

Specifications for Plastic Optical Fiber

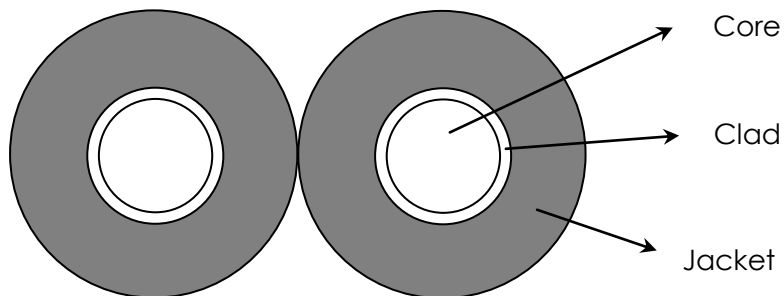
Flame-retardant Grade < UL VW-1, 90°C >
TCF-1000W

Issued on : Jan. 13, 2016

Issued by : Asahi Kasei E-Materials Corporation
Plastic Optical Fiber
Marketing & Development Gr

1, STRUCTURE

ITEM	UNIT	Specifications
Core Material		PMMA
Clad Material		Fluorinated Polymer
Core reflective index		1.49
Reflective index Profile		Step index
Core Diameter	μm	970 ± 60
Fiber Diameter	μm	1000 ± 60
NA		0.5
Jacket Material		Halogen-free Flame-retardant PE
Jacket Diameter	μm	2200 ± 70 / 4400 ± 100
Jacket Color		Black
Marking (One Channel)		[RU AWM STYLE 5538 VW-1 90°C E116331 ASAHIKASEI E-MATERIALS CORPORATION]
Marking Color		Blue
Approx. weight	g/m	10.3



2, PROPERTIES

ITEM	UNIT	Specifications	
Storage Temperature Range	°C	-55 ~ 90	*1
Application Temperature Range	°C	-55 ~ 90	*1
Operating Temperature in a Moist Atmosphere(85% RH)	°C	90	*1
Attenuation (23 °C 50%)	dB/km	≤ 160	*2
Attenuation (Operating Temperature)	dB/km	≤ 190	*2
Tensile Strength at 5% Elongation	N	≥ 140	*3
Tensile Strength at Break Point	N	≥ 180	*3
Elongation at Break Point	%	≥ 90	*3
Minimum Bending Radius	mm	25	*4
Repeated Bending Endurance	Times	≥ 2000	*5
Impact Endurance	N· m	≥ 0.6	*6

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, 52-2m 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%
*5 : Method JIS C6861 (R 15mm ±90degree Tension 500g)
Attenuation increase ≤1dB
*6 : Method JIS C6861
Attenuation increase ≤1dB

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.