HDPE TUBE BUNDLE 1-WAYS 16/12mm
With PE Outer Sheath 1.2mm

1. General Description

The product are composed by 1 ways 16/12mm inner micro ducts, with low friction performance. The outer sheath is HDPE material with a thinner colored sheath making the product suitable for direct burial…

2. Raw Materials

Characteristic	Test Method	Acceptance Criteria
Bundles is manufactured with 100% virgin HDPE		
Melt Flow Index	ASTM D1238 190°C @ 2.16Kg Load	≤ 0.40 g/10min
Density	ASTM D792	0.940 0.958 g/cm3
Environmental stress crack resist (F50)	ISO 4599	Min. 96h

3. Raw Materials

	Outer diameter (mm)		Wal thickness (mm)		Inner diameter (mm)	Pressure
	Nominal	**Tolerance**	**Nominal**	**Tolerance**	**Min.**	**(bar)**
16/12mm Inner ribs	16.0	±0.1	2.0	±0.1	11.8	16

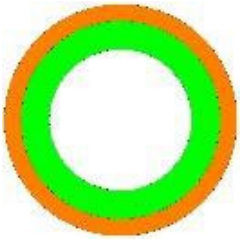
The inner micro duct marking include the following information and repeated every one meter:

- Product spec.
- Coil number
- Manufactured date
- Length marking (e.g. =1234m)
- Other markings are available upon customer requests.

Mechanical Performance – Inner micro duct 12/8mm

Items	Standards	Test method	Performance
Inner diameter clearance	IEC 60794-5-10 Annex E	Pressure: 12 bar Max. sphere size: 85% of nom. ID	Pass through the micro duct
Tensile strength	IEC 60794-5-10 & 20	Rate of extension: 100mm/min	≥ 1580N
Elongation	IEC 60794-5-10 & 20	Rate of extension: 100mm/min	≥ 500%
Crush	IEC 60794-5-10 & 20	Sample length: 250mm Load: 1600N Duration of Max. load: 1 min Recovery time: 1 hour	Under visual examination there is no damage to the micro duct, and inner diameter clearance test can be passed.
Impact	IEC 60794-5-10 & 20	Striking surface radius: 20mm Impact energy: 1.5 J Recovery time: 1 hour	Under visual examination there is no damage to the micro duct, and inner diameter clearance test can be passed.
Kink	IEC 60794-5-10 & 20	Number of turns: 5 Number of cycles: 1 Mandrel diameter: 20xouter diameter	Under visual examination there is no damage to the micro duct, and inner diameter clearance test can be passed.
Friction	Optowire	Mandrel diameter: 750 mm Cable diameter: 2.8 mm Load: 5.0 Kg	≤0.1

4. Raw Materials



Sheath: Orange color
Thickness of sheath: 1.2mm ± 0.2mm
Ripcord: Available upon customer request
Tracing wire: Available upon customer request

	Outer diameter (mm)	Wal thickness (mm)	
	Nominal	**Nominal**	**Tolerance**
Tube bundle	18.4	1.2	± 0.2

Mechanical Performance:

Items	Standards	Test method	Performance
Inner diameter clearance	IEC 60794-5-10 Annex E	Pressure: 12 bar Max. sphere size: 85% of nom. ID	Pass through the each inner micro duct
Tensile strength at yield (sheathing)	IEC 60794-5-10 & 20	Rate of extension: 100mm/min	≥ 21.0Mpa
Elongation (Sheathing)	IEC 60794-5-10 & 20	Rate of extension: 100mm/min	≥ 500%
Crush	IEC 60794-5-10 & 20	Sample length: 250mm Load: 2500N Duration of Max. load: 1 min Recovery time: 1 hour	Under visual examination there is no damage to the tube bundle, and inner diameter clearance test can be passed.
Impact	IEC 60794-5-10 & 20	Striking surface radius: 200mm Impact energy: 3.0 J Recovery time: 1 hour	Under visual examination there is no damage to the tube bundle, and inner diameter clearance test can be passed.
Min. Bend Radius	IEC 60794-5-10 & 20	Number of turns: 3 Number of cycles: 3 Mandrel diameter: 24x outer diameter	Under visual examination there is no damage to the tube bundle, and inner diameter clearance test can be passed.

5. Raw Materials

Optowire tube bundle are delivered on iron drum. The drums protected with black plastics foil and both end of the bundle are sealed with end cap to ensure that the inner micro duct will not be affected by water and dust.

1-WAYS 16/12mm	Drum Length (m)	Packing Size (H x W)	Gross weight	Number of Drums in 40HQ
	1000	**115 x 53**	**198**	**80**

6. Raw Materials

Completed packages of the HDPE micro duct on drum can be stored outdoor max. 6 months upon the date of production.

Storage temperature: -40°C ～+70°C
Installation temperature: -30°C ～+50°C
Operating temperature: -40°C ～+70°C