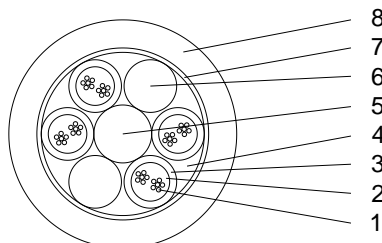


## OUTDOOR-INDOOR CABLE FZMSU



1. Optical fibres	2. Dry tube	3. Tube	4. Dry core
5. FRP rod	6. Filler	7. Wrapping	8. Sheath

Application	Universal non-metallic optical fibre cable for both indoor and outdoor applications. (duct installation in ground). No jelly inside the loose tubes nor cable core.	
Construction	Optical fibres	OS 2 (G.657.A1 and G.652.D compliant) or OM3 multi-mode
	Secondary coating	Dry loose tubes made of thermoplastic material. Water-blocking yarn in each tube.
	Fillers	Plastic fillers when applicable.
	Central strength member	Glass fibre reinforced plastic.
	Cable core stranding	The secondary coating tubes and fillers (when needed) are SZ-stranded around the central strength member.
	Water blocking	Dry water blocking elements are applied to the cable core.
	Wrapping	Fire retardant tape
	Rip cord	A non-metallic rip cord is applied under the sheath.
	Outer sheath	Flame retardant, halogen free and UV resistant plastic (LSZH). Colour of the sheath is orange. Minimum sheath thickness is 1,3 mm. Nominal sheath thickness is 1,5 mm.
	Sheath marking	Marking printed on the sheath at one meter interval: Nestor Cables - cable type - lot number - year of manufacture - length marking
Standard references	Cable properties	IEC 60794-3-11
	Test methods	IEC 60794-1-2x
	Flame retardant	IEC 60332-1-2, IEC 60332-3
	Low smoke	IEC 61034-2
	Halogen free	IEC/EN 60754-2
	Reaction to fire	EN50575:2014+A1:2016 class B2ca -s1a,d0,a1 and Cca -s1a,d0,a1



Single-mode maximum cabled fibre attenuation					
Wavelength	1310	1383	1550	1625	nm
Attenuation	0,36	0,36	0,22	0,24	dB/km

OM3 multimode fibre, cabled fibre attenuation and bandwidth			
Wavelength	850	1300	nm
Attenuation, max	2,4	0,7	dB/km
Bandwidth laser EMB, min	2000	500	MHz×km
Bandwidth OFL, min	1500	500	MHz×km

Nominal dimensions						
Fibres		Diameter [mm]		Weight [kg/km]	Minimum bending radius [mm]	
Total count	Grouping	Loose tube	Cable	Cable	During installation	Installed
12	1×12	2,3	11,0	121	220	110
16	2×8	2,3	11,0	112	220	110
24	2×12	2,3	11,0	113	220	110
48	4×12	2,3	11,0	112	220	110
96	8×12	2,3	12,5	143	260	130

OS2 cable core lay up			
Fibres	Tubes	Fillers	Colour of the tubes
12	1	4	blue
24	2	3	blue, orange
48	4	1	blue, orange, green, brown
96	8	0	blue, orange, green, brown, grey, white, red, black
Colour of the fillers			natural
Colour of the fibres			blue, orange, green, brown, grey, white, red, black, yellow, violet, pink, turquoise
Colour coding standard			ANSI/TIA 598-C

OM3 cable core lay up			
Fibres	Tubes	Fillers	Colour of the tubes
48	4	1	blue, orange, green, brown
96	8	0	blue, orange, green, brown, grey, white, red, black
Colour of the fillers			natural
Colour of the fibres			blue, orange, green, brown, grey, white, red, black, yellow, violet, pink, turquoise
Colour coding standard			ANSI/TIA 598-C

Hybrid OS2+OM3 cable core lay up				
Fibres	Tubes	Fillers	G.652.D, OS2	OM3
8+8	2	3	blue	orange
12+12	2	3	blue	orange
24+24	4	1	blue, orange	green, brown
Colour of the fillers			natural	
Colour of the fibres			8F: blue, orange, green, brown, grey, white, red, black 12F: blue, orange, green, brown, grey, white, red, black, yellow, violet, pink, turquoise	
Colour coding standard			ANSI/TIA 598-C	

Cable characteristics		
Max. tension	-Fibre elongation $\leq 0.33\%$ , no change ( $\geq 0,05$ dB) in attenuation after the test.	1500 N
Crush strength	-100 mm plate, during operation. No change ( $\geq 0,05$ dB) in attenuation during the test.	800 N
	-100 mm plate, during installation. No change ( $\geq 0.05$ dB) in attenuation after test	1500 N
	-25 mm mandrel, during installation. No change ( $\geq 0.05$ dB) in attenuation after test	500 N
Bending radius	-During installation	20 x Diameter
	-Final installation	10 x Diameter
Impact	-Energy	5 J, one impact
Torsion	-Number of turns	$\pm 1$ , (length 1000 mm)
Temperature range	-Operation, storage, transport	-45 to +60 °C
	-Installation	-15 to +60 °C
Water penetration		< 3 m, 24 h
Reaction to fire	- EN50575:2014+A1:2016	B2ca -s1a,d0,a1 and Cca -s1a,d0,a1

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