

# Medium voltage reeling cable

## PRYSMIAN Protolon<sup>®</sup> (SMK)-FO

### (N)TSKCGEWOEU

DERZEIT KEIN BILD VERFÜGBAR. | NO IMAGE AVAILABLE.

**Application:** Flexible reeling cable with integrated fibre optics wires for high and extreme mechanical stresses, e.g. torsional stress, deflection into different planes and high reeling speed. Applications are e.g. festoon, high-speed container cranes, crane systems, mobile large equipment.

#### Construction and technical data:

<b>Standard:</b>	DIN VDE 0250-813 (with ref. to)
<b>Conductor material:</b>	tinned copper
<b>Conductor construction:</b>	class „FS“ = exceptionally fine stranded
<b>Insulation:</b>	rubber (EPR) 3GI3
<b>Electrical field control:</b>	inner and outer semiconducting rubber layer
<b>Arrangement of protective conductors:</b>	split in the outer interstices
<b>Material inner sheath:</b>	Gummi 5GM3
<b>Torsion protection:</b>	synthetic braid
<b>Torsion:</b>	+/- 25 °/m
<b>Sheathing material:</b>	rubber (CR) 5GM5
<b>UV-resistant:</b>	yes
<b>Oil-resistant:</b>	EN 60811-404
<b>Ozone-resistant:</b>	yes
<b>Max. temperature at conductor, °C:</b>	90 °C
<b>Permitted outer cable temperature, fixed, °C:</b>	-50 - +80 °C
<b>Permitted outer cable temperature, moved, °C:</b>	-35 - +80 °C
<b>Bending radius, fixed installation:</b>	6 x Ø
<b>Bending radius, moving application:</b>	12 x Ø
<b>Maximum tensile strength at the conductor:</b>	20 N/mm <sup>2</sup>
<b>Operating speed random, m/min.:</b>	240 m/min.
<b>Operating speed monospiral (one way), m/min.:</b>	240 m/min.
<b>min.:</b>	
<b>Operating speed festoon, m/min.:</b>	120 m/min.



**PRYSMIAN Protolon<sup>®</sup> (SMK)-FO (N)TSKCGEWOEU 3.6/6 kV**

**Nominal voltage U<sub>o</sub>:** 3.6 kV  
**Nominal voltage U:** 6 kV  
**Maximum permitted operating voltage in three-phase systems:** 7.2 kV  
**Test voltage:** 11 kV

part no.	part name	RI [Ohm/km]	l <sub>bl</sub> [A]	l <sub>k</sub> [kA]	Ø [mm]	F <sub>zp</sub> [N]	F <sub>zd</sub> [N]	Cu	G [kg]
052552	03X25 + 2X25/2 + 12E9 LWL RD	0.795	131	3.58	42.9	1500	2250	1008	2720
053406	03X35 + 2X25/2 + 1X(12G50/125) RD	0.565	162	5.01	45	2100	3150	1310	3077
054827	03X35 + 2X25/2 + 1X(12G62.5+6E9/125) RD	0.565	162	5.01	45	2100	3150	1310	3089
054846	03X35 + 2X25/2 + 1X(12G62.5+12E9/125 RD	0.565	162	5.01	45	2100	3150	1310	3089
053956	03X95 + 2X50/2 + 1X(6X4E9/125) RD	0.21	301	13.59	58.8	5700	8550	3377	6055
053957	03X95 + 2X50/2 + 1X(6X4G50/125) RD	0.21	301	13.59	58.8	5700	8550	3377	6055
053958	03X95 + 2X50/2 + 1X(6X4G62.5/125) RD	0.21	301	13.59	58.8	5700	8550	3377	6055
053841	03X120 + 2X70/2 + 1X(6E9/125)	0.164	352	17.16	62.2	7200	10800	4334	7384
053842	03X120 + 2X70/2 + 1X(6G50/125)	0.164	352	17.16	62.2	7200	10800	4334	7384
053843	03X120 + 2X70/2 + 1X(6G62.5/125)	0.164	352	17.16	62.2	7200	10800	4334	7384
053704	03X150+2X70/2+1x(18E9/125) RD	0.132	404	21.45	67.5	9000	13500	5242	8674

**PRYSMIAN Protolon<sup>®</sup> (SMK)-FO (N)TSKCGEWOEU 6/10 kV**

**Nominal voltage U<sub>o</sub>:** 6 kV  
**Nominal voltage U:** 10 kV  
**Maximum permitted operating voltage in three-phase systems:** 12 kV  
**Test voltage:** 17 kV

part no.	part name	RI [Ohm/km]	l <sub>bl</sub> [A]	l <sub>k</sub> [kA]	Ø [mm]	F <sub>zp</sub> [N]	F <sub>zd</sub> [N]	Cu	G [kg]
054334	03X120 + 1X70 + 1X(12X2.5ST) + 1X(12 E9/125)	0.164	352	17.16	70.1	7200	10800	4637	8799
054335	03X120 + 1X70 + 1X(12X2.5ST) + 1X(12G50/125)	0.164	352	17.16	70.1	7200	10800	4637	8799
054336	03X120 + 1X70 + 1X(12X2.5ST) + 1X(12G62.5/125)	0.164	352	17.16	70.1	7200	10800	4637	8799
053904	03X25 + 2X25/2 + 1X(6E9/125)	0.795	131	3.58	43.7	1500	2250	1008	2750
053905	03X25 + 2X25/2 + 1X(6G50/125)	0.795	131	3.58	43.7	1500	2250	1008	2750
053906	03X25 + 2X25/2 + 1X(6G62.5/125)	0.795	131	3.58	43.7	1500	2250	1008	2750
054840	03X25 + 2X25/2 + 1X(12G62.5/125) RD	0.795	131	3.58	43.2	1500	2250	1008	2857
052396	03X25 + 2X25/2 + 12E9 LWL RD	0.795	131	3.58	43.7	1500	2250	1008	2698
052588	03X25 + 2X25/2 + 18E9 LWL RD	0.795	131	3.58	43.7	1500	2250	1008	2741
054525	03X25 + 2X25/2 + 1X(24E9/125)	0.795	131	3.58	43.7	1500	2250	1008	2737
054526	03X25 + 2X25/2 + 1X(24G50/125)	0.795	131	3.58	43.7	1500	2250	1008	2737
054528	03X25 + 2X25/2 + 1X(24G62.5/125)	0.795	131	3.58	43.7	1500	2250	1008	2737
052410	03X35 + 2X25/2 + 1X(12E9 + 12G62.5 LWL) RD	0.565	162	5.01	45.7	2100	3150	1310	3060
054825	03X35 + 2X25/2 + 1X(6G62.5/125) RD	0.565	162	5.01	45.7	2100	3150	1310	3160
054841	03X35 + 2X25/2 + 1X(12G62.5/125) RD	0.565	162	5.01	45.7	2100	3150	1310	3153
052360	03X35 + 2X25/2 + 1X(12E9 LWL) RD	0.565	162	5.01	45.7	2100	3150	1310	3108
051381	03X35 + 2X25/2 + 1X(12G50/125 LWL) RD	0.565	162	5.01	45.7	2100	3150	1310	3168
052397	03X25 + 2X25/2 + 16G62.5 + 8E9 LWL RD	0.795	162	5.01	43.7	2100	3150	1008	2750
053294	03x50 + 2x25/2 + 1x(6G50/125) RD	0.393	202	7.15	49.1	3000	4500	1764	3836
052553	03X50 + 2X25/2 + 6G62.5 LWL RD	0.393	202	7.15	49.1	3000	4500	1764	3846
051535	03X50 + 2X25/2 + 18G62.5 LWL RD	0.393	202	7.15	49.1	3000	4500	1764	3721
054896	03X50 + 2X25/2 + 1X(18E9/125) RD	0.393	202	7.15	49.1	3000	4500	1764	3830

part no.	part name	RI [Ohm/km]	Ibl [A]	Ik [kA]	Ø [mm]	Fzp [N]	Fzd [N]	Cu	G [kg]
053345	03X50 + 2X25/2 + 1X(12G62.5/125)	0.393	202	7.15	49.1	3000	4500	1764	3830
053307	03x50 + 2x25/2 + 1x(12G62.5/125) BK	0.393	202	7.15	49.1	3000	4500	1764	3835
052459	03X70 + 2X35/2 + 1X(18G50 LWL) RD	0.277	250	10.01	55.1	4200	6300	2470	4870
053653	03x95 + 2x50/2 + 1x(12E9/125) RD	0.21	301	13.59	60.1	5700	8550	3377	6210
053654	03x95 + 2x50/2 + 1x(12G50/125) RD	0.21	301	13.59	60.1	5700	8550	3377	6210
053206	03X95 + 2X50/2 + 12G62.5 FO RD	0.21	301	13.59	60.1	5700	8550	3377	6209
053655	03x95 + 2x50/2 + 1x(24E9/125) RD	0.21	301	13.59	60.1	5700	8550	3377	6210
053656	03x95 + 2x50/2 + 1x(24G50/125) RD	0.21	301	13.59	60.1	5700	8550	3377	6210
053657	03x95 + 2x50/2 + 1x(24G62.5/125) RD	0.21	301	13.59	60.1	5700	8550	3377	6210
054653	03X120 + 2X70/2 + 1X(6E9/125) RD	0.164	352	17.16	64.9	7200	10800	4334	7666
054654	03X120 + 2X70/2 + 1X(6G50/125) RD	0.164	352	17.16	64.9	7200	10800	4334	7666
054655	03X120 + 2X70/2 + 1X(6G62.5/125) RD	0.164	352	17.16	64.9	7200	10800	4334	7666
052987	03X240 + 2X120/2 + 1X(6E9 LWL) RT	0.0817	540	34.32	80.7	14400	21600	8467	12960
052993	03x240 + 2x120/2 + 1x(6G62,5/125) RD	0.0817	540	34.32	80.7	14400	21600	8467	13415

**PRYSMIAN Protolon® (SMK)-LWL (N)TSKCGEWOEU 8.7/15KV**

**Nominal voltage U<sub>0</sub>:** 8.7 kV

**Nominal voltage U:** 15 kV

**Maximum permitted operating voltage in** 18 kV

**three-phase systems:**

**Test voltage:** 24 kV

part no.	part name	RI [Ohm/km]	Ibl [A]	Ik [kA]	Ø [mm]	Fzp [N]	Fzd [N]	Cu	G [kg]
053314	03x35 + 2x25/2 + 1x(12G62,5/125) RD	0.565	172	5.01	49.1	2100	3150	1310	3494
054937	03X35 + 2X25/2 + 1X(6E9/125)	0.565	172	5.01	49.1	2100	3150	1310	3495
053668	03X35 + 2X25/2 + 1X(18E9/125)	0.565	172	5.01	49.1	2100	3150	1310	3576
053669	03X35 + 2X25/2 + 1X(18G50/125)	0.565	172	5.01	49.1	2100	3150	1310	3576
053670	03X35 + 2X25/2 + 1X(18G62,5/125)	0.565	172	5.01	49.1	2100	3150	1310	3576
052191	03X25 + 2X25/2 + 1X(6E9 LWL) RD	0.795	139	3.58	46.5	1500	2250	1008	2944
053016	03X25 + 2X25/2 + 1X(12E9 LWL) RT	0.795	139	3.58	46.5	1500	2250	1008	2944
054097	03X25 + 2X25/2 + 1X(18E9/125) RD	0.795	139	3.58	46.5	1500	2250	1008	3046
054098	03x25 + 2x25/2 + 1x(18G50/125) RD	0.795	139	3.58	46.5	1500	2250	1008	3046
054099	03x25 + 2x25/2 + 1x(18G62.5/125) RD	0.795	139	3.58	46.5	1500	2250	1008	3046
053917	03X25 + 2X25/2 + 1X(24E9/125) RD	0.795	139	3.58	46.5	1500	2250	1008	3004
053918	03X25 + 2X25/2 + 1X(24G50/125) RD	0.795	139	3.58	46.5	1500	2250	1008	3004
053919	03X25 + 2X25/2 + 1X(24G62,5/125) RD	0.795	139	3.58	46.5	1500	2250	1008	3004
053970	03X25 + 2X25/2 + 1X(12E9+1262.5) RD	0.795	139	3.58	46.5	1500	2250	1008	3020
052416	03X35 + 2X25/2 + 1X(12E9 + 12G62.5 LWL) RD	0.565	172	5.01	49.1	2100	3150	1310	3380
052502	03X50 + 1X35 + 1X10ST + 1X(6E9) RD	0.393	215	7.15	55.8	3000	4500	1966	4747
054913	03x50 + 2x25/2 + 1x(12E9/125) RD	0.393	215	7.15	54.5	3000	4500	1764	4399
052417	03X50 + 2X25/2 + 1X(12E9 + 12G62.5 LWL) RD	0.393	215	7.15	54.5	3000	4500	1764	4260
053191	03x50 + 2x25/2+1x(24G50/125) RD	0.393	215	7.15	54.5	3000	4500	1764	4250
053561	03x50+2x(9x2.5ST+25/2KON)+ 1x(24E9/125) RD	0.393	202	7.15	65.2	3000	4500	2448	6100
052460	03X70 + 2X35/2 + 1X(18G50 LWL) RD	0.277	265	10.01	59.2	4200	6300	2470	5350
052941	03X95 + 2x50/2 + 1X(12G62,5 LWL) RT	0.21	319	13.59	64.9	5700	7125	3377	7012

**PRYSMIAN Protolon<sup>®</sup> (SMK)-FO (N)TSKCGEWOEU 12/20 kV**

**Nominal voltage U<sub>o</sub>:** 12 kV  
**Nominal voltage U:** 20 kV  
**Maximum permitted operating voltage in three-phase systems:** 24 kV  
**Test voltage:** 29 kV

part no.	part name	RI [Ohm/km]	I <sub>bl</sub> [A]	I <sub>k</sub> [kA]	Ø [mm]	F <sub>zp</sub> [N]	F <sub>zd</sub> [N]	Cu	G [kg]
053665	03X25 + 2X25/2 + 1X(12E9/125)	0.795	131	3.58	49.6	1500	2250	1008	3336
053014	03X25 + 2X25/2 + 1X(12G50 LWL) RD	0.795	131	3.58	49.6	1500	2250	1008	3336
053666	03X25 + 2X25/2 + 1X(12G62.5/125)	0.795	131	3.58	49.6	1500	2250	1008	3336
052031	03X25 + 2X25/2 + 1X(6G62.5 LWL) RD	0.795	131	3.58	49.6	1500	2250	1008	3276
052413	03X35 + 2X25/2 + 1X(12E9 + 12G62.5 LWL) RD	0.565	172	5.01	54.1	2100	3150	1310	3880
053210	03x35 + 2x25/2 + 1x(18E9/125) RT	0.565	172	5.01	54.1	2100	3150	1310	4010
053888	03X35 + 2X25/2 + 1X(18G50/125)	0.565	172	5.01	57	2100	3150	1310	4357
053889	03X35 + 2X25/2 + 1X(18G62.5/125)	0.565	172	5.01	54.1	2100	3150	1310	4014
052060	03X35 + 2X25/2 + 1X(12G62.5 LWL) RD	0.565	172	5.01	49.1	2100	3150	1310	3478
052436	03X70 + 2X35/2 + 1X(18G62.5 LWL) RD	0.277	265	10.01	62.2	4200	6300	2470	5914

**PRYSMIAN Protolon<sup>®</sup> (SMK)-LWL (N)TSKCGEWOEU 14/25 kV**

**Nominal voltage U<sub>o</sub>:** 14 kV  
**Nominal voltage U:** 25 kV  
**Maximum permitted operating voltage in three-phase systems:** 29 kV  
**Test voltage:** 36 kV

part no.	part name	RI [Ohm/km]	I <sub>bl</sub> [A]	I <sub>k</sub> [kA]	Ø [mm]	F <sub>zp</sub> [N]	F <sub>zd</sub> [N]	Cu	G [kg]
054933	03X25 + 2X25/2 + 1X(6E9/125)	0.795	131	3.58	55.4	1500	2250	1008	3940

RI	Conductor resistance
I <sub>bl</sub>	Ampacity in air (30 °C)
I <sub>k</sub>	Short-circuit current (1 s)
Ø	outer diameter approx.
F <sub>zp</sub>	Tensile strength (permanent)
F <sub>zd</sub>	Tensile strength (dynamic)
Cu	Copper weight (GER)
G	net weight per 1000