

LGCE Thick Walled Microduct Assemblies

7/4mm

1. General Description

BluLight® Thick Walled Microduct Assemblies are designed for direct burial and have superior blowing characteristics. Thanks to the sufficient thickness of the wall, it exempts this type of microduct from additional protective ducts. Thick Walled Microduct Assemblies can be branched off easily and the primary tube can be directly buried as a single microduct. Also, this solution makes network distribution possible with a simple connector.

2. Primary Tubes Technical Details

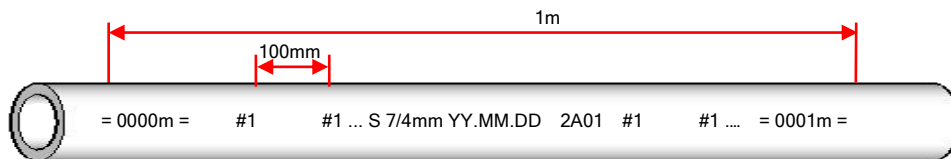
2-1 Dimension

Item	Outer diameter(mm)		Inner diameter(mm)		Wall thickness(mm)		Pressure(bar)
	Nominal	Tolerance	Nominal	Tolerance	Min.	silicon	
7/4	7	±0.1	4	±0.1	1.4	0.15	15
14/10	14	±0.1	10	±0.1	1.9	0.15	15

2-2 Marking

The microduct marking shall include the following information: (Frequency - repeated every 1meter)

- Identify code number(e.g. #1, repeated interval 100mm)
 - Tube type(e.g. S or R)
 - Product spec.(e.g 7/4mm)
 - Manufactured code(e.g YY. MM.DD 2A01)
 - Length marking(e.g. = 0001m =)
- ※ Other markings are available upon customer requests.
 ※ **Example**



3. Microduct Assemblies Technical Details

3-1 Technical details

Product Code	Ways	Nom. OD (WxH) (mm)	Sheath Thickness (mm)	Max. Tensile (N)	Weight (kg/km)	Min. Bend Radius (mm)	Crush (N)
TWD7/4-2	2	15.6 x 8.6	0.8	770	79	110	2,000
TWD7/4-4	4	15.6	0.8	1,360	139	190	2,000
TWD7/4-7	7	22.6 x 20.7	0.8	2,180	223	250	2,000
TWD7/4-12	12	29.6 x 26.8	0.8	3,550	363	330	2,000
TWD7/4-14	14	29.6 x 32.9	0.8	4080	417	360	2,000
TWD7/4-19	19	36.6 x 32.9	0.8	5,390	551	400	2,000
TWD7/4-24	24	43.6 x 32.9	0.8	6,710	685	400	2,000
TWD7/4-9+1	9+1	29.3 x 29.0	0.8	3,540	362	350	2,000
TWD7/4-12+1	12+1	29.6 x 32.5	0.8	4,370	446	360	2,000
TWD7/4-24+1	24+1	43.4 x 43.4	0.8	7,490	765	530	2,000

4-2 Color code

1~7way	Position	1	2	3	4	5	6	7
	Color	Natural	Red	Green	Blue	Brown	Violet	Yellow
	Making	#1	#1	#1	#1	#1	#1	#1
12way	Position	1, 11	2, 12	3	4~6	7~10		
	Color	Blue	Orange	Natural	Green	Red		
	Making	#1, #2	#1, #2	#1	#1~#3	#1~#4		
14way	Position	1, 13	2, 14	3	4~7	8~12		
	Color	Blue	Orange	Natural	Green	Red		
	Making	#1, #2	#1, #2	#1	#1~#4	#1~#5		
19way	Position	1, 2, 8	3, 9	4~7	10~14	15~19		
	Color	Blue	Orange	Natural	Green	Red		
	Making	#1~#3	#1, #2	#1~#4	#1~#5	#1~#5		
24way	Position	1, 2	3, 11	4~10	12~18	19~24		
	Color	Orange	Blue	Natural	Green	Red		
	Making	#1, #2	#1, #2	#1~#7	#1~#7	#1~#6		
9+1way	Position	1~3	4~6	7~9	10(1)			
	Color	Red	Green	Blue	Natural			
	Making	#1~#3	#4~#6	#7~#9	#10			
12+1way	Position	1~4	5~8	9~12	13(1)			
	Color	Red	Green	Blue	Natural			
	Making	#1~#4	#5~#8	#9~#12	#13			
24+1way	Position	1, 10	2~8	9, 24	11~17	18~23	25(1)	
	Color	Blue	Natural	Orange	Green	Red	Natural	
	Making	#1, #2	#1~#7	#1, #2	#1~#7	#1~#6	#1	

5. Mechanical Performance test

5-1 Microduct(Primary tubes)

Mechanical properties	International standard	Test conditions	Performance
Inner clearance	IEC 60794-5-10 Annex E	Pressure : 12bar Max. Sphere size : 85% of nom. ID	Pass : Pass through the primary tube.
Tensile Strength	IEC 60794-5-10&20	Tube length under tension: >1m Max. Tensile load: 1 x 9.8 x W*[N] Duration of max. load: 10 min *W = mass of 1km of component in kg	Pass: Under visual examination without magnification, There shall be no damage and then the inner clearance test shall be passed..
Crush	IEC 60794-5-10&20	Sample length : 250mm Load: 1,000N Duration of Max. load: 1 minute Recovery time: 1 hr	Pass: The outer and inner diameter of the duct shall show, under visual examination without magnification no damage and then the inner clearance test shall be passed.
Impact	IEC 60794-5-10&20	Striking surface radius: 300mm Impact: 3 J Number of impact: 3 Recovery time: 1 hr	Pass: Under visual examination without magnification, there shall be no damage to the duct, no splitting or permanent damage and then the inner clearance test shall be passed. The imprint of the anvil on the sheath is not considered as mechanical damage.
Kink	IEC 60794-5-10&20	Diameter: ≤ 20 x OD	Pass: The outer and inner diameter of the duct shall show, under visual examination without magnification no damage and then the inner clearance test shall be passed.
Bend	IEC 60794-5-10&20	Number of turns: 5 Mandrel diameter: ≤ 24 x OD Number of cycles: 3	Pass: The outer and inner diameter of the duct shall show, under visual examination without magnification no damage and then the inner clearance test shall be passed.

5-2 Microduct Assemblies

Mechanical properties	International standard	Test conditions	Performance
Inner clearance	IEC 60794-5-10 Annex E	Pressure : 12bar Max. Sphere size : 85% of nom. ID	Pass : Pass through the primary tube.
Tensile Strength	IEC 60794-5-10&20	Tube length under tension: >1m Max. Tensile load: 1 x 9.8 x W*[N] Duration of max. load: 10 min *W = mass of 1km of component in kg	Pass: Under visual examination without magnification, There shall be no damage and then the inner clearance test shall be passed.
Crush	IEC 60794-5-10&20	Sample length : 250mm Load: 2,000N Duration of Max. load: 1 minute Recovery time: 1 hr	Pass: The outer and inner diameter of the ducts shall show, under visual examination without magnification no damage and then the inner clearance test shall be passed.
Impact	IEC 60794-5-10&20	Striking surface radius: 300mm Impact: 5 J Number of impact: 3 Recovery time: 1 hr	Pass: Under visual examination, without magnification, there shall be no damage to the duct, no splitting or permanent damage and then the inner clearance test shall be passed.. The imprint of the anvil on the sheath is not considered as mechanical damage.
Kink	IEC 60794-5-10&20	Diameter: $\leq 20 \times OD$	Pass: The outer and inner diameter of the primary tubes shall show, under visual examination without magnification no damage and then the inner clearance test shall be passed.
Bend	IEC 60794-5-10&20	Number of turns: 5 Mandrel diameter: $\leq 24 \times OD$ Number of cycles: 3	Pass: The outer and inner diameter of the ducts shall show, under visual examination without magnification no damage and no reduction of diameter greater than 15%.

6. Packing

Microproduct assemblies are delivered on drum.

Product Code	Length/drum(m)	Drum size(H x W)	Gross weight(kg)	Number of Drums in 40'(EA)
TWD7/4-2	2,000	1,150x560	188	40
TWD7/4-4	2,000	1,400x560	318	33
TWD7/4-7	2,000	1,600x740	511	21
TWD7/4-12	2,000	1,690x1,120	796	14
TWD7/4-14	1,000	1,800x740	482	19
TWD7/4-19	1,000	1,900x740	621	18
TWD7/4-24	1,000	1,750x1,120	760	13
TWD7/4-9+1	2,000	1,750x1,120	799	13
TWD7/4-12+1	1,000	1,800x740	511	19
TWD7/4-24+1	1,000	1,930x1,120	853	12

7. Internationally Certified

LGCE Microduct Assemblies has been rigorously tested by Telcordia Technologies and found to be compliant with Telcordia GR-3155-CORE.



This specification is intended as a guide only. Whilst the information it contains is believed to be correct. LGCE can take no responsibility for action taken based on the information contained in this document. LGCE reserved the right to make changes to this document without notice. All sales of product are subject to LGCE's terms and conditions of sales only.
Any unauthorized copying of this document or our products is prohibited and LGCE will take action to prevent any infringement of it rights and to claim damages for the loss that it suffers.