

MAIN APPLICATION

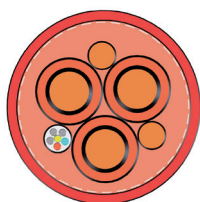
Flexible H.V. reeling combined power and data transmission cables for use on connecting movable parts of machine tools and any material handling equipment (i.e. Stacker/reclaimer, ship to shore crane, container crane, excavators, also suitable for festoon system). Perfectly suitable for any energy supply on cable reels systems associated from high to extreme mechanical stresses, frequent bending/torsional operation and fast movement with strong acceleration.

CONSTRUCTION

Conductor:	Tinned copper conductor, flexible cl.5 IEC 60228 Specially designed for mobile application
Insulation:	Micro filtered HEPR rubber compound better than 3G13 New specially developed compound with improved electrical and mechanical characteristics
Cores identification:	Main cores: natural colour with black semiconductive layer Splitted earth cores: identified by position and covered with special black semiconductive compound
Field control:	- Conductor screen: semiconductive layer - Insulation screen: semiconductive layer of special compound Applied with insulation
Identification:	Printed numbers on semiconductor layer
Laying-up:	Short lay length for better flexibility and mechanical characteristics ≤ 8 times the laying-up cores diameter, three cores design with protective earth cores split in 2 interstitial areas
Separation (if any):	Tape(s)
Inner sheath:	Polychloroprene rubber based compound Special developed with improved mechanical characteristics
Antitwisting protection:	Textile braid of synthetic yarns Firmly bonded between inner and outer sheath
Outer sheath:	Red polychloroprene rubber compound UV resistant, oil and chemical resistant better than 5GM3 compound
Marking:	U.T.V. CAVI manufactured BY PALAZZO - PANZERFLEX-ELX rated voltage <i>nc x cross section, fiber optics n. & type</i> - OPTICAL FIBER year of manufacturing

PARAMETERS

ELECTRICAL	Rated voltage	U ₀ /U = 3,6/6 kV to 12/20 kV*
	Maximum permissible operating voltage in AC systems	U _m = 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
EMC	Symmetrical design + narrow production tolerances	Very low interference
DATA TRANSMISSION	Fibre-optics for absolute immunity from electrical interferences. Main type: graded index 62,5/125. Available also graded index 50/125 and monomode E9/125 6 (main type), 12, 18 fibre-optics in a structure composed by 6 loose tubes (1, 2 or 3 fibres per tube)	
THERMAL	Fully flexible operation	- 30 °C
	Fixed installation	- 40 °C
	Maximum permissible operating temperature of the conductor	90 °C
	Short-circuit temperature of the conductor	250 °C
MECHANICAL	Tensile load	Up to 20 N/mm ²
	Minimum bending radii	According to DIN VDE 0298 part 3
	Reeling operation	No restriction. Consult the manufacturer if speed exceeds 180 m/min
	Festoon systems	Up to 120 m/min
CHEMICAL	Resistance to oil	According to VDE / IEC standard
	Weather resistance	Unrestricted use outdoor and indoor, UV resistant, moisture resistant.



PANZERFLEX-ELX
FO 3,6 ÷ 12/20 kV
with integrated
OPTICAL FIBRES
- (N)TSCGEWÖU -
H.V. reeling cable
6 to 20 kV

TABLE 1 - PANZERFLEX-ELX FO 3,6 ÷ 12/20 kV - (N)TSCGEWÖU

MEDIUM VOLTAGE REELING AND FESTOONING

N. OF CORES AND NOMINAL SECTION N·MM ² +N·MM ² /2	MAIN CONDUCTOR		PROTECTIVE EARTH COND. NOM. DIAM. MM	OVERALL DIAMETER		NET WEIGHT APPROX. KG/KM	MAXIMUM PERMISSIBLE TENSILE FORCE N	LAID STRAIGHT A	CURRENT CARRYING CAPACITY AT 30 °C*			SHORT CIRCUIT CURRENT 80 ° TO 200 °C kA
	D.C. RESIST. AT 20 °C OHM/KM	NOM. DIAM. MM		MIN. VALUE MM	MAX. VALUE MM				SPIRAL OR 1 LAYER A	2 LAYER A	3 LAYER A	
3,6/6 kV												
3x25+2x25/2+1x(60F)	0,795	6,6	4,9	38,8	41,8	2490	1500	131	105	80	64	3,2
3x35+2x25/2+1x(60F)	0,565	8,0	4,9	41,2	44,2	2980	2100	162	130	99	79	4,5
3x50+2x25/2+1x(60F)	0,393	9,3	4,9	44,0	47,0	3510	3000	202	162	123	99	6,4
3x70+2x35/2+1x(60F)	0,277	11,2	6,6	48,1	51,1	4500	4200	250	200	153	123	9,0
3x95+2x50/2+1x(60F)	0,210	13,0	6,6	52,7	56,7	5580	5700	301	241	184	147	12,2
3x120+2x70/2+1x(60F)	0,164	15,0	8,0	56,9	60,9	6950	7200	352	282	215	172	15,4
3x150+2x70/2+1x(60F)	0,132	16,9	8,0	62,7	66,7	8190	9000	404	323	246	198	19,2
3x185+2x95/2+1x(60F)	0,108	18,3	9,3	66,4	70,4	9630	11100	461	369	281	226	23,7
3x240+2x120/2+1x(60F)	0,0817	20,5	11,2	76,1	80,1	12770	14400	540	432	329	265	30,7
6/10 kV												
3x25+2x25/2+1x(60F)	0,795	6,6	4,9	39,5	42,5	2540	1500	131	105	80	64	3,2
3x35+2x25/2+1x(60F)	0,565	8,0	4,9	42,0	45,0	3060	2100	162	130	99	79	4,5
3x50+2x25/2+1x(60F)	0,393	9,3	4,9	44,8	47,8	3590	3000	202	162	123	99	6,4
3x70+2x35/2+1x(60F)	0,277	11,2	6,6	48,3	52,3	4570	4200	250	200	153	123	9,0
3x95+2x50/2+1x(60F)	0,210	13,0	6,6	53,5	57,5	5680	5700	301	241	184	147	12,2
3x120+2x50/2+1x(60F)	0,164	15,0	8,0	57,6	61,6	7020	7200	352	282	215	172	15,4
3x150+2x70/2+1x(60F)	0,132	16,9	8,0	63,3	67,3	8280	9000	404	323	246	198	19,2
3x185+2x95/2+1x(60F)	0,108	18,3	9,3	67,0	71,0	9720	11100	461	369	281	226	23,7
3x240+2x120/2+1x(60F)	0,0817	20,5	11,2	76,8	80,8	12880	14400	540	432	329	265	30,7
8,7/15 kV												
3x25+2x25/2+1x(60F)	0,795	6,6	4,9	42,7	45,7	2830	1500	139	111	85	68	3,2
3x35+2x25/2+1x(60F)	0,565	8,0	4,9	45,5	48,5	3390	2100	172	138	105	84	4,5
3x50+2x25/2+1x(60F)	0,393	9,3	4,9	48,3	51,3	3590	3000	215	172	131	105	6,4
3x70+2x35/2+1x(60F)	0,277	11,2	6,6	53,1	57,1	5130	4200	265	212	162	130	9,0
3x95+2x50/2+1x(60F)	0,210	13,0	6,6	57,0	61,0	6120	5700	319	255	195	156	12,2
3x120+2x70/2+1x(60F)	0,164	15,0	8,0	62,9	66,9	7770	7200	371	297	226	182	15,4
3x150+2x70/2+1x(60F)	0,132	16,9	8,0	67,0	71,0	8820	9000	428	342	261	210	19,2
3x185+2x95/2+1x(60F)	0,108	18,3	9,3	70,0	74,0	10190	11100	488	390	298	239	23,7
3x240+2x120/2+1x(60F)	0,0817	20,5	11,2	78,2	83,2	13190	14400	574	459	350	281	30,7
12/20 kV												
3x25+2x25/2+1x(60F)	0,795	6,6	4,9	48,0	51,0	3360	1500	139	111	85	68	3,2
3x35+2x25/2+1x(60F)	0,565	8,0	4,9	51,4	55,4	4080	2100	172	138	105	84	4,5
3x50+2x25/2+1x(60F)	0,393	9,3	4,9	54,2	58,2	4670	3000	215	172	131	105	6,4
3x70+2x35/2+1x(60F)	0,277	11,2	6,6	58,3	62,3	5790	4200	265	212	162	130	9,0
3x95+2x50/2+1x(60F)	0,210	13,0	6,6	63,7	67,7	7040	5700	319	255	195	156	12,2
3x120+2x70/2+1x(60F)	0,164	15,0	8,0	68,0	72,0	8510	7200	371	297	226	182	15,4
3x150+2x70/2+1x(60F)	0,132	16,9	8,0	73,9	77,9	9920	9000	428	342	261	210	19,2
3x185+2x95/2+1x(60F)	0,108	18,3	9,3	77,0	81,0	11310	11100	488	390	298	239	23,7
3x240+2x120/2+1x(60F)	0,0817	20,5	11,2	82,1	87,1	13840	14400	574	459	350	281	34,3

*18/30 kV available on request