUBISHI RAYON  AWM 5310 80C VW-1

## Sectional View



## 3. Performances

Table 2

|                               |                                                    |                                                                          | SHCP-4001     |        |      |      |
|-------------------------------|----------------------------------------------------|--------------------------------------------------------------------------|---------------|--------|------|------|
| Item                          |                                                    | Acceptance Criterion<br>and/or<br>[ Test Condition ]                     | Specification |        |      |      |
|                               |                                                    |                                                                          | Unit          | Min.   | Typ. | Max. |
| Maximum<br>Rating             | Storage<br>Temperature                             | No Physical Deterioration<br>[ in a Dry Atmosphere ]                     |               | -55    | -    | +70  |
|                               | Operation<br>Temperature                           | No Deterioration<br>in Optical Properties*<br>[ in a Dry Atmosphere ]    |               | -55    | -    | +70  |
|                               |                                                    | No Deterioration<br>in Optical Properties**<br>[ under 95%RH condition ] |               | -      | -    | +60  |
| Optical<br>Properties         | Transmission Loss<br>[ 650nm<br>Collimated Light ] | [ 25 50%RH ]                                                             | dB/km         | -      | -    | 190  |
|                               |                                                    | [ Operation Temperature ]                                                | dB/km         | -      | -    | 210  |
| Mechanical<br>Characteristics | Minimum<br>Bend Radius                             | Loss Increment 0.5dB<br>[ A Quarter Bend ]                               | mm            | 25     | -    | -    |
|                               | Repeated Bending<br>Endurance                      | Loss Increment 1dB<br>[ in Conformity to the<br>JIS C 6861 ]***          | Times         | 10,000 | -    | -    |
|                               | Tensile Strength                                   | Tensile Force at 5%<br>Elongation; in Conformity<br>to the JIS C 6861 ]  | N             | 70     | -    | -    |
|                               | Twisting Endurance                                 | Loss Increment 1dB<br>[ Sample Length : 1m<br>Tensile Force : 4.9N ]     | Times         | 5      | -    | -    |
|                               | Impact Endurance                                   | Loss Increment 1dB<br>[ in Conformity to the<br>JIS C 6861 ]             | N·m           | 0.4    | -    | -    |

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

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

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