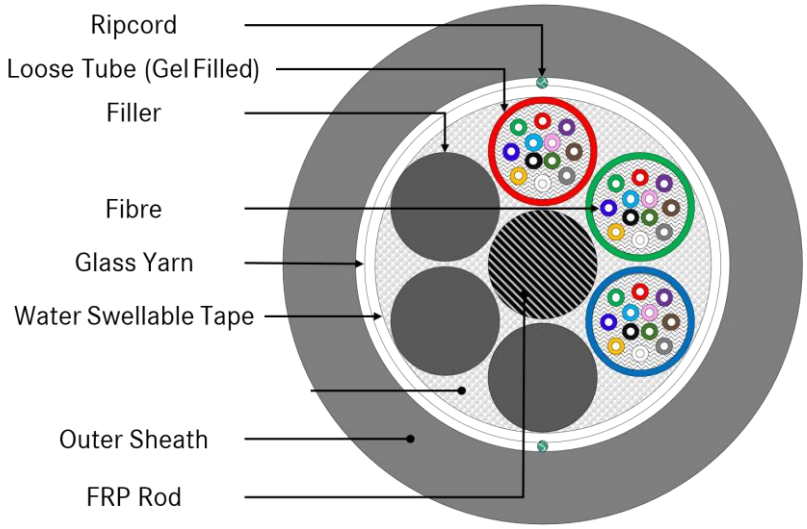
26811924	DATA SHEET	LAPP
valid from: 2025-11-27	HITRONIC® BT6K	

Application

Field of use:	Outdoor direct burial G.657.A1 single-mode glass A-DQ(ZN)B2Y fibre optic cable with loose tubes, non-metallic strength elements, very high tensile strength, longitudinally and laterally watertight, rodent protection, robust and halogen-free HD-PE cable sheath
Applications:	For use in wide area data networks such as the Internet, in solar and wind farms, campus backbones, as well as other applications such as metropolitan area networks (MANs), industrial automation systems, and telecommunications infrastructure. Methods of deployment: direct burial
Product Category	Fiber Optic Cables (FOC)



Design

Cable Type	Multiple gel-filled loose tubes, max. 144 fibers (12 tubes)
Fiber Types	Single-mode (ITU-T G.657.A1)
Tensile Strength Elements	Reinforced Glass Yarns, Impregnated Glass Fibre Yarns (IGFY)
Gel Filling	Yes, water-blocking
Armouring	Dielectric (non-metallic), rodent protection, Glass Yarn
Central strength member	FRP Rod (Fibre Reinforced Plastics); Glas Fibres in Epoxy Resin Matrix
Optical Fibre containing	laid up around central strength member Water blocked Gel-filled loose tubes
Material Loose Tubes	PBT (Poly-Butylene-Therephtalate)
Material Filling Gel	Thixotropic Jelly
Tube Diameter	2.5 ± 0.1 mm up to 12 Fibres
Filler Material	Black, halogen-free, HD-PE
Filler Diameter	2.5 ± 0.1 mm
Moisture Barrier	Water swellable yarn
Core Wrapping	Water swellable tape
Peripheral Strength Member	Glass Yarn for rodent protection
Outer Sheath Material	HD-PE, Black RAL 9005, Anti Rodent
Number of Ripcords, material	2
Ripcord material	Polyester
Cable Outer Diameter	11.5 ± 0.5 mm

Color identification code
MT
based on IEC 60304

Fibre/Tube-No.
Colour

Fibre	1	2	3	4	5	6	7	8	9	10	11	12
Colour	RD	GR	BU	YE	WH	GY	BN	VT	AQ	BK	OR	PK

Tube	1	2	3	4	5	6	7	8	9	10	11	12
Colour	RD	GR	BU	YE	WH	GY	BN	VT	AQ	BK	OR	PK

Article Description	Article Number	Tensile Strength Operation	Tensile Strength Installation	Fibre Count	Number of Fibres per Tube	Number of loose Tubes	Number of Fillers
HITRONIC BT6K A-DQ(ZN)B2Y 2X12 G657A1	26811924	4000 N	6000 N	24	12	2	4
HITRONIC BT6K A-DQ(ZN)B2Y 3X12 G657A1	26811936	4000 N	6000 N	36	12	3	3
HITRONIC BT6K A-DQ(ZN)B2Y 4X12 G657A1	26811948	4000 N	6000 N	48	12	4	2

Table 1: Tube and Filler Count

Optical Fibre Characteristics

Cable Attenuation @	1310 nm 1550 nm 1625 nm	≤ 0.36 dB/km ≤ 0.23 dB/km ≤ 0.26 dB/km
Chromatic Dispersion	1285-1330 nm 1550 nm 1625 nm	≤ 3.5 ps/(nm*km) ≤ 18 ps/(nm*km) ≤ 22 ps/(nm*km)
Zero Dispersion Wavelength	1300 -1324 nm	
PMD (Max. Individual)	≤ 0.1 ps/√km	
PMD (Link design value)	≤ 0.06 ps /√km	
Cable cut off wavelength λcc	≤ 1260 nm	
MFD	1310 nm = 9.1 ± 0.3 µm 1550 nm = 10.3 ± 0.5 µm	
Bending Induced Attenuation	1 Turn [φ] 20xD 10 Turn [φ] 30xD	1550 nm ≤ 0.75 dB 1625 nm ≤ 1.5 dB 1550 nm ≤ 0.25 dB 1625 nm ≤ 1.0 dB
Core-Cladding Concentricity Error	≤ 0.5 µm	
Cladding Diameter	125 ± 0.7 µm	
Cladding Non Circularity	≤ 0.8 %	
Coating Diameter	Natural Fibre Coloured Fibre	242 ± 5 µm 250 ± 10 µm

Mechanical and thermal properties

Minimum bending radius acc. to IEC-60794-1-21, E11	Installation: Operation:	20× outer diameter 10× outer diameter
Temperature range acc. to IEC-60794-1-22, F1	Installation: Operation: Storage:	-20°C up to +50°C -40°C up to +70°C -40°C up to +70°C
Tensile Strength acc. to IEC-60794-1-21, E1	Installation / short term Operation / long term	6000 N 4000 N
Crush Resistance acc. to IEC-60794-1-21, E3	max. 3000 N/ 10 cm	
Impact Strength acc. to IEC-60794-1-21, E4	10 N*m	
Torsion acc. to IEC-60794-1-21, E7	± 180 °/m	
Water Penetration Test acc. to IEC-60794-1-21, F5	1 m water head, 3 m sample, 24 hours	

Allowed Fibre Elongation (max.) acc. to IEC60794-1-21 E1	@ short Term Load 6 kN	0.67 %
	@ long Term Load 4 kN	0.5 %

General requirements These cables are classified in accordance with the EU-Regulation no. 305/2011 (Construction Products Regulation).

Environmental information These cables meet the substance-specific requirements of the EU Directive 2011/65/EU (RoHS).