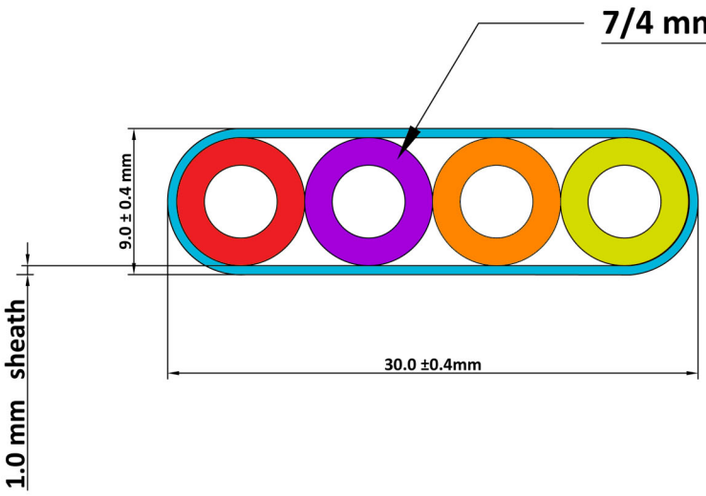
OPTiLite Fibre Optic

HDPE Flat Multiduct 4 WAY 7/4mm



APPLICATION

Developed to be the best solution of direct burial modular-tubes family, featuring a non-metallic construction.

A bundle of micro- or mini-tubes (regular wall size) is surrounded by single thin HDPE sheath. The design makes the duct assemblies suitable for outdoor direct buried or other existing ducts or cable trays. The microducts are optimized for best cable blowing performance.

MICRODUCT - PHYSICAL AND MECHANICAL PROPERTIES

Characteristic	Test Method	Acceptance Criteria	Test Frequency
Visual Appearance	Afripipes	Smooth inside & outside surface, free from blisters, shrink hole, flaking, scratches & roughness.	Per Drum
Outer Diameter	a) In-line control (X/Y laser) b) 5 measurements equidistant apart around circumference	7.0 ± 0.1 mm	a) 5 times/sec b) Per drum
Inner Diameter	5 measurements equidistant apart around circumference	4.0 ± 0.1 mm	Per drum
Wall thickness	5 measurements equidistant apart around circumference	1.5 ± 0.1 mm	Per drum
Ovality	(Max. Outer Diameter – Min. Outer Diameter)/Average Outer Diameter	< 5%	Per drum
Standard Dimension ratio	N/A SDR= Outer dia./Wall thickness	4.66	N/A
Pressurization	5 min @ 15 bar each Micro duct	No damage, No leaks.	Per drum
Inner Clearance Test	IEC 60794-1-2 Method E23	3.2mm steel ball shall pass freely through micro duct.	Per drum
Co-efficient of Friction	Bell core, 750 mm Diameter, 450° loop, 5 kg tail mass	$\mu < 0.08$	Per Batch
Kink	IEC 60794-1-2 Method E10 15 x OD	No residual deformation > 15% of inner and outer diameter. Shall pass inner clearance test.	Per Batch
Crush Test	IEC 60794-1-2 Method E3, 1500 N load, 60 sec, 1 hour recovery time.	No residual deformation > 15% of inner and outer diameter. Shall pass inner clearance test.	Per Batch
Tensile	IEC 60794-1-2 Method E1A & E1B, Force= mass of 1,000m of duct, 5 min test	No residual deformation > 15% of micro duct	Per Batch
Impact	IEC 60794-1-2 Method E4, 5 J Impact, 10 mm anvil, recovery time 1 hour.	No residual deformation > 15% of inner and outer diameter. Shall pass inner clearance test.	Per Batch
Heat Reversion	ISO 2505	110°c for 1 hrs (< 3%)	Per Batch
Colour	Visual inspection	As per customer specifications.	Per Drum
Printing	Visual inspection	As per customer specifications.	Per Drum

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BUNDLED DUCTS - PHYSICAL AND MECHANICAL PROPERTIES

Characteristic	Test Method	Acceptance Criteria	Test Frequency
Wall thickness (Sheathing)	6 measurements equidistant apart around circumference.	1.0 ± 0.1 mm	Per coil
Pressurization	5 min @ 15 bar each Microduct	No damage, No leaks.	Per coil
Inner Clearance Test (per micro duct per coil)	IEC 60794-1-2 Method E23	3.2 mm steel ball shall pass freely through micro duct.	Per coil
Kink	IEC 60794-1-2 Method E10, 20 x OD	No residual deformation > 15% of inner and outer diameter. Shall pass inner clearance test.	Per Batch
Crush	IEC 60794-1-2 Method E3, 1800 N load, 60 sec, 1 hour recovery time.	No residual deformation > 15% of inner and outer diameter. Shall pass inner clearance test.	Per batch
Impact	IEC 60794-1-2 Method E4, 15 J Impact, 25 mm anvil, recovery time 1 hour.	No residual deformation > 15% of inner and outer diameter. Shall pass inner clearance test.	Per batch
Environmental Stress Crack Resistance (ESCR)	ASTM D 1693	No crack shall observe at 50±2°c for 96 hours, when used 10% Igepal CO-630 solutions.	Per batch
Colour & Sequence	Visual inspection	As per customer specifications	Per Coil
Printing	Visual inspection	As per customer specifications	Per Coil

MATERIAL SPECIFICATIONS

Test	Characteristic		Test Method	Acceptance Criteria	Test Frequency
01	Ducts are manufactured with 100% Virgin HDPE				
02	Melt Flow Index		ASTM D 1238-10 @190°c & 5kg load	< 0.55 g/10min	Per Batch
03	Density		ASTM F 2160 ASTM D792-08	0.940 -0.958 g/cm³	Per Batch