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## Specification Sheet

## BH-4001



High - Performance Plastic Optical Fiber
$E s k a^{T M}$

\author{

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}

## 1.Scope

scope
This specification covers basic requirements for the structure, optical and mechanical performances of BH-4001.
2.Structure

Table1
BH-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 | - | 0.58 |  |  |
|  | Core Diameter | mm | 920 | 980 | 1040 |
|  | Number of Core |  | 1 |  |  |
|  | Cladding Diameter | mm | 940 | 1,000 | 1,060 |
| Jacket | Material and Color | - | Cross-linked Polyethylene : Black |  |  |
|  | Diameter | mm | 2.13 | 2.20 | 2.27 |
|  | Indication on the Jacket | - | None |  |  |
| Approximate Weight |  | $\mathrm{g} / \mathrm{m}$ | 3.9 |  |  |

Sectional View


Table2

| Item |  | Acceptance Criterion and / or [Test Condition ] | Specification |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Unit | Min. | Typ. | Max. |
| Maximum Rating | Storage Temperature |  | No Physical Deterioration [ in a Dry Atmosphere ] | ${ }^{\circ} \mathrm{C}$ | -55 | - | + 105 |
|  | Operation Temperature | No Deterioration in Optical Properties* [ in a Dry Atmosphere ] | ${ }^{\circ} \mathrm{C}$ | -55 | - | + 105 |
|  |  | No Deterioration in Optical Properties** [ under $95 \% \mathrm{RH}$ condition] | ${ }^{\circ} \mathrm{C}$ | - | - | + 85 |
| Optical Properties | $\begin{aligned} & \text { Transmission Loss } \\ & \text { ( } 650 \mathrm{~nm} \\ & \text { Collimated Light ) } \end{aligned}$ | [ $25^{\circ} \mathrm{C}, 50 \% \mathrm{RH}$ ] | dB/km | - | - | 200 |
|  |  | Operation Temperature | dB/km | - | - | 250 |
| Mechanical Characteristics | Minimum Bend Radius | Loss Increment $=<0.5 \mathrm{~dB}$ [ A Quarter Bend ] | mm | 25 | - | - |
|  | Repeated Bending Endurance | Loss Increment $=<1 \mathrm{~dB}$ [ in Conformity to the JIS C 6861] | Times | 1,000 | - | - |
|  | Tensile Strength | [Tensile Force at $5 \%$ Elongation; in Conformity to the JIS C 6861] | N | 70 | - | - |
|  | Twisting Endurance | Loss Increment $=<1 \mathrm{~dB}$ [ Sample Length : 1 m Tensile Force : 4.9 N ] | Times | 5 | - | - |
|  | Impact Endurance | Loss Increment $=<1 \mathrm{~dB}$ [ in Conformity to the JIS C 6861] | Nm | 0.2 | - | - |

All tests are carried out under temperature of $25^{\circ} \mathrm{C}$ unless otherwise specified.

* Attenuation changeshall be within +-10 \% of the specification (operation temperature) after 1,000 hours. (According to our test method)
** Attenuation changeshall be within $+-10 \%$ of the specification (operation temperature) after 1,000 hours, except that due to absorbed water. (According to our test method)

