TSLF 18/30 (36) kV 1-core CAS

Medium voltage cable

18/30 (36) kV

Application

Medium-voltage cable for fixed installations outdoors. May be buried directly in soil. Cable is longitudinally and radially watertight and therefore it is suitable where wet soil and / or fresh water permanently occurs. Installations must be in accordance with national regulations and rules of installations. The cable is halogen-free, but without fire protection. The cable is not CPR-classified.

Design

Standards	HD 620 10 K
Conductor	Watertight, circular, stranded aluminium, EN/IEC 60228 class 2
Conductor screen	Semiconducting cross-linked polyethylene XLPE
Insulation	Cross-linked polyethylene XLPE
Insulation screen	Semiconducting cross-linked polyethylene XLPE
Inner covering	Semiconducting waterswellable tape
Metal screen	Copper wires and aluminium foil (CAS). Polyethylene laminated aluminium foil acts as a part of the metallic screen and needs to be connected in cable joints and terminations
Oversheath	UV-protected PE-plastic PEMD , Grey + black CL
Longitudinal watertightness	Water swellable tape applied under and over metal screen

Temperature limits

Max. conductor temperature °C	90
Max. cond. temp. short circuit max. 5 s °C	250
Min. cable temperature during operation °C	-50
Min. cable temperature during handling °C	-20
Min. cable temperature during transport °C	-40

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Transverse watertightness	Polyethylene laminated aluminium foil bonded to the sheath

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Technical information	1x400/35 CAS	1x630/50 CAS
Product code	**1181233**	**1181235**
Nominal cable diameter mm	48	56
Nominal cable weight kg/km	2440	3602
Nominal weight of copper kg/km	195	278
Nominal weight of Aluminium kg/km	960	1718
Nominal diameter of conductor mm	22,4	29,3
Nominal thickness of conductor screen mm	0,5	0,5
Nominal Insulation thicness mm	8,0	8,0
Nominal diameter over the insulation without insulation screen mm	38,0	45,1
Nominal thickness of insulation screen mm	0,5	0,5
Nominal size of metal screen mm²	35	50
Nominal thickness of PE-laminated aluminium foil mm	0,2	0,2
Nominal thickness of oversheath mm	2,5	2,7
Maximum forces during installation when pulling by		
Max. pulling force by pulling-eye kN	20,0	20,0
Max. pulling force by pulling-stocking kN	6,0	8,5
Minimum bending radii		
Minimum bending radius, handling mm	722	840
Minimum bending radius, final bending mm	505	588
Minimum bending radii		
During handling and installation, cable cm	72	84
In final installation, cable cm	51	59
Minimum bending radii		
During handling and installation, cable m	0,72	0,84
In final installation, cable m	0,51	0,59
DC resistance		
Max. DC resistance of conductor at 20 °C Ω/km	0,0778	0,0469
Maximum DC resistance at 20 °C, metal screen Ω/km	0,524	0,387
AC resistance of phase conductor, screen circuit closed		
Conductor temperature 40 °C Ω/km	0,0850	0,0522
Conductor temperature 65 °C Ω/km	0,0927	0,0568
Conductor temperature 70 °C Ω/km	0,0943	0,0577
Conductor temperature 90 °C Ω/km	0,1005	0,0614

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Technical information	1x400/35 CAS	1x630/50 CAS
Inductance per phase		
In flat formation, free space between cables equal to one cable diameter mH/km	0,52	0,50
In trefoil formation, cables touching each other mH/km	0,34	0,31
Electrical values		
Calculated operation capacitance µF/km	0,26	0,32
Calculated charging current with main voltage A/km	1,4	1,8
Calculated earth fault current with main voltage A/km	4,2	5,3
Current ratings		
Cables in air (25 °C)		
Flat, conductor 90 °C, open screen A	790	1040
Flat, conductor 90 °C, closed screen A	680	840
Trefoil, conductor 90 °C, open screen A	695	915
Trefoil, conductor 90 °C, closed screen A	680	880
Cables in the ground (15 °C and 1,0 K.m/W), Installation depth 0,7 m		
Flat, conductor 65 °C, open screen A	570	720
Flat, conductor 65 °C, closed screen A	500	610
Flat, conductor 90 °C, open screen A	670	850
Flat, conductor 90 °C, closed screen A	590	715
Trefoil, conductor 65 °C, open screen A	525	665
Trefoil, conductor 65 °C, closed screen A	510	635
Trefoil, conductor 90 °C, open screen A	615	780
Trefoil, conductor 90 °C, closed screen A	600	745
Maximum thermal short circuit current during 1 s		
Phase (initial 90 °C, final 250 °C) kA	37,8	59,5
Metal screen (initial 80 °C, final 250 °C) kA	5,2	7,4

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STANDARD PACKAGES	1x400/35 CAS	1x630/50 CAS
Product code	1181233	1181235
GTIN code	6438176014851	6438176014868
Package	500 K26	500 K26

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