Plastic Optic Fiber Characteristics

DUPLEX 2x POF 1 / 2.2 [mm] Structure				
Product Description		**Specification**		
		Minimum	*Type*	*Maximum*
Optical Fiber ESKA™ SK-40 Mitsubishi™	*Core Material*	Polymetyl-Metacrylate Resin		
	Clad Material	Fluorinated Polymer		
	Core Reflective Index	-----	1.49	-----
	Clad Reflective Index	-----	1.41	-----
	Reflective Index Profile	Step index		
	Numerical Aperture (NA)	-----	0.5	-----
	Core Diameter [µm]	920 µm	980 µm	1'040 µm
	Clad Diameter [µm]	940 µm	1000 µm	1'060 µm
	Core Number	**2**		
POF Jacket	*Inner Jacket Material*	Polyethylene		
	Inner diameter [mm]	2.13 mm	2.20 mm	2.27 mm
	Jacket Color	Black		
Reinforced Jacket	*Jacket Material*	Super Eska Polyethylene Buffered & Polyvinyl Chloride Sheated Fiber Cord		
	Outer Diameter	5.8 mm	6.00	6.2
	Jacket Color	Black (Yellow Fiber Cord)		
Approximative Weight		38.00 [g/m]		
Indication of UL Style Number		None		

Fiber Length on Spool [m] **25m** Wickelboy Spool measurements [4.5 cm x 30cm x 15cm] for more details see the “Spool Characteristics” Document.	20m, 25m
Fiber Length on Spool [m] **450m** Spool measurements [10cm x 30cm x 30cm] for more details see the “Spool Characteristics” Document.	30m, 35m, etc. until 150m
Fiber Length on Spool [m] **2600m** Spool measurements [19.5cm x 39.5cm x 39.5cm] for more details see the “Spool Characteristics” Document.	150m, 160m, etc. until 500m

DUPLEX
2x POF 1 / 2.2 [mm] Performance

Product Description			Specification		
			Minimum	*Type*	*Maximum*
Maximium Rating	*Storage Temperature [℃]*	No Physical Change	-55	-----	70
	Operation temperature [℃]	No Deterioration in Optical Properties	-55	-----	70
	Operation Temperature under 95% RH [℃]	No Deterioration in Optical Properties	-----	-----	65
Transmission Loss	*Attenuation (Collimated light) [dB/km]*	**650** [nm] (Ta = 25 °C)	-----	-----	160
		650 [nm] (Ta = operation temp)	-----	-----	170
		660 [nm] (Ta = operation temp)	-----	-----	265
	Bandwidth	Launch NA > Fiber NA	40 MHz.50m	-----	-----
	Minimum Bending Radius	(Ta: Operation temp.)	-----	25	-----

Mechanical Characteristics	*Repetead Bending Endurance [Times]*	Loss Increment ≤1dB 90° 25mmR, Dead Weight: 500g	10'000	-----	-----
	Tensile Strength [N]	Tensil Force at 5% Elongation in Conformity to the JIS C 6861	70	-----	-----
	Twisting Endurance [Times]	Loss Increment ≤1dB Sample Length: 1[m], Tensile Force 4.9[N]	5	-----	-----
	Impact Endurance [N.m]	Loss Increment ≤1dB in Conformity to the JIS C 6861	0.4	-----	-----

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

Cross Section of Duplex POF