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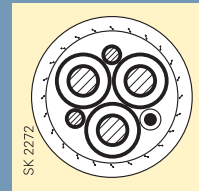


BUS_074.tif

Selection and dimensioning criteria		Refer to Section 4 for further details			→		
	Type	PROTOLON (M)	PROTOLON (M)-LWL		Page	4/2	
	Type designation	R-(N)TSCGEWÖU	R-(N)TSCGEWÖU		Page	4/3	
	Approvals/standards	Based on DIN VDE 0250, Part 813 MSHA P-189-4	Based on DIN VDE 0250, Part 813 MSHA P-189-4		Page	4/4	
	Application (refer also to DIN VDE 0298, Part 3)	For connection of large material handling machines such as excavators, dumpers, mobile crushers in open-cast mines. Flexible MV reeling cable suitable for high mechanical stresses in conjunction with mono spiral reels and cylindrical reels.			Page	4/6	
Electrical parameters	Rated voltage	$U_b/U = 3.6/6$ kV to 18/30 kV	$U_b/U = 3.6/6$ kV to 18/30 kV		Pages to	4/14	
	Maximum permissible operating voltage in AC systems	$U_b/U = 4.2/7.2$ kV to 20.8/36 kV	$U_b/U = 4.2/7.2$ kV to 20.8/36 kV			4/17	
	Maximum permissible operating voltage in DC systems	$U_b/U = 5.4/10.8$ kV to 27/54 kV	$U_b/U = 5.4/10.8$ kV to 27/54 kV				
	AC test voltage	11 kV to 43 kV according to DIN VDE 0250, Part 813					
	Current-carrying capacity	According to DIN VDE 0298, Part 4	According to DIN VDE 0298, Part 4				
Optical parameters	Transmission data of the fibre-optics		G50/125	G62.5/125	E9/125	Page	4/5
	Attenuation at wavelength 850 nm		≤2.8 dB/km	≤3.3 dB/km	–		
	Attenuation at wavelength 1300 nm		≤0.8 dB/km	≤0.9 dB/km	≤0.4 dB/km		
	Attenuation at wavelength 1550 nm		–	–	≤0.3 dB/km		
	Bandwidth at 850 nm and 1300 nm		≥400 MHz	≥400 MHz			
	Numerical aperture		0.20 ± 0.02	0.275 ± 0.02			
Thermal parameters	Ambient temperature				Pages to	4/18	
	• Fully flexible operation	-25 °C to + 60 °C	-25 °C to + 60 °C			4/19	
	• Fixed installation	-40 °C to + 80 °C	-40 °C to + 80 °C				
	Maximum permissible operating temperature of the conductor	90 °C	90 °C				
Short-circuit temperature of the conductor	250 °C	250 °C					

Selection and dimensioning criteria		Refer to Section 4 for further details →			
Mechanical parameters	Tensile load	Up to 20 N/mm ²	Up to 20 N/mm ²	Page	4/20
	Torsional stresses	±100 °/m	±100 °/m	Page	4/21
	Minimum bending radii	According to DIN VDE 0298, Part 3	According to DIN VDE 0298, Part 3	Page	4/22
	Minimum distance with S-type directional changes	20 x D	20 x D		
	Travel speed			Page	4/23
	<ul style="list-style-type: none"> ● In operation ● On rewinding 	Up to 60 m/min Up to 100 m/min	Up to 60 m/min Up to 100 m/min		
Additional tests	Reversed bending test, torsional stress test, roller bending test (type C)	Reversed bending test, torsional stress test, roller bending test (type C)	Page	4/24	
Chemical parameters	Resistance to oil and brine	Given to DIN VDE 0473, Part 811-2-1, Para. 10	Given to DIN VDE 0473, Part 811-2-1, Para. 10	Page	4/28
	Behaviour in case of fire	Given to DIN VDE 0482 Part 265-2-1, Para. 10	Given to DIN VDE 0482 Part 265-2-1, Para. 10		
	Weather resistance	Unrestricted use outdoors and indoors, resistant to ozone and moisture	Unrestricted use outdoors and indoors, resistant to ozone and moisture		
Note on installation	Termination with sealing ends	Suitable material sets for self-assembly		Page	3/7
		Termination of fibre-optics requires special skills and use of elaborate tools. It is therefore recommended that performance of this work be entrusted to our customer service. (Assembly at works). Please give the connection dimensions.		Page	3/15

- 1 Conductor
- 2 Insulation
- 3 Outer semiconductive layer
- 4 Fibre-optics
- 5 Inner sheath
- 6 Anti-torsion braid
- 7 Outer sheath



Design features		Refer to Section 4 for further details		→
Type	PROTOLON (M)	PROTOLON (M)-LWL	Page	4/2
Conductor (refer also to DIN VDE 0295)	Electrolytic copper, not tinned, very finely stranded, Class "FS"	Electrolytic copper, not tinned, very finely stranded, Class "FS"	Page	4/29
Insulation (refer also to DIN VDE 0207, Part 20)	PROTOLON, basic material EPR, compound type: special compound	PROTOLON, basic material EPR, compound type: special compound	Page	4/34
Electrical field control	Inner and outer semiconductive layer of semiconductive rubber	Inner and outer semiconductive layer of semiconductive rubber	Page	4/36
Core identification	Natural colouring with black semiconductive rubber on which white digits 1 to 3 are printed	Natural colouring with black semiconductive rubber on which white digits 1 to 3 are printed		
Fibre-optics			Page	4/5
• Fibre		Inner core diameter of fibre 9 µm, 62.5 µm or 50 µm Diameter over cladding 125 µm Diameter over coating 250 µm		
• Fibre covering		Buffering tube with filling compound, basic material: ETFE compound 7Y1 1		
• Identification of the fibres		Colour coding of the fibres and buffering tube for identification of the fibre type		
• Core arrangement		Six cores in one layer, especially laid-up around the GFK supporting element		
• Sheath over the laid-up cores		Special material		
Core arrangement	Three main conductors laid-up, with protective-earth conductor split into three in the outer interstices	Three-core design, protective-earth conductor split into two and fibre-optic element in the outer interstices		
Inner sheath (refer also to DIN VDE 0207, Part 21)	Basic material: EPR, compound type: special compound	Basic material: EPR, compound type: special compound	Page	4/34
Anti-torsion braid	Braid of polyester threads in a vulcanized bond between inner and outer sheath	Braid of polyester threads in a vulcanized bond between inner and outer sheath	Page	4/39
Outer sheath (refer also to DIN VDE 0207, Part 21)	Basic material PCP, compound type: special compound, colour red	Basic material PCP, compound type: special compound, colour red	Page	4/34
Marking	(Year of manufacture) (serial number) PROTOLON (M) R-(N)TSCGEWÖU (number of cores) x (cross-section) (rated voltage)	(Year of manufacture) (serial number) PROTOLON (M) LWL R-(N)TSCGEWÖU (number of cores) x (cross-section) (rated voltage)	Page	4/40

Selection data

Number of cores and nominal cross-section mm ²	Conductor diameter (guidance value) Max. value mm	Overall diameter of cable (guidance value) Min. value Max. value mm mm		Conductor resistance at 20 °C Ω/km	Inductance per unit length mH/km	Operating capacitance per unit length μF/km	Current-carrying capacity at 30 °C A	Permissible short-circuit current (1s) kA	Approx. net weight for 1000 m kg	Maximum permissible tensile force N
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3.6/6 kV R-(N)TSCGEWÖU

3 x 25 + 3 x 25/3	7.15	36.3	39.3	0.780	0.31	0.44	131	3.58	2215	1500
3 x 25 + 3 x 50/3	7.15	40.2	43.2	0.780	0.35	0.44	131	3.58	2763	1500
3 x 35 + 3 x 25/3	8.50	40.1	43.1	0.554	0.30	0.50	162	5.01	2767	2100
3 x 35 + 3 x 50/3	8.50	42.4	45.4	0.554	0.32	0.50	162	5.01	3169	2100
3 x 50 + 3 x 25/3	10.20	43.8	46.8	0.386	0.28	0.58	202	7.15	3439	3000
3 x 50 + 3 x 50/3	10.20	45.5	48.5	0.386	0.30	0.58	202	7.15	3805	3000
3 x 70 + 3 x 35/3	11.90	47.5	50.5	0.272	0.27	0.65	250	10.01	4382	4200
3 x 70 + 3 x 50/3	11.90	47.5	50.5	0.272	0.27	0.65	250	10.01	4495	4200
3 x 95 + 3 x 50/3	13.90	52.7	56.7	0.206	0.26	0.74	301	13.60	5635	5700
3 x 120 + 3 x 70/3	15.80	56.8	60.8	0.161	0.25	0.82	352	17.16	6879	7200
3 x 150 + 3 x 70/3	17.50	61.9	65.9	0.129	0.25	0.90	404	21.45	8222	9000
3 x 185 + 3 x 95/3	19.30	65.8	69.8	0.106	0.24	0.97	462	26.46	9658	11100
3 x 240 + 3 x 120/3	22.10	73.2	77.2	0.080	0.24	1.10	540	34.32	12374	14400
3 x 300 + 3 x 150/3	24.70	78.9	82.9	0.064	0.23	1.21	620	42.90	14901	18000

6/10 kV R-(N)TSCGEWÖU

3 x 25 + 3 x 25/3	7.15	38.6	41.6	0.780	0.32	0.39	131	3.58	2416	1500
3 x 25 + 3 x 50/3	7.15	41.5	44.5	0.780	0.32	0.39	131	3.58	2854	1500
3 x 35 + 3 x 25/3	8.50	41.4	44.4	0.554	0.31	0.45	162	5.01	2881	2100
3 x 35 + 3 x 50/3	8.50	43.1	46.1	0.554	0.31	0.45	162	5.01	3234	2100
3 x 50 + 3 x 25/3	10.20	45.1	48.1	0.386	0.29	0.51	202	7.15	3560	3000
3 x 50 + 3 x 50/3	10.20	45.1	48.1	0.386	0.29	0.51	202	7.15	3745	3000
3 x 70 + 3 x 35/3	11.90	49.7	53.7	0.272	0.28	0.58	250	10.01	4667	4200
3 x 70 + 3 x 50/3	11.90	51.4	55.4	0.272	0.28	0.58	250	10.01	5139	4200
3 x 95 + 3 x 50/3	13.90	54.0	58.0	0.206	0.27	0.66	301	13.60	5780	5700
3 x 120 + 3 x 70/3	15.80	58.1	62.1	0.161	0.26	0.73	352	17.16	7037	7200
3 x 150 + 3 x 70/3	17.50	63.2	67.2	0.129	0.25	0.79	404	21.45	8389	9000
3 x 185 + 3 x 95/3	19.30	67.1	71.1	0.106	0.25	0.86	462	26.46	9864	11100
3 x 240 + 3 x 120/3	22.10	74.6	78.6	0.080	0.24	0.97	540	34.32	12570	14400
3 x 300 + 3 x 150/3	24.70	80.2	84.2	0.064	0.24	1.07	620	42.90	15114	18000

8.7/15 kV R-(N)TSCGEWÖU

3 x 25 + 3 x 25/3	7.15	42.1	45.1	0.780	0.34	0.31	139	3.58	2707	1500
3 x 25 + 3 x 50/3	7.15	43.8	46.8	0.780	0.34	0.31	139	3.58	3062	1500
3 x 35 + 3 x 25/3	8.50	44.9	47.9	0.554	0.33	0.36	172	5.01	3198	2100
3 x 35 + 3 x 50/3	8.50	44.9	47.9	0.554	0.33	0.36	172	5.01	3382	2100
3 x 50 + 3 x 25/3	10.20	49.5	53.5	0.386	0.31	0.41	215	7.15	4083	3000
3 x 50 + 3 x 50/3	10.20	49.5	53.5	0.386	0.31	0.41	215	7.15	4267	3000
3 x 70 + 3 x 35/3	11.90	53.1	57.1	0.272	0.30	0.45	265	10.01	5028	4200
3 x 70 + 3 x 50/3	11.90	53.1	57.1	0.272	0.30	0.45	265	10.01	5303	4200
3 x 95 + 3 x 50/3	13.90	57.3	61.3	0.206	0.28	0.51	319	13.60	6216	5700
3 x 120 + 3 x 70/3	15.80	63.0	67.0	0.161	0.27	0.57	371	17.16	7673	7200
3 x 150 + 3 x 70/3	17.50	66.6	70.6	0.129	0.27	0.62	428	21.45	8852	9000
3 x 185 + 3 x 95/3	19.30	70.5	74.5	0.106	0.26	0.67	488	26.46	10351	11100
3 x 240 + 3 x 120/3	22.10	78.0	82.0	0.080	0.25	0.75	574	34.32	13125	14400
3 x 300 + 3 x 150/3	24.70	84.9	89.9	0.064	0.25	0.82	665	42.90	16020	18000

Selection data

Number of cores and nominal cross-section	Conductor diameter (guidance value)	Overall diameter of cable (guidance value)		Conductor resistance at 20 °C	Inductance per unit length	Operating capacitance per unit length	Current-carrying capacity at 30 °C	Permissible short-circuit current (1s)	Approx. net weight for 1000 m	Maximum permissible tensile force
	Max. value	Min. value	Max. value							
mm ²	mm	mm	mm	Ω/km	mH/km	μF/km	A	kA	kg	N

12/20 kV R-(N)TSCGEWÖU

3 x 25 + 3 x 25/3	7.15	45.1	48.1	0.780	0.36	0.27	139	3.58	2982	1500
3 x 25 + 3 x 50/3	7.15	45.1	48.1	0.780	0.36	0.27	139	3.58	3167	1500
3 x 35 + 3 x 25/3	8.50	47.9	50.9	0.554	0.34	0.31	172	5.01	3511	2100
3 x 35 + 3 x 50/3	8.50	47.9	50.9	0.554	0.34	0.31	172	5.01	3694	2100
3 x 50 + 3 x 25/3	10.20	52.5	56.5	0.386	0.32	0.35	215	7.15	4399	3000
3 x 50 + 3 x 50/3	10.20	52.5	56.5	0.386	0.32	0.35	215	7.15	4583	3000
3 x 70 + 3 x 35/3	11.90	56.2	60.2	0.272	0.31	0.39	265	10.01	5411	4200
3 x 70 + 3 x 50/3	11.90	56.2	60.2	0.272	0.31	0.39	265	10.01	5684	4200
3 x 95 + 3 x 50/3	13.90	61.9	65.9	0.206	0.30	0.44	319	13.60	6783	5700
3 x 120 + 3 x 70/3	15.80	66.0	70.0	0.161	0.29	0.48	371	17.16	8068	7200
3 x 150 + 3 x 70/3	17.50	69.7	73.7	0.129	0.28	0.52	428	21.45	9323	9000
3 x 185 + 3 x 95/3	19.30	75.0	79.0	0.106	0.27	0.56	488	26.46	11025	11100
3 x 240 + 3 x 120/3	22.10	81.0	85.0	0.080	0.26	0.63	574	34.32	13657	14400
3 x 300 + 3 x 150/3	24.70	87.9	92.9	0.064	0.26	0.69	665	42.90	16571	18000

14/25 kV R-(N)TSCGEWÖU

3 x 25 + 3 x 25/3	7.15	49.9	53.9	0.780	0.38	0.23	139	3.58	3542	1500
3 x 25 + 3 x 50/3	7.15	49.9	53.9	0.780	0.38	0.23	139	3.58	3726	1500
3 x 35 + 3 x 25/3	8.50	52.7	56.7	0.554	0.36	0.26	172	5.01	4075	2100
3 x 35 + 3 x 50/3	8.50	52.7	56.7	0.554	0.36	0.26	172	5.01	4258	2100
3 x 50 + 3 x 25/3	10.20	56.4	60.4	0.386	0.34	0.30	215	7.15	4872	3000
3 x 50 + 3 x 50/3	10.20	56.4	60.4	0.386	0.34	0.30	215	7.15	5054	3000
3 x 70 + 3 x 35/3	11.90	61.5	65.5	0.272	0.32	0.33	265	10.01	6083	4200
3 x 70 + 3 x 50/3	11.90	61.5	65.5	0.272	0.32	0.33	265	10.01	6356	4200
3 x 95 + 3 x 50/3	13.90	65.8	69.8	0.206	0.31	0.37	319	13.60	7303	5700
3 x 120 + 3 x 70/3	15.80	69.9	73.9	0.161	0.30	0.41	371	17.16	8652	7200
3 x 150 + 3 x 70/3	17.50	75.0	79.0	0.129	0.29	0.44	428	21.45	10139	9000
3 x 185 + 3 x 95/3	19.30	78.9	82.9	0.106	0.28	0.47	488	26.46	11705	11100
3 x 240 + 3 x 120/3	22.10	86.2	91.2	0.080	0.27	0.53	574	34.32	14670	14400
3 x 300 + 3 x 150/3	24.70	91.8	96.8	0.064	0.27	0.58	665	42.90	17332	18000

18/30 kV R-(N)TSCGEWÖU

3 x 25 + 3 x 25/3	7.15	53.4	57.4	0.780	0.40	0.21	139	3.58	3919	1500
3 x 25 + 3 x 50/3	7.15	53.4	57.4	0.780	0.40	0.21	139	3.58	4101	1500
3 x 35 + 3 x 25/3	8.50	56.2	60.2	0.554	0.38	0.24	172	5.01	4503	2100
3 x 35 + 3 x 50/3	8.50	56.2	60.2	0.554	0.38	0.24	172	5.01	4684	2100
3 x 50 + 3 x 25/3	10.20	61.2	65.2	0.386	0.35	0.26	215	7.15	5482	3000
3 x 50 + 3 x 50/3	10.20	61.2	65.2	0.386	0.35	0.26	215	7.15	5662	3000
3 x 70 + 3 x 35/3	11.90	64.9	68.9	0.272	0.34	0.29	265	10.01	6531	4200
3 x 70 + 3 x 50/3	11.90	64.9	68.9	0.272	0.34	0.29	265	10.01	6802	4200
3 x 95 + 3 x 50/3	13.90	69.2	73.2	0.206	0.32	0.33	319	13.60	7807	5700
3 x 120 + 3 x 70/3	15.80	74.7	78.7	0.161	0.31	0.36	371	17.16	9364	7200
3 x 150 + 3 x 70/3	17.50	78.4	82.4	0.129	0.30	0.39	428	21.45	10710	9000
3 x 185 + 3 x 95/3	19.30	83.6	88.6	0.106	0.29	0.42	488	26.46	12609	11100
3 x 240 + 3 x 120/3	22.10	89.7	94.7	0.080	0.28	0.46	574	34.32	15344	14400
3 x 300 + 3 x 150/3	24.70	96.3	101.3	0.064	0.27	0.51	665	42.90	18241	18000

Selection data

Number of cores and nominal cross-section mm ²	Conductor diameter (guidance value) mm	Overall diameter of cable (guidance value) mm		Conductor resistance at 20 °C Ω/km	Inductance per unit length mH/km	Operating capacitance per unit length μF/km	Current-carrying capacity at 30 °C A	Permissible short-circuit current (1s) kA	Approx. net weight for 1000 m kg	Maximum permissible tensile force N
		Max. value	Min. value							

3.6/6 kV R-(N)TSCGEWÖU

3 x 25 + 2 x 25/2 + 1 x (6LWL)	7.15	40.2	43.2	0.780	0.35	0.44	131	3.58	2570	1500
3 x 25 + 2 x 50/2 + 1 x (6LWL)	7.15	43.1	46.1	0.780	0.38	0.44	131	3.58	3020	1500
3 x 35 + 2 x 25/2 + 1 x (6LWL)	8.50	41.8	44.8	0.554	0.32	0.50	162	5.01	2940	2100
3 x 35 + 2 x 50/2 + 1 x (6LWL)	8.50	44.7	47.7	0.554	0.35	0.50	162	5.01	3400	2100
3 x 50 + 2 x 25/2 + 1 x (6LWL)	10.20	43.8	46.8	0.386	0.28	0.58	202	7.15	3450	3000
3 x 50 + 2 x 50/2 + 1 x (6LWL)	10.20	46.6	49.6	0.386	0.31	0.58	202	7.15	3930	3000
3 x 70 + 2 x 35/2 + 1 x (6LWL)	11.90	47.4	50.4	0.272	0.27	0.65	250	10.01	4370	4200
3 x 70 + 2 x 50/2 + 1 x (6LWL)	11.90	52.4	56.4	0.272	0.29	0.65	250	10.01	5290	4200
3 x 95 + 2 x 50/2 + 1 x (6LWL)	13.90	52.7	56.7	0.206	0.26	0.74	301	13.60	5660	5700
3 x 120 + 2 x 70/2 + 1 x (6LWL)	15.80	56.1	60.1	0.161	0.25	0.82	352	17.16	6810	7200
3 x 150 + 2 x 70/2 + 1 x (6LWL)	17.50	61.8	65.8	0.129	0.25	0.90	404	21.45	8240	9000
3 x 185 + 2 x 95/2 + 1 x (6LWL)	19.30	65.7	69.7	0.106	0.24	0.97	462	26.46	9670	11100
3 x 240 + 2 x 120/2 + 1 x (6LWL)	22.10	73.2	77.2	0.080	0.24	1.10	540	34.32	12410	14400
3 x 300 + 2 x 150/2 + 1 x (6LWL)	24.70	78.2	82.2	0.064	0.23	1.21	620	42.90	14890	18000

6/10 kV R-(N)TSCGEWÖU

3 x 25 + 2 x 25/2 + 1 x (6LWL)	7.15	40.9	43.9	0.780	0.35	0.39	131	3.58	2630	1500
3 x 25 + 2 x 50/2 + 1 x (6LWL)	7.15	43.8	46.8	0.780	0.38	0.39	131	3.58	3090	1500
3 x 35 + 2 x 25/2 + 1 x (6LWL)	8.50	43.1	46.1	0.554	0.33	0.45	162	5.01	3060	2100
3 x 35 + 2 x 50/2 + 1 x (6LWL)	8.50	45.4	48.4	0.554	0.35	0.45	162	5.01	3470	2100
3 x 50 + 2 x 25/2 + 1 x (6LWL)	10.20	45.1	48.1	0.386	0.29	0.51	202	7.15	3570	3000
3 x 50 + 2 x 50/2 + 1 x (6LWL)	10.20	47.9	50.9	0.386	0.32	0.51	202	7.15	4060	3000
3 x 70 + 2 x 35/2 + 1 x (6LWL)	11.90	49.6	53.6	0.272	0.28	0.58	250	10.01	4670	4200
3 x 70 + 2 x 50/2 + 1 x (6LWL)	11.90	53.1	57.1	0.272	0.30	0.58	250	10.01	5370	4200
3 x 95 + 2 x 50/2 + 1 x (6LWL)	13.90	54.0	58.0	0.206	0.27	0.66	301	13.60	5800	5700
3 x 120 + 2 x 70/2 + 1 x (6LWL)	15.80	58.1	62.1	0.161	0.25	0.73	352	17.16	7040	7200
3 x 150 + 2 x 70/2 + 1 x (6LWL)	17.50	63.1	67.1	0.129	0.25	0.79	404	21.45	8410	9000
3 x 185 + 2 x 95/2 + 1 x (6LWL)	19.30	67.0	71.0	0.106	0.24	0.86	462	26.46	9850	11100
3 x 240 + 2 x 120/2 + 1 x (6LWL)	22.10	74.5	78.5	0.080	0.24	0.97	540	34.32	12610	14400
3 x 300 + 2 x 150/2 + 1 x (6LWL)	24.70	80.1	84.1	0.064	0.23	1.07	620	42.90	15100	18000

8.7/15 kV R-(N)TSCGEWÖU

3 x 25 + 2 x 25/2 + 1 x (6LWL)	7.15	43.8	46.8	0.780	0.36	0.31	139	3.58	2890	1500
3 x 25 + 2 x 50/2 + 1 x (6LWL)	7.15	45.5	48.5	0.780	0.38	0.31	139	3.58	3240	1500
3 x 35 + 2 x 25/2 + 1 x (6LWL)	8.50	44.8	47.4	0.554	0.33	0.36	172	5.01	3200	2100
3 x 35 + 2 x 50/2 + 1 x (6LWL)	8.50	47.7	50.7	0.554	0.35	0.36	172	5.01	3700	2100
3 x 50 + 2 x 25/2 + 1 x (6LWL)	10.20	49.4	53.4	0.386	0.31	0.41	215	7.15	4090	3000
3 x 50 + 2 x 50/2 + 1 x (6LWL)	10.20	51.1	55.1	0.386	0.32	0.41	215	7.15	4470	3000
3 x 70 + 2 x 35/2 + 1 x (6LWL)	11.90	53.1	57.1	0.272	0.30	0.45	265	10.01	5040	4200
3 x 70 + 2 x 50/2 + 1 x (6LWL)	11.90	55.4	59.4	0.272	0.30	0.45	265	10.01	5630	4200
3 x 95 + 2 x 50/2 + 1 x (6LWL)	13.90	57.4	61.4	0.206	0.28	0.51	319	13.60	6200	5700
3 x 120 + 2 x 70/2 + 1 x (6LWL)	15.80	62.9	66.9	0.161	0.27	0.57	371	17.16	7690	7200
3 x 150 + 2 x 70/2 + 1 x (6LWL)	17.50	66.6	70.6	0.129	0.27	0.62	428	21.45	8880	9000
3 x 185 + 2 x 95/2 + 1 x (6LWL)	19.30	70.5	74.5	0.106	0.26	0.67	488	26.46	10350	11100
3 x 240 + 2 x 120/2 + 1 x (6LWL)	22.10	77.9	81.9	0.080	0.25	0.75	574	34.32	13140	14400
3 x 300 + 2 x 150/2 + 1 x (6LWL)	24.70	85.4	89.4	0.064	0.25	0.82	665	42.90	16060	18000

Selection data

Number of cores and nominal cross-section mm ²	Conductor diameter (guidance value) mm	Overall diameter of cable (guidance value) mm		Conductor resistance at 20 °C Ω/km	Inductance per unit length mH/km	Operating capacitance per unit length μF/km	Current-carrying capacity at 30 °C A	Permissible short-circuit current (1s) kA	Approx. net weight for 1000 m kg	Maximum permissible tensile force N
		Max. value	Min. value							

12/20 kV R-(N)TSCGEWÖU

3 x 25 + 2 x 25/2 + 1 x (6LWL)	7.15	45.1	48.1	0.780	0.36	0.27	139	3.58	3000	1500
3 x 25 + 2 x 50/2 + 1 x (6LWL)	7.15	47.4	50.4	0.780	0.39	0.27	139	3.58	3430	1500
3 x 35 + 2 x 25/2 + 1 x (6LWL)	8.50	47.9	50.9	0.554	0.34	0.31	172	5.01	3500	2100
3 x 35 + 2 x 50/2 + 1 x (6LWL)	8.50	50.5	54.5	0.554	0.36	0.31	172	5.01	4060	2100
3 x 50 + 2 x 25/2 + 1 x (6LWL)	10.20	52.4	56.4	0.386	0.32	0.35	215	7.15	4400	3000
3 x 50 + 2 x 50/2 + 1 x (6LWL)	10.20	52.4	56.4	0.386	0.32	0.35	215	7.15	4590	3000
3 x 70 + 2 x 35/2 + 1 x (6LWL)	11.90	56.1	60.1	0.272	0.31	0.39	265	10.01	5390	4200
3 x 70 + 2 x 50/2 + 1 x (6LWL)	11.90	58.4	62.4	0.272	0.31	0.39	265	10.01	5990	4200
3 x 95 + 2 x 50/2 + 1 x (6LWL)	13.90	61.8	65.8	0.206	0.30	0.44	319	13.60	6780	5700
3 x 120 + 2 x 70/2 + 1 x (6LWL)	15.80	65.9	69.9	0.161	0.29	0.48	371	17.16	8080	7200
3 x 150 + 2 x 70/2 + 1 x (6LWL)	17.50	69.6	73.6	0.129	0.28	0.52	428	21.45	9310	9000
3 x 185 + 2 x 95/2 + 1 x (6LWL)	19.30	74.9	78.9	0.106	0.27	0.56	488	26.46	11060	11100
3 x 240 + 2 x 120/2 + 1 x (6LWL)	22.10	81.0	85.0	0.080	0.26	0.63	574	34.32	13660	14400
3 x 300 + 2 x 150/2 + 1 x (6LWL)	24.70	88.4	92.4	0.064	0.26	0.69	665	42.90	16600	18000

14/25 kV R-(N)TSCGEWÖU

3 x 25 + 2 x 25/2 + 1 x (6LWL)	7.15	49.8	53.8	0.780	0.38	0.23	139	3.58	3540	1500
3 x 25 + 2 x 50/2 + 1 x (6LWL)	7.15	51.6	55.6	0.780	0.40	0.23	139	3.58	3950	1500
3 x 35 + 2 x 25/2 + 1 x (6LWL)	8.50	52.7	56.7	0.554	0.36	0.26	172	5.01	4090	2100
3 x 35 + 2 x 50/2 + 1 x (6LWL)	8.50	52.7	56.7	0.554	0.36	0.26	172	5.01	4280	2100
3 x 50 + 2 x 25/2 + 1 x (6LWL)	10.20	56.3	60.3	0.386	0.34	0.30	215	7.15	4850	3000
3 x 50 + 2 x 50/2 + 1 x (6LWL)	10.20	56.3	60.3	0.386	0.34	0.30	215	7.15	5030	3000
3 x 70 + 2 x 35/2 + 1 x (6LWL)	11.90	61.4	65.4	0.272	0.32	0.33	265	10.01	6090	4200
3 x 70 + 2 x 50/2 + 1 x (6LWL)	11.90	61.4	65.4	0.272	0.32	0.33	265	10.01	6380	4200
3 x 95 + 2 x 50/2 + 1 x (6LWL)	13.90	65.7	69.7	0.206	0.31	0.37	319	13.60	7300	5700
3 x 120 + 2 x 70/2 + 1 x (6LWL)	15.80	69.8	73.8	0.161	0.30	0.41	371	17.16	8940	7200
3 x 150 + 2 x 70/2 + 1 x (6LWL)	17.50	74.9	78.9	0.129	0.29	0.44	428	21.45	10150	9000
3 x 185 + 2 x 95/2 + 1 x (6LWL)	19.30	78.8	82.8	0.106	0.28	0.47	488	26.46	11680	11100
3 x 240 + 2 x 120/2 + 1 x (6LWL)	22.10	86.2	91.2	0.080	0.27	0.53	574	34.32	14700	14400
3 x 300 + 2 x 150/2 + 1 x (6LWL)	24.70	91.8	96.8	0.064	0.27	0.58	665	42.90	17330	18000

18/30 kV R-(N)TSCGEWÖU

3 x 25 + 2 x 25/2 + 1 x (6LWL)	7.15	53.3	57.3	0.780	0.40	0.21	139	3.58	3920	1500
3 x 25 + 2 x 50/2 + 1 x (6LWL)	7.15	53.3	57.3	0.780	0.40	0.21	139	3.58	4110	1500
3 x 35 + 2 x 25/2 + 1 x (6LWL)	8.50	56.1	60.1	0.554	0.38	0.24	172	5.01	4480	2100
3 x 35 + 2 x 50/2 + 1 x (6LWL)	8.50	56.1	60.1	0.554	0.38	0.24	172	5.01	4670	2100
3 x 50 + 2 x 25/2 + 1 x (6LWL)	10.20	61.2	65.2	0.386	0.35	0.26	215	7.15	5490	3000
3 x 50 + 2 x 50/2 + 1 x (6LWL)	10.20	61.2	65.2	0.386	0.35	0.26	215	7.15	5680	3000
3 x 70 + 2 x 35/2 + 1 x (6LWL)	11.90	64.9	68.9	0.272	0.34	0.29	265	10.01	6540	4200
3 x 70 + 2 x 50/2 + 1 x (6LWL)	11.90	64.9	68.9	0.272	0.34	0.29	265	10.01	6830	4200
3 x 95 + 2 x 50/2 + 1 x (6LWL)	13.90	69.2	73.2	0.206	0.32	0.33	319	13.60	7800	5700
3 x 120 + 2 x 70/2 + 1 x (6LWL)	15.80	74.7	78.7	0.161	0.31	0.36	371	17.16	9420	7200
3 x 150 + 2 x 70/2 + 1 x (6LWL)	17.50	78.4	82.4	0.129	0.30	0.39	428	21.45	10700	9000
3 x 185 + 2 x 95/2 + 1 x (6LWL)	19.30	83.6	88.6	0.106	0.29	0.42	488	26.46	12630	11100
3 x 240 + 2 x 120/2 + 1 x (6LWL)	22.10	89.6	94.6	0.080	0.28	0.46	574	34.32	15320	14400
3 x 300 + 2 x 150/2 + 1 x (6LWL)	24.70	96.2	101.2	0.064	0.27	0.51	665	42.90	18240	18000