

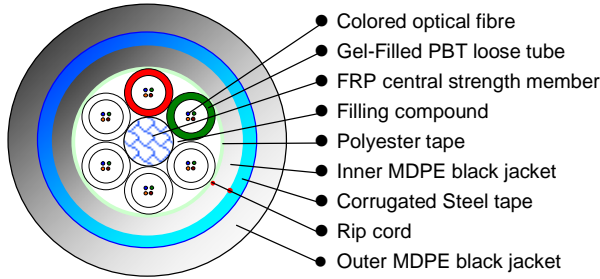
# FTN Cable

- Armoured SM 24 Cable
- ZHLS SM 24 Cable
- Duct SM 24 Cable

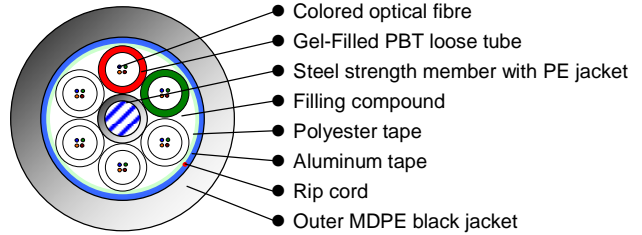
Registered to ISO9001  
ISO14001  
ISO18001  
TL9000

Drawing No: Network Rail  
December 2003

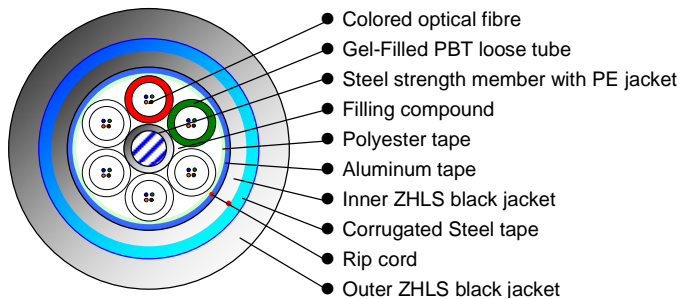
## Cable Drawing



Armoured cable



Duct cable



ZHLS cable

## Mechanical Performance

Characteristics	Cable type			
	Unit	Armoured	ZHLS	Duct
Fibres per tube	-	4	4	4
Nominal outer diameter	mm	17.2	17.8	13.6
Nominal cable weight	kg/km	280	430	170
Maximum tensile load	N	2,800	4,200	3,400
Minimum bending radius				
- Short term [Loaded]: 15*OD	mm	258	267	204
- Long term [Installed]: 12*OD	mm	206	214	163
Crush resistance	N/10cm	3,000	3,000	2,000
Temperature				
- Operation	°C		-20 ~ + 60	
- Storage			-40 ~ + 70	
- Installation			-30 ~ + 60	

\* Tested in accordance with IEC 60794-1

## Note

- Fibre colors: Blue/Orange/Green/Brown
- Tube colors: 1<sup>st</sup> tube Red, Intermediate tubes Natural, Last tube Green
- Diameter represents a nominal value and may vary by  $\pm 5\%$ .
- Sheath marking legend: hot foil stamp (indented)

Ex) SAMSUNG MM-YY Network Rail SM Fibre Cable SM 24 SSSS = XXXX M =  
 SAMSUNG MM-YY Network Rail SM Fibre ZHLS Cable SM 24 SSSS = XXXX M =  
 SAMSUNG MM-YY Network Rail SM Fibre Duct Cable SM 24 SSSS = XXXX M =

### Specification of cabled Single mode fibre (IUT-T G.652)

Parameter	Specification
Attenuation coefficient @ 1290 ~ 1330 nm  @ 1525 ~ 1575 nm	≤ 0.380 dB/km (Max. 0.35 dB/km @ 1310 nm) ≤ 0.22 dB/km (Max. 0.21 dB/km @ 1550 nm)
Point discontinuity @ 1310 & 1550 nm	≤ 0.10 dB
Fibre cut-off wavelength	1170 ~ 1270 nm
Cable cut-off wavelength	Max. 1260 nm
Zero-dispersion wavelength	1300 ~ 1324 nm
Zero-dispersion slope	( 0.093 ps/(nm <sup>2</sup> (km))
Chromatic dispersion @ 1290 & 1330 nm @ 1550 nm	( 3.5 ps/(nm(km)) ( 18.0 ps/(nm(km))
PMD (Max individual fibre)	( 0.5 ps/km <sup>1/2</sup> (Average 0.3 ps/km <sup>1/2</sup> )
Mode field diameter @ 1310 nm @ 1550nm	9.2 ± 0.5 μm 10.5 ± 1.0 μm
Core/Cladding concentricity error	≤ 0.8 μm
MFD non-circularity	≤ 6.0 %
Cladding diameter	125.0 ± 1.0 μm
Cladding non-circularity	≤ 1.0 %
Primary Coating diameter	245 ± 10 μm
Cladding/Coating concentricity error	≤ 12.5 μm
Proof test level	100 kpsi, 1%
Refractive index @ 1310nm @ 1550nm	1.4690 1.4695