



<b>Cable Construction</b>	
- Number of fibers	24
- Number of loose tubes x Number of fibers per tube	2x12
- Loose Tubes	
- Material	PBT
- Outer Diameter	3.40 mm ± 3%
- Type of water resistive filling compound	Thixotropic jelly
- Number of copper cable	4
- Type of copper cable	H07V2-K 1x2,5 mm <sup>2</sup> 450/750V
- Insulation material	PVC V-90 (TI 3 TYPE)
- Central Strength Member	
- Material	GFRP
- Diameter	2,00 ± 0.05 mm
- PE Oversheathing diameter with water swellable yarn	3,50 mm ± 3%
- Core wrapping	
- Material	Water swellable tape
- Sheath strength members	
- Material	Glass yarn
- Outer Sheath	
- Material	MDPE
- Thickness (Nominal)	1,5 ± 0,2 mm
- Cable diameter	14,4 ± 0,2 mm
- Cable weight (approx.)	238 kg/km

<b>- Mechanical characteristics</b>			(All optical measurements at 1550 nm)
Test	Test Standard	Specified Value	Acceptance Criteria
- Tensile Force Long Term Short Term	IEC 60794-1-2-E1	Max. 1700 N Max. 3000 N	$\Delta\alpha \leq 0,05$ dB, 60 sec. $\Delta\alpha$ reversible
- Crush Resistance	IEC 60794-1-2-E3	Max. 2000 N/100 mm.	$\Delta\alpha \leq 0,05$ dB, no damage
- Impact	IEC 60794-1-2-E4	3 Nm, 3 impacts at different points, R= 10 mm,	$\Delta\alpha \leq 0,05$ dB after the test, No damage on tubes
- Cable Bend	IEC 60794-1-2-E11	R= 20 x D, 4 turns, 3 cycles	$\Delta\alpha \leq 0,05$ dB, no damage
- Repeated bending	IEC 60794-1-2-E6	R= 15 x D, 75 N load, 20 cycles	No fiber breaks occurring

<b>- Environmental Characteristics</b>			
Test	Test Standard	Specified Value	Acceptance Criteria
- Water penetration	IEC 60794-1-2-F5B	3 meter specimen, 1 m water altitude	No leaked from the opposite end of the cable in 24 hours.
- Temperature cycling	IEC 60794-1-2-F1	Operating -20 °C to + 70 °C Installation -5 °C to + 50 °C Storage -30 °C to + 70 °C	$\Delta\alpha \leq 0,05$ dB/km at 1550 nm No attenuation increase $\Delta\alpha \leq 0,1$ dB/km at 1550 nm

<b>- Identification</b>	
- Cable Marking	1m $\pm$ 1% Intervals in white color with hot print.
- Identification of cable <sup>1</sup>	BTC <year of manufacture> CENKABLO <number of fibers> <fiber type> 4x2.5 Cu < marking in meter>
- Color of filler (if required)	Black
- Color of loose tubes <sup>2</sup>	1-Blue, 2-Orange
- Color of fibers <sup>2</sup>	1.Red, 2.Green, 3.Blue, 4.Yellow, 5.White, 6.Grey, 7.Brown,.8.Violet, 9.Turquoise, 10.Black, 11.Orange, 12.Pink
- Color of Cu cables	1-Red, 2-Black, 3-Blue, 4-Yellow
- Color of outer sheath <sup>2</sup>	Black

<sup>1</sup> This inscription is standard imprint. It can be changed according to request.

<sup>2</sup> The other tube, fiber and sheath colors are optional.

<b>- Delivery Information</b>	
- Drum length/Tolerance <sup>3</sup>	2000 m $\pm$ 5%
- Drum Flange diameter <sup>3</sup>	1200 mm
- Drum core diameter <sup>3</sup>	580 mm
- Outside width <sup>3</sup>	780 mm
- Central hole diameter	85 mm

<sup>3</sup> Drum dimensions can change depends on cable length on a drum. Standard delivery length is 2 km. Other delivery lengths are optional.

<b>- Transmission characteristics</b>
-Refer to fiber data

## COPPER WIRE CHARACTERISTICS

**STANDARD NO** : TS HD 21.7 S2  
**CABLE TYPE** : H07V2-K 1x2,5 mm<sup>2</sup> 450/750V

TESTS (PHYSICAL AND MECANICAL)	STANDART SPECT.
Conductor Resistance	TS EN 60228 (max. 7,8 Ω/km)
Insulation Resistance on Completed Cable	TS 9756 HD 21.1 S4 TS HD 21.7 S2 (min 0,009 M Ωxkm)
Conformity of Construction Condition	VISUAL
Measurement of Insulation Thickness	HD 21.7 S2 (0.7mm)
Measurement of Out Thickness	HD 21.7 S3 (3,40-4,10mm)
Elongation Test Before Ageing (Insulation)	TS 9756 HD 21.1 S4 Table 1 (%150, 15,0 N/mm <sup>2</sup> )
Elongation Test After Ageing (Insulation)	TS 9756 HD 21.1 S4 Table 1 (%150, 15,0 N/mm <sup>2</sup> ) Table 1 (± %25, ± %25)
Resistance Against Expansion of Flame	TS EN 60332-1-1, TS EN 60332-1-2