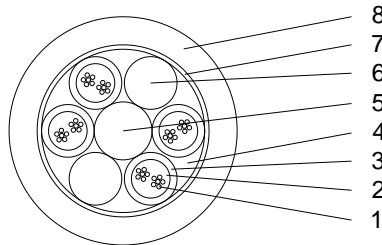


## OUTDOOR MICRO DUCT CABLE GRHLDV



1. Optical fibres	2. Jelly filling	3. Tube	4. Dry core
5. FRP rod	6. Filler	7. Rip cord	8. Sheath

Application	Optical fibre cable for microduct installation by blowing.	
Construction	Optical fibres	Coloured single-mode fibres according to the ITU-T G.652.D.
	Secondary coating	Jelly filled loose tubes made of thermoplastic polyester.
	Fillers	Plastic fillers when applicable.
	Central strength member	Glass fibre reinforced plastic (FRP).
	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.
	Rip cord	A non-metallic rip cord is applied under the sheath.
	Outer sheath	The cable sheath consists of UV resistant black polyethylene compound (HDPE). Nominal sheath thickness is 0,5 – 0,6 mm.
	Sheath marking	Marking printed on the sheath at one meter interval: Nestor Cables - cable type – S12 - lot number - year of manufacture - length marking

Maximum cabled fibre attenuation					
Wavelength	1310	1383	1550	1625	nm
Attenuation	0,36	0,36	0,22	0,24	dB/km

Nominal dimensions							
Fibres		Diameter [mm]			Weight [kg/km]	Minimum bending radius [mm]	
Count	Grouping	CSM (FRP)	Loose tube	Cable	Cable	During installation	Installed
24	2x12	1,6	1,6	6,0	27	120	80
48	4x12	1,6	1,6	6,0	28	120	80
96	8x12	2,3	1,6	6,5	37	130	120
192	8x24	2,3/3,3	2,1	8,5	57	170	120

Cable core lay up			
Fibres	Tubes	Fillers	Colour of the tubes
24	2	4	red, blue
48	4	2	red, blue, white, white
96	8	0	red, blue, white, white, white, white, white, white
192	8	0	red, blue, white, white, white, white, white, white
Colour of the fillers			black
Colour of the fibres, 12F tube			red, blue, white, green, yellow, grey, brown, black, violet, orange, turquoise, pink
Colour of the fibres, 24F tube (black ring marking on 12 fibres)			red, blue, white, green, yellow, grey, brown, black, violet, orange, turquoise, pink, red/black, blue/black, white/black, green/black, yellow/black, grey/black, brown/black, clear/black, violet/black, orange/black, turquoise/black, pink/black
Colour coding standard			S12

Mechanical characteristics (IEC60794-1-2)			
Max. tension		12 – 48F	96 – 192F
	in operation, fibre elongation $\leq 0.05\%$ .	250 N	500 N
	installation, fibre elongation $\leq 0.33\%$ .	750 N	1000 N
Crush strength	Operation: With 100 mm plate, no change ( $\geq 0.05$ dB) in attenuation during test.	500 N	
	Installation: With 100 mm plate, no change ( $\geq 0.05$ dB) in attenuation after the test.	1000 N	
Impact	- Impact head diameter 50 mm, radius 300 mm	2 J, one impact	
Bending radius	- During installation	20 x Diameter	
	- Final installation	50 x CSM (FRP) diameter	
Torsion	- Number of turns	$\pm 1$ , (length 1000 mm)	
Temperature range	- Operation, storage, transport	-40 to +70 °C	
	- Installation	-15 to +60 °C	
Water penetration		< 3 m, 24 h	

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