Prysmian Group

Fast and Forceful!

Cordaflex Arctic crane cables keep moving cargo even at -50 °C.

PRYSMIAN
Draka
General Cable

”Extraordinary weather conditions, demands exceptional crane cables.”

Cordaflex Arctic crane cables keep moving cargo even at -50 °C.

When it's painfully cold outside and everything freezes, Cordaflex Arctic cables keep the cranes in operation mode. The cable can handle temperatures as low as -50 °C during reeling operation. We know, because we tried it out in Siberia for a whole year. Should the temperature increase, Cordaflex Arctic can withstand the heat too. Up to 80 °C is no problem. As if that wasn't enough, this extremely durable cable can be winded at a speed of 240 meter per minute. When the going gets tough, Cordaflex Arctic just keep on going.

CORDAFLEX ARCTIC

Application

As the Arctic freight and cargo shipping is rapidly increasing, the demands for fast loading and unloading of containers at Arctic harbours and railroad terminals are becoming ever greater. For the new generation of high-speed yard cranes to function flawlessly under these harsh conditions, extra-ordinary cables are needed. State-of-the-art Cordaflex Arctic is the first flexible reeling cable that possesses the superior mechanical performances required to withstand ice-cold temperatures while operating at the highest possible level.

The specially developed inner and outer sheath allows the cable to be utilised fully down to -50 °C, without any limitation in travelling speed, bending radius or tensile force. And, this is accomplished without any changes in dimension, weight or other mechanical or electrical capacities.

MAIN FEATURES

- Exceptional cold resistance: down to -50 °C
- Excellent impact and abrasion resistance
- Outstanding flexibility, also at very low temperatures
- Resistant to oil, ozone, UV, moisture and water
- Improved mechanical and electrical characteristics
- Winding speed: 240 meters per minute
- Lead free

CORDAFLEX (SMK) 0.6/1 kV								
Number of cores x cross section	Conductor diameter max. mm	Outer diameter mm		Weight (approx.) kg/km	Permissible tensile force max. N	Conductor resistance at 20°C max. Ω/km	Current carrying capacity (1) A	Short circuit current (conductor) max. (1s) kA
		min.	max.					
(N)SHTOEU-J POWER CABLES								
3-core design, earth conductor split in three								
3x35+3x16/3	8.4	28.7	31.7	2 040	3 150	0.565	162	5.01
3x50+3x25/3	10.3	34.4	37.4	2 880	4 500	0.393	202	7.15
3x70+3x35/3	12	39.7	42.7	3 960	6 300	0.277	250	10.01
3x95+3x50/3	14	44.3	47.3	5 060	8 550	0.21	301	13.59
3x120+3x70/3	15.8	51	55	6 590	10 800	0.164	352	17.16
3x150+3x70/3	17.5	53.9	57.9	7 650	13 500	0.132	404	21.45
3x185+3x95/3	19.4	58.9	62.9	9 170	16 650	0.108	461	26.46
3x240+3x120/3	22.5	67.4	71.4	12 170	21 600	0.0817	540	34.32
3x300+3x150/3	25.2	75.6	79.6	15 010	27 000	0.0654	620	42.9
4-core design								
4x4	3	16	18	470	480	5.09	41	0.57
4x6	3.6	17.4	19.4	620	720	3.39	53	0.86
4x10	4.6	21.6	23.6	930	1 200	1.95	74	1.43
4x16	5.6	23.7	26.7	1 300	1 920	1.24	99	2.29
4x25	7.3	28.5	31.5	1 900	3 000	0.795	131	3.58
5-core design								
5x4	3	17.4	19.4	570	600	5.09	41	0.57
5x6	3.6	19	21	720	900	3.39	53	0.86
5x10	4.6	23.4	25.4	1 110	1 500	1.95	74	1.43
5x16	5.6	26.1	29.1	1 550	2 400	1.24	99	2.29
5x25	7.3	33.7	36.7	2 410	3 750	0.795	131	3.58
(N)SHTOEU-J CONTROL CABLES								
3x1.5	1.6	11.7	13.3	220	130	13.7	23	0.21
4x1.5	1.6	12.2	13.8	260	180	13.7	23	0.21
5x1.5	1.6	13	14.6	290	220	13.7	23	0.21
7x1.5	1.6	15.2	17.2	410	310	13.7	23	0.21
12x1.5	1.6	21.4	23.4	750	540	13.7	23	0.21
18x1.5	1.6	21.3	23.3	800	810	13.7	23	0.21
24x1.5	1.6	23.8	26.8	1 060	1 080	13.7	23	0.21
30x1.5	1.6	26.5	29.5	1 300	1 350	13.7	23	0.21
36x1.5	1.6	26.5	29.5	1 340	1 620	13.7	23	0.21
44x1.5	1.6	29.5	32.5	1 530	1 980	13.7	23	0.21
56x1.5	1.6	35.9	38.9	2 120	2 520	13.7	23	0.21
3x2.5	2	12.7	14.3	280	220	8.21	30	0.36

(1) Nominal current carrying capacity for rubber cables laid on a surface, at 30 °C ambient temperature (see also VDE 0298-4, Table 15).

CORDAFLEX (SMK) 0.6/1 kV								
Number of cores x cross section	Conductor diameter max. mm	Outer diameter mm		Weight (approx.) kg/km	Permissible tensile force max. N	Conductor resistance at 20°C max. Ω/km	Current carrying capacity (1) A	Short circuit current (conductor) max. (1s) kA
		min.	max.					
(N)SHTOEU-J CONTROL CABLES (continued)								
4x2.5	2	13.2	14.8	320	300	8.21	30	0.36
5x2.5	2	14.2	15.8	370	370	8.21	30	0.36
7x2.5	2	16.6	18.6	520	520	8.21	30	0.36
12x2.5	2	23.4	25.4	960	900	8.21	30	0.36
18x2.5	2	23.3	25.3	1 050	1 350	8.21	30	0.36
24x2.5	2	26.2	29.2	1 390	1 800	8.21	30	0.36
30x2.5	2	29.4	32.4	1 720	2 250	8.21	30	0.36
36x2.5	2	30.3	33.3	1 810	2 700	8.21	30	0.36
44x2.5	2	34.1	37.1	2 250	3 300	8.21	30	0.36
56x2.5	2	40.1	43.1	2 970	4 200	8.21	30	0.36
(N)SHTOEU-O BUS CABLES								
6x(2x0.5)C	0.9	23.1	25.1	885	180	40.1	10	0.07
3x(2x1)C	1.3	22	24	770	180	20	18	0.14
6x(2x1)C	1.3	28.9	31.9	1 360	360	20	18	0.14
9x(2x1)C	1.3	39.3	42.3	2 250	540	20	18	0.14
12x(2x1)C	1.3	38.9	40.9	2 170	720	20	18	0.14

(1) Nominal current carrying capacity for rubber cables laid on a surface, at 30 °C ambient temperature (see also VDE 0298-4, Table 15).

CORDAFLEX ARCTIC 0.6/1 kV	
Global data	
Brand	CORDAFLEX (SMK)
Type designation	(N)SHTOEU-J
Standard	Based on DIN VDE 0250-814
Construction characteristics	
Conductor	Tinned electrolytic copper, very finely stranded class FS
Insulation	German made special HEPR (better than 3GI3) with improved mechanical and electrical characteristics
Core identification	Light coloured insulation with black numbers, earth conductor green-yellow
Inner sheath	High-grade special compound, based on CR/PCP (better than 5GM5). Cold resistant to - 50 °C
Torsion protection	Reinforced braid made of polyester threads, in a vulcanized bond between the sheaths
Outer sheath	High-grade special compound, based on CR/PCP (better than 5GM5). Abrasion- and tear-proof, cold resistant to - 50 °C
Outer sheath colour	Black
Mechanical characteristics	
Resistance to impact	Excellent
Abrasion resistance	Excellent
Cable flexibility	Excellent, also at very low temp.
Fixed bending radius	4 x D
Flexible bending radius	5 x D
Min. distance with S-type directional changes	20 x D
Max. tensile load on the conductor	Up to 30 N/mm²
Torsional stress	± 50 °/m
Travel speed - Gantry (reeling operation)	240 m/min
Additional tests	Reversed bending test, roller bending test, torsional stress test

CORDAFLEX ARCTIC 0.6/1 kV	
Usage characteristics	
Lead free	Yes
Chemical resistance	Temporary
Water proof	Yes
Oil resistance	Yes
Ozone resistance	Yes
UV resistance	Yes
Reaction to fire	IEC 60332-1-2
Weather resistance	Yes
Resistance to extreme cold-temperature	Yes
Thermal parameters	
Max. permissible temperature at conductor	90 °C
Max. short circuit temperature	250 °C
Ambient temp. in flex. application (min. – max.)	- 50 °C – + 80 °C
Ambient temp. in fixed installation (min. – max.)	- 55 °C – + 80 °C
Electrical parameters	
Rated voltage	0.6/1 kV (600/1000V)
Max. permissible operating voltage AC	0.7/1.2 kV
Max. permissible operating voltage DC	0.9/1.8 kV
AC test voltage	3 kV (5 min)

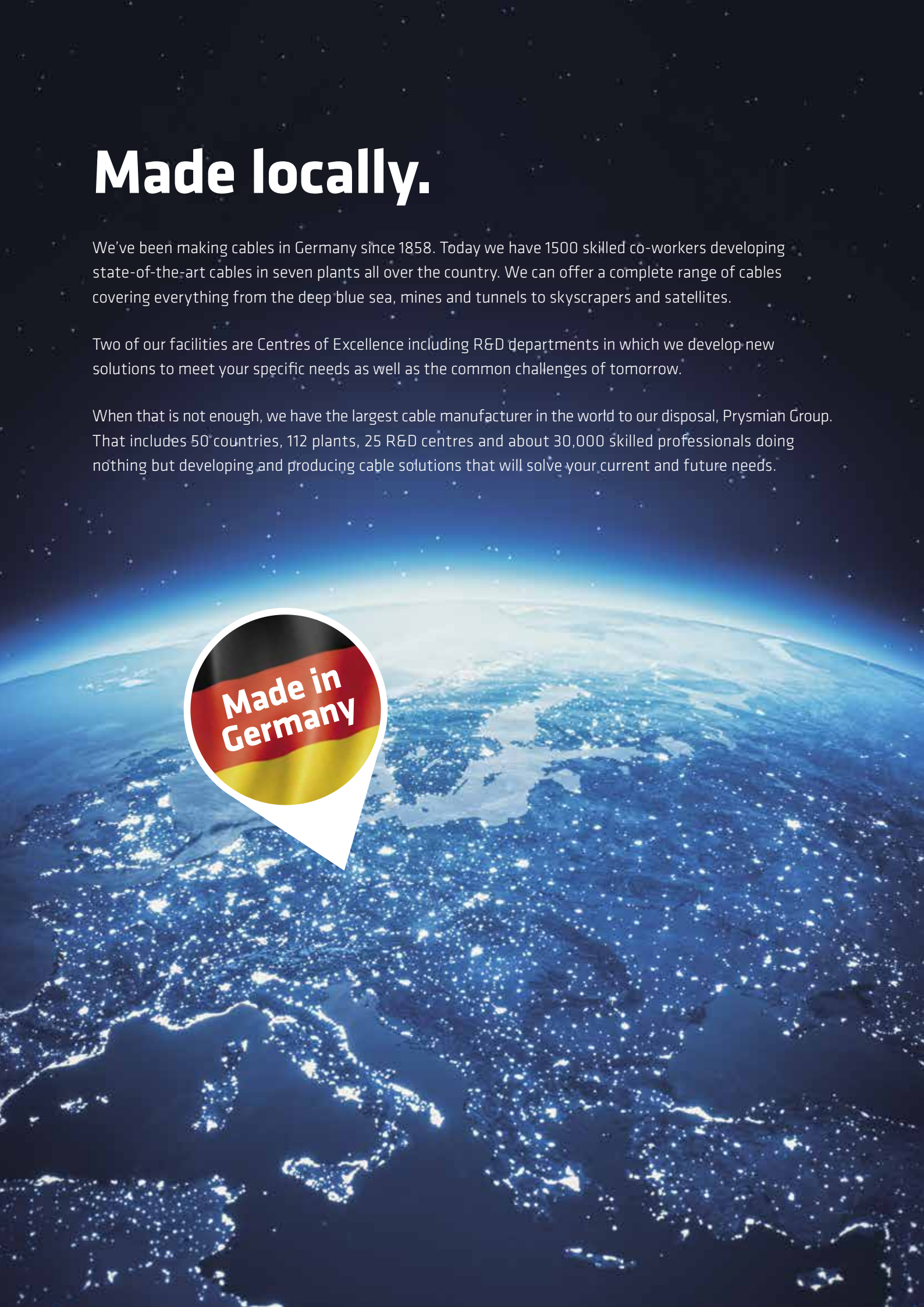
Please check our homepage: www.prysmiangroup.de for more details.

Made locally.

We've been making cables in Germany since 1858. Today we have 1500 skilled co-workers developing state-of-the-art cables in seven plants all over the country. We can offer a complete range of cables covering everything from the deep blue sea, mines and tunnels to skyscrapers and satellites.

Two of our facilities are Centres of Excellence including R&D departments in which we develop new solutions to meet your specific needs as well as the common challenges of tomorrow.

When that is not enough, we have the largest cable manufacturer in the world to our disposal, Prysmian Group. That includes 50 countries, 112 plants, 25 R&D centres and about 30,000 skilled professionals doing nothing but developing and producing cable solutions that will solve your current and future needs.



Prysmian Group

Linking the future

Prysmian Group

Prysmian Kabel und Systeme GmbH
Ph: +49 (0) 30 3675 40
E-mail: kontakt@prysmiangroup.com
www.prysmiangroup.de

PRYSMIAN
Draka
General Cable