

DUCT-LITE® Multitube Single Jacket Fibre Optic Cable

Product Details

Sterlite Tech™ DUCT-LITE® Multitube Single Jacket Fibre Optic Cables are suitable for duct applications. This cable is a stranded loose tube cable with optical fibres placed inside robust buffer tubes stranded around a fibre reinforced plastic (FRP) central strength member. In addition to optical fibres, the buffer tubes contain water blocking gel and the cable core is surrounded with water-swellable tape to prevent water ingress in the interstices of cable core. The cable core is surrounded with thermoplastic sheath making the cable robust and installation friendly.

Note – When required an additional polyamide jacket bonded to the thermoplastic sheath can be provided.

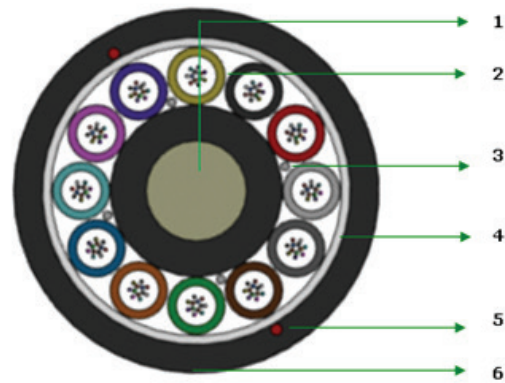
Product Application

These cables are typically used for outside plant (OSP) applications including duct and lashed aerial in harsh environments. They can be installed in ducts with either pulling, trenching or blowing techniques and in aerial applications with traditional lashing methods.

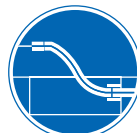
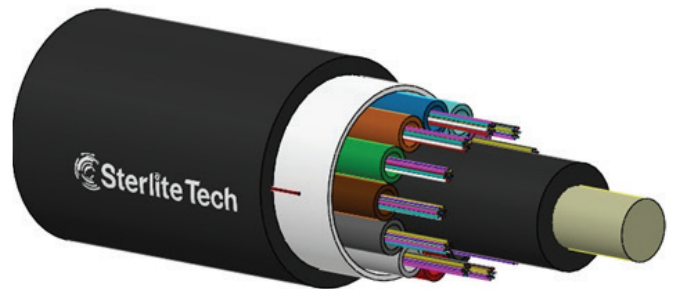
Features & Benefits

- Available up to 864 fibre count in either single-mode or multi-mode optical fibres
- Multitube design with ripcords for easy and quick mid span access
- Minimum fibre strain due to reversal oscillating (SZ) stranding
- Water-blocking technology for gel free core helps in quicker end preparation
- Easily removable rugged thermoplastic jacket
- Flexible, light weight, easy to handle & install
- Tensile and crush resistant
- UV protected
- Tightly controlled physical parameters
- Combination of fibre types available on request

Typical Construction of Cable



1. CENTRAL STRENGTH MEMBER
2. LOOSE TUBE WITH FIBRES & GEL
3. WS YARNS
4. CORE WRAPPING
5. RIPCORD(S)
6. OUTER SHEATH



Duct



Totally Dielectric



Water Blocked



UV Protected



Performance Standards

Cable complies to the following main Standards IEC.60794 series, ANSI/ICEA S-87-640, Telcordia GR-20, ITU-T Recommendations, RoHS CPR rating for LSZH sheath

Specifications

Physical Characteristics							
Fibre Count	12-72	96	144	288	432	576	864
Fibres per tube	12	12	12	12	24	24	24
No. of tube	1~6	8	12	24	18	24	36
Nominal Cable Diameter (mm) ± 0.5mm	9.6	11.0	13.6	16.2	19.2	22.2	26.0
Nominal Cable Weight (kg/km) ± 10%	70	100	145	200	280	400	485
Mechanical and Environmental Characteristics*							
Test	Standard / Notes	Product Performance					
Max. Tensile Strength (N)	IEC-60794-1-21-E1	2000	2700	2700	3000	3000	3000
Bending Radius	IEC-60794-1-21-E11	Dynamic = 20D, Static = 15D					
Crush Resistance (N/100mm)	IEC-60794-1-21-E3	2000	2700	2700	3000	3000	3000
Impact strength (N.m)	IEC-60794-1-21-E4	25					
Torsion	IEC-60794-1-21-E7	± 180°					
Drip Test	IEC-60794-1-21-E14	30 cm, 70°C, 24 hr					
Temperature Cycling	IEC-60794-1-22-F1	Installation: -20°C to +60°C		Operation: -30°C to +70°C		Storage: -40°C to +70°C	
Water Penetration	IEC-60794-1-22-F5B	1m water head, 3m samples, 24 hrs no water leakage					

* After the test, the change in attenuation shall be ≤ 0.05 dB/km. No damage or crack on cable & no fibre break.

Cabled Optical Fibres Characteristics

The optical fibres are in accordance to the specifications ITU-T G.652D and ITU-T G.655. Refer to specific data sheets for details.

Transmission Characteristics						
Fibre Type	Attenuation coefficient, dB/km (Average/Maximum)			PMD, ps/√km	PMD LDV ps/√km	Cut-off Wavelength (λ _{cc}), nm 1310nm
	1310nm	1550nm	1625nm			
G652D**	≤ 0,35 / 0,36	≤ 0,22 / ≤ 0,23	≤ 0,24 / ≤ 0,26	≤ 0,20	≤ 0,1	≤ 1260
G655	-	≤ 0,22 / ≤ 0,23	≤ 0,24 / ≤ 0,26	≤ 0,20	≤ 0,1	≤ 1450

** This fibre is also available as a bend insensitive (Sterlite Tech's NOVA fibre)

Fibre Standard Colour Code

1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua
13	14	15	16	17	18	19	20	21	22	23	24
Blue	Orange	Green	Brown	Grey	White	Red	Natural	Yellow	Violet	Pink	Aqua

Tube Standard Color Code

1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

* For more than 12 tubes, single or double stripes marking are done as per EIA/TIA 598.

Packing and Lengths

Packing: Wooden drums

Lengths (tolerance ±5%): 2km, 4km

Note - Customised drum lengths available on request.

Sheath printing details

STERLITE < Fibre Type >< Fibre Count >< Product Type >< OFC Laser Symbol >< Telephone Symbol >< Month & Year of Production >< Cable ID >< Meter Marking >

