

## 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

<b>Standards</b>	HD 620 10 K
<b>Conductor</b>	Watertight, circular, stranded aluminium, EN/IEC 60228 class 2
<b>Conductor screen</b>	Semiconducting cross-linked polyethylene XLPE
<b>Insulation</b>	Cross-linked polyethylene XLPE
<b>Insulation screen</b>	Semiconducting cross-linked polyethylene XLPE
<b>Inner covering</b>	Semiconducting waterswellable tape
<b>Metal screen</b>	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
<b>Oversheath</b>	UV-protected PE-plastic PEMD , Grey + black CL
<b>Longitudinal watertightness</b>	Water swellable tape applied under and over metal screen

### Temperature limits

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



ISO 45001, ISO 14001 and ISO 9001 certified  
company REACH and RoHS compliant products

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**Transverse** Polyethylene laminated aluminium foil bonded to the sheath  
**watertightness**



Technical information	1x400/35 CAS	1x630/50 CAS
<b>Product code</b>	<b>1181233</b>	<b>1181235</b>
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 mm <sup>2</sup>	35	50
Nominal thickness of PE-laminated aluminium foil mm	0,2	0,2
Nominal thickness of oversheath mm	2,5	2,7
<b>Maximum forces during installation when pulling by</b>		
Max. pulling force by pulling-eye kN	20,0	20,0
Max. pulling force by pulling-stocking kN	6,0	8,5
<b>Minimum bending radii</b>		
Minimum bending radius, handling mm	722	840
Minimum bending radius, final bending mm	505	588
<b>Minimum bending radii</b>		
During handling and installation, cable cm	72	84
In final installation, cable cm	51	59
<b>Minimum bending radii</b>		
During handling and installation, cable m	0,72	0,84
In final installation, cable m	0,51	0,59
<b>DC resistance</b>		
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
<b>AC resistance of phase conductor, screen circuit closed</b>		
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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<b>Inductance per phase</b>		
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
<b>Electrical values</b>		
Calculated operation capacitance $\mu\text{F}/\text{km}$	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
<b>Current ratings</b>		
<b>Cables in air (25 °C)</b>		
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
<b>Cables in the ground (15 °C and 1,0 K.m/W), Installation depth 0,7 m</b>		
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
<b>Maximum thermal short circuit current during 1 s</b>		
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

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