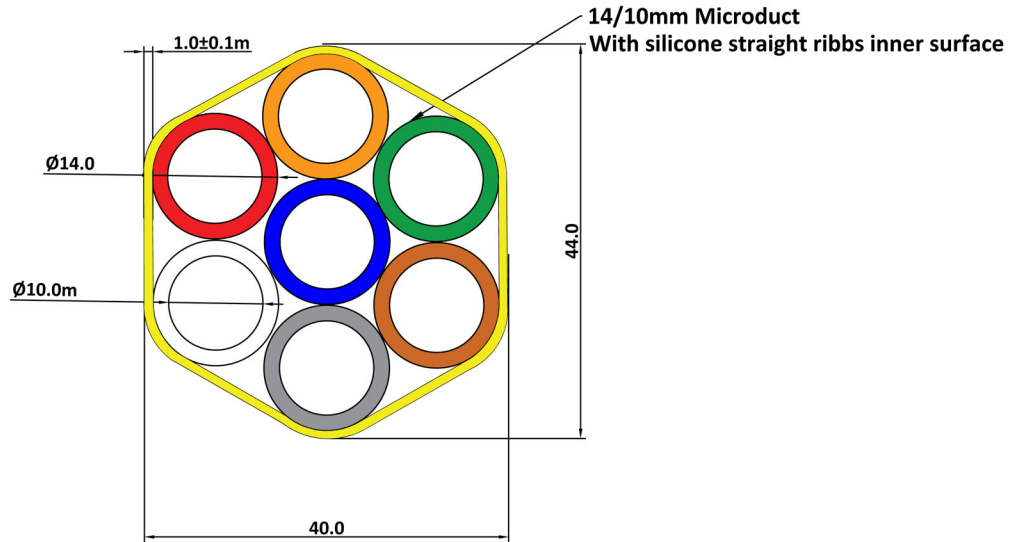


## HDPE Multiduct 7way x 14/10mm



Note : Sequence viewed from loose end of reel

### 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 ASTM F2160	< 0.55 g/10min	Per Batch
03	Density	ASTM D792-08 ASTM F2160	0.940 -0.955 g/cm <sup>3</sup>	Per Batch

### PHYSICAL AND MECHANICAL PROPERTIES - MICRODUCT

Characteristic	Test Method	Acceptance Criteria	Test Frequency
Outer diameter	a) In-line control (X/Y laser) b) 5 measurements equidistant apart around circumference	14.0 ± 0.1 mm	a) 5 times/sec b) Per drum
Inner diameter	5 measurements equidistant apart around circumference	10.0 ± 0.1 mm	Per drum
Wall thickness	5 measurements equidistant apart around circumference	2.0 ± 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	7	N/A
Pressurization	5 min @ 15 bar each Microduct	No damage, No leaks.	Per drum
Inner clearance test	IEC 60794-1-21 Method E23	8.5mm steel ball shall pass freely through microduct.	Per drum
Crush	IEC 60794-1-21 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

## PHYSICAL AND MECHANICAL PROPERTIES - MICRODUCT

Characteristic	Test Method	Acceptance Criteria	Test Frequency
Impact	IEC 60794-1-21 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
Tensile	IEC 60794-1-21 Method E1A & E1B, Force= mass of 1,000m of duct, 5 min test	No residual deformation > 15% of microduct	Per batch
Co-efficient of Friction	Bellcore, 750 mm Diameter, 450° loop, 5 kg tail mass	$\mu \leq 0.060$	Per Batch
Heat Reversion	ISO 2505	110°c for 1 hrs ( $\leq 3\%$ )	Per Batch
Color	Visual inspection	As per customer specifications	Per drum
Printing	Visual inspection	As per customer specifications	Per drum

## PHYSICAL AND MECHANICAL PROPERTIES - BUNDLED DUCTS

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 microduct per coil)	IEC 60794-1-21 Method E23	8.5mm steel ball shall pass freely through microduct.	Per coil
Min Bending Radius	IEC 60794-1-21 20x OD	No residual deformation > 15% of microduct. Shall pass inner clearance test.	Per batch
Kink Test	IEC 60794-1-21 Method E10, 20 x OD	No residual deformation > 15% of inner and outer diameter. Shall pass inner clearance test.	Per batch
Crush Test	IEC 60794-1-21 Method E3, 2000 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 Test	IEC 60794-1-21 Method E4, 15 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
Torsion	IEC 60794-1-21 Method E7	10 cycles with 40 N load where 1 cycle comprises a 180° turn followed by a minus 180° turn, Shall pass inner clearance test.	Per batch
UV Resistance	Afripipes	> 1 year at direct sunlight.	As required (Type test)
Colour & Sequence	Visual inspection	As per customer specifications	Per Coil
Printing	Visual inspection	As per customer specifications	Per Coil