



**TIÚ – PLAST a.s.**

areál SPOLANA a.s.  
ul. Práce 657  
CZ-27711 Neratovice  
ISO 9001:2015



## LSOH ducts and microducts: halogen free flame retardant

### Effective protection of cabled distribution for interiors with higher requirements for fire endurance

- ▶ Certificated according **EN 60332-1-1+A1, EN 60332-1-2+A1+A11** (*Tests on electric and optical fibre cables under fire conditions - Part 1-2: Test for vertical flame propagation for a single insulated wire or cable – Procedure for 1 kW premixed flame*), ELECTROTECHNICAL TESTING INSTITUTE Prague – Czech Republic, **CERTIFICATE N. 1180118, valid to February 28th, 2021**
- ▶ Note: Standards EN 60332-1-2 and IEC 60332-1-2 are identical. It means LSOH ducts and microducts comply also with IEC 60332-1-2.
- ▶ zero halogen content
- ▶ low smoke density (emission)
- ▶ no material dripping at burning
- ▶ conventional, standard handling at uncoiling (unreeling) pipe the coil (coil diameter = 100 cm)
- ▶ applicable, conventional technology of fibre optic cable blowing-in (pressure max.1,6 MPa)
- ▶ Radius during the installation from 18 to 20 D , similar to HDPE pipes
- ▶ It is necessary to store **LSOH** ducts in the place protected from daylight sunshine

LSOH ... Low **S**moke **0** Halogen (= LSZH)

## LSOH Ducts and Microducts Dimensions

### LSOH Ducts Dimensions

Type	Outer Diameter <b>OD</b> and Tolerance (mm)	Minimal Wall Thickness <b>S</b> (mm)
20/16	20,0 + 0,3 -0,1	1,9
25/20,4	25,0 + 0,3 -0,1	2,2
32/27	32,0 + 0,3 -0,1	2,4
40/34	40,0 + 0,4 -0,1	2,9
50/41,6	50,0 + 0,5 - 0,1	4,2



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### LSOH Microducts Dimensions – thin-walled

Type	Outer Diameter <b>OD</b> and Tolerance (mm)	Minimal Wall Thickness <b>S</b> (mm)	Minimal Inner Diameter <b>ID</b> (mm)
10/8	10,00 ± 0,10	0,90	7,9
12/10	12,00 ± 0,10	0,90	9,9

### LSOH Microducts Dimensions – thick-walled

Type	Outer Diameter <b>OD</b> and Tolerance (mm)	Minimal Wall Thickness <b>S</b> (mm)	Minimal Inner Diameter <b>ID</b> (mm)
10/5,5	10,00 ± 0,10	2,15	5,4
12/8	12,00 ± 0,10	1,90	7,9
14/10	14,00 ± 0,10	1,90	9,9
16/12	16,00 ± 0,10	1,90	11,9

### Design (external and internal surface, colour, printing)

**External and internal surface:** smooth with no scraps cracks and grooves

**Colour:** available according to customer demand.

**Printing:** LSOH ducts and microducts are contrast printed by (INK-JET) with basic identification – length, producer name, seller or investor name, type, dimension, date and time of the production (see example). The printing is possible to change according to customer demand.

>300 m< TIU-PLAST seller LSOH 40/34 EN 60332-1-2 16/04/2018 10:45 E

>202 m< TIU-PLAST seller LSOH 10/8 EN 60332-1-2 18/05/2018 9:42 I



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## Product Quality Control

Table 1. LSOH ducts/ microducts properties

Ducts Properties		Unit	Standard	Guaranteed value
1.	<i>Limiting Oxygen Index, microducts</i>	(O <sub>2</sub> ) Volume%	ISO 4589-2	minimum 26,0
2.	<i>Limiting Oxygen Index, ducts</i>	(O <sub>2</sub> ) Volume%	ISO 4589-2	minimum 27,5
3.	<i>Tensile strength, ducts</i>	MPa	ISO 6259-3	15
4.	<i>Elongation at break, ducts</i>	%	ISO 6259-3	90
5.	<i>Resistance to internal pressure (+23°C, 1,6 MPa, 2 hour)</i>	No damage	EN ISO 1167	complies
6.	<i>Impact resistance on drop tester (+23°C, 9 kg, 70 cm), ducts DN50, DN40 and DN 32</i>	No damage	EN 744	complies
7.	<i>Installation tensile force (Tensile stress – Yield) (tube length 250 mm, pulling speed 50 mm/min)</i>	N	-	min. 340 (10/8, 12/10) min. 550 /10/5,5) min. 600 (12/8) min. 750 (14/10)
8.	<i>Density</i>	g.cm <sup>-3</sup>	EN ISO 1183	1,41 ± 0,10

## Packaging

LSOH ducts are commonly delivered in 200m or 300m coils. LSOH microducts are wound on lightweight disposable plywood drums and protected by covering with stretch foil. The products are marked with the identification card in the protection case.

TIÚ-PLAST a.s., Petra Richterová, 10.5.2018