

## Reeling cables in line with **VDE 0250 part. 813**

### Cable type

**PANZERFLAT-ELX 3,6/6 ÷ 12/20 kV**

with or without integrated OPTICAL FIBRES - (N)TMFLCGEWÜ; H.V. reeling cable 6 to 20 kV

### Main application

Flexible H.V. reeling combined power with or without data transmission cables for use on connecting movable parts of machine tools and any material handling equipment (i.e. Stacker/reclaimer, ship to shore crane, container crane, also suitable for festoon system).

Suitable for any energy supply on cable reels systems associated from mechanical stresses, frequent bending operation (IN ONE PLANE ONLY) in movement with medium acceleration.

### Construction

<b>Conductor:</b>	Tinned copper conductor, flexible cl. 5 IEC 60228 Specially designed for mobile application
<b>Insulation:</b>	Micro filtered HEPR rubber compound better than 3G13 New specially developed compound with improved electrical and mechanical characteristics
<b>Cores identification:</b>	Main cores: natural colour with black semiconductive layer Earth core: - of the same size of main conductor identified by yellow/green colour of insulation - splitted on the main cores
<b>Field control:</b>	- Conductor screen: semiconductive layer - Insulation screen: semiconductive layer of special compound Applied with insulation
<b>Identification:</b>	Printed numbers on semiconductor layer
<b>Metallic screen:</b>	Tinned copper wire braid on phase cores
<b>Cores arrangement</b>	Parallel Fiber optic module (if any) in the centre
<b>Separation (if any):</b>	Tape(s)
<b>Outer sheath:</b>	Red polychloroprene based compound UV resistant, oil and chemical resistant better than 5GM3 compound
<b>Marking:</b>	PALAZZO - PANZERFLAT-ELX rated voltage <i>nc</i> x cross section year of manufacturing

### Parameters

<b>Electrical</b>	Rated voltage	U <sub>0</sub> /U = 3,6/6 kV to 12/20 kV
	Maximum permissible operating voltage in AC systems	Um = 7,2 kV to 24 kV
	AC test voltage over 5 minutes	11 kV to 29 kV according to VDE 0250 part 813
	Current Carrying Capacity	According to DIN VDE 0298 part 4
<b>Data transmission (if any)</b>	Fibre-optics for absolute immunity from electrical interferences.	6, 12, 18 fibre-optics
	Main type: graded index 62,5/125	In a structure composed by 6 loose tubes
	Available also graded index 50/125 and monomode E9/125	(1, 2 or 3 fibres per tube)*
<b>Thermal</b>	Fully flexible operation	- 30 °C
	Fixed installation	- 40 °C
	Maximum permissible operating temperature of the conductor	90 °C
<b>Mechanical</b>	Short-circuit temperature of the conductor	250 °C
	Tensile load	Up to 15 N/mm <sup>2</sup>
	Minimum bending radii	According to DIN VDE 0298 part 3
	Reeling operation	No restriction. Only on monoprisal reel without deflection
		Consult the manufacturer if speed exceeds 120 m/min
<b>Chemical</b>	Resistance to oil	According to VDE / IEC standard
	Weather resistance	Unrestricted use outdoor and indoor, UV resistant, moisture resistant.



## Reeling cables in line with VDE 0250 part. 813

**Table 1: PANZERFLAT-ELX 6 + 20 kV (N)TMFLCGEWÜU**

N. of cores and nominal section (n-mm <sup>2</sup> )	Main Conductor D.C. resist. at 20 °C Ohm/km	nom. diam. mm	Earth conductor		Overall dimension		Cable weight approx. kg/km	Permissible tensile force maximum N	Current carrying capacity at 30 °C		Short circuit current 80 ° to 200 °C max. kA-1 sec.
			single cond. nom. diam. mm	split in 3 braids nom. diam. over braid mm	nom.	max.			Laid straight A	Monospiral or 1 layer A	
<b>6/10 kV</b>											
3x35+3x25/3E	0.565	8,0	N.A.	17,5	26x65	28x67	3.100	1.575	162	79	4,5
3x50+3x25/3E	0.393	9,3	N.A.	19,0	28x69	30x71	3.650	2.250	202	99	6,4
4x35	0.565	8,0	8,0	N.A.	26,5x80,5	28,5x83	3.870	2.100	162	79	4,5
3x35+3x25/3E+OF	0.565	8,0	N.A.	17,5	26x76	28x78	3.490	1.575	162	79	4,5
3x50+3x25/3E+OF	0.393	9,3	N.A.	19,0	28x80	30x82	4.050	2.250	202	99	6,4
4x35+OF	0.565	8,0	8,0	N.A.	26x90	28x93	4.200	2.100	162	79	4,5
4x50+OF	0.393	9,3	9,3	N.A.	27x94	29x96,5	4.800	3.000	202	99	6,4
<b>8,7/15 kV</b>											
3x35+3x25/3E+OF	0.565	8,0	N.A.	19,0	26x79	28x81	3.560	1.575	172	84	4,5
4x35+OF	0.565	8,0	8,0	N.A.	27x94	29x96,5	4.500	2.100	172	84	4,5

Note: Design according to customer's requirements.

\* For fibre-optics parameters please refer to page 20.