

Specifications for Plastic Optical Fiber

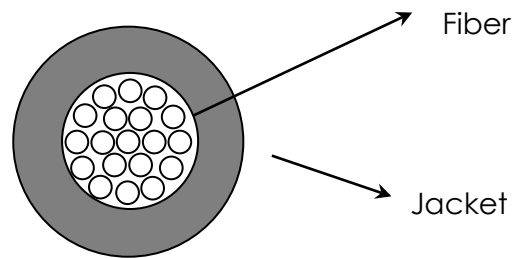
Multicore POF™ HMCKU-1000P-13

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1. STRUCTURE

ITEM	UNIT	Specifications
Core Material		PMMA
Clad Material		Fluorinated Polymer
Core reflective index		1.49
Reflective index Profile		Step index
Fiber Diameter	μm	1000 ± 60
Core Number		19
NA		0.5
Jacket Material		Halogen-free Flame-retardant PE
Jacket Diameter	μm	1300 ±70
Jacket Color		Black
Approx. weight	g/m	1.7



2, PROPERTIES

ITEM	UNIT	Specifications	
Storage Temperature Range	°C	-55 ~ 85	*1
Application Temperature Range	°C	-55 ~ 85	*1
Attenuation (23 °C 50%)	dB/km	≤ 180	*2
Tensile Strength at Break Point	N	≥90	*3
Minimum Bending Radius	mm	8	*4

Sample conditions

Temperature: T = 23°C
 Humidity: RH = 50%
 Storage time: t = 200h

- *1 : After 1000h, Attenuation Increase shall be ≤10% of the specification
- *2 : Monochromatic light at 650nm, LNA = 0.15, 20-2m Cut-back Method
- *3 : Interval between grippers = 100 mm, Tensile Speed = 100mm/min
- *4 : L = 2m, 90 degree bending at the middle of fiber
 Light Source : LED (Peak Wavelength = 657nm)
 Transmission Rate ≥ 90%

3, RoHS certification

The product does not contain RoHS 2 hazardous substances, Cadmium, Lead, Mercury, Chrome VI, PBB, PBDE, HBCDD, DEHP, DBP and BBP intentionally.

Precautions in Handling and Use

Restricted applications

DO NOT USE LUMINOUS™ FOR ANY APPLICATION WHICH IS INTENDED TO COME INTO DIRECT CONTACT WITH THE HUMAN BODY OR DIRECT CONTACT WITH FOOD. Consult ASAHI KASEI E-MATERIALS before considering LUMINOUS™ for any non-invasive medical device applications; invasive applications cannot be considered.

Installation and operating environment

LUMINOUS™ is not structurally or materially designed to bear large external loads. Do not place or drop heavy objects on LUMINOUS™, or hang objects from LUMINOUS™. Improper installation or service environment may seriously degrade its light transmission capability. The design of any system or instrument in which LUMINOUS™ is to play an essential role must provide effective control of its installation and operating environment (temperature, humidity, freedom from exposure to solvents, chemicals, ultraviolet light, etc.) and appropriate back-up in case of light transmission loss.

Laboratory tests and experience have shown all of the following to require particular care, in both installation and service.

- * Do not squeeze, pinch, or compress LUMINOUS™ with tools, fixtures, or securing devices.
- * Do not bring into direct contact with any chemicals that might degrade the LUMINOUS™ plastic resins.
- * Do not bring into direct contact with any tubes, cables, or other rubber or plastic objects containing plasticizer (DOP, etc.), stabilizer, or other additive that might migrate into the LUMINOUS™ cord or cable and cause discoloration or reduced photoconductivity.
- * Do not apply or permit contact with any adhesive containing a solvent, monomer, or other component that might adversely affect the physical or optical properties of LUMINOUS™.
- * Do not use any alcohol or organic solvent in cleaning or wiping LUMINOUS™, as it may cause cracking or hazing.
- * Do not expose LUMINOUS™ to ultraviolet or radioactive rays, which may cause deterioration and loss of photoconductivity.

Heat exposure

LUMINOUS™ softens at approximately 100°C, decomposes and emits flammable gas at approximately 200°C, and above 200°C may ignite and burn. Any lamp or other light source assembly must include a cooling device to keep LUMINOUS™ below 80°C, and particularly in conjunction with the use of a condenser lens, the end surface of LUMINOUS™ must be kept free of dirt and other contaminants, which may cause elevated LUMINOUS™ surface temperature, decomposition, and fire.

Storage

Store LUMINOUS™ indoors, in a place free from direct sunlight, water and excessive humidity, to protect its properties and performance.

Disposal

LUMINOUS™ bare fiber and cord contain fluorine and vinyl chloride resins, and will emit hydrogen fluoride, hydrogen chloride or other toxic gases during incineration. Dispose of LUMINOUS™ either by land-fill burial or by incineration in a facility capable of removing and disposing of such gases, in strict accordance with national and local laws and regulations.