

CORDAFLEX (SM)



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Portable reel cable • EP insulation, dual neoprene jacket with braid reinforcement, 90°C, 600 volts

Applications

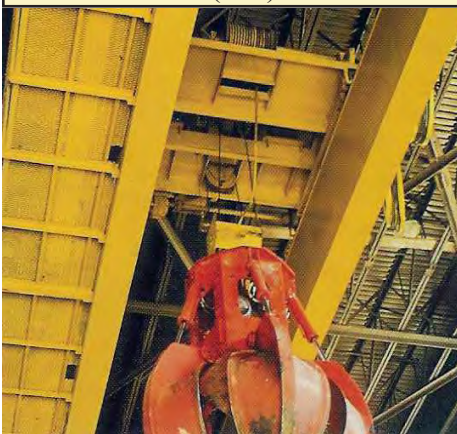
- Rack and pinion elevators using sheave guided cables
- Container crane spreader reels
- Timber crane grapple reels
- All tenders i.e. plow feeders, container cranes, steel mill cranes, ship loaders and un-loaders
- Magnet cranes
- Waste to energy cranes and grapple reels
- All electro hydraulic grapples and grabs
- Ladle transfer car reels
- Pendant stations
- Barge un-loader indexing reels
- Timber crane power supply reels
- AS/RS sheave guide equipment

Features

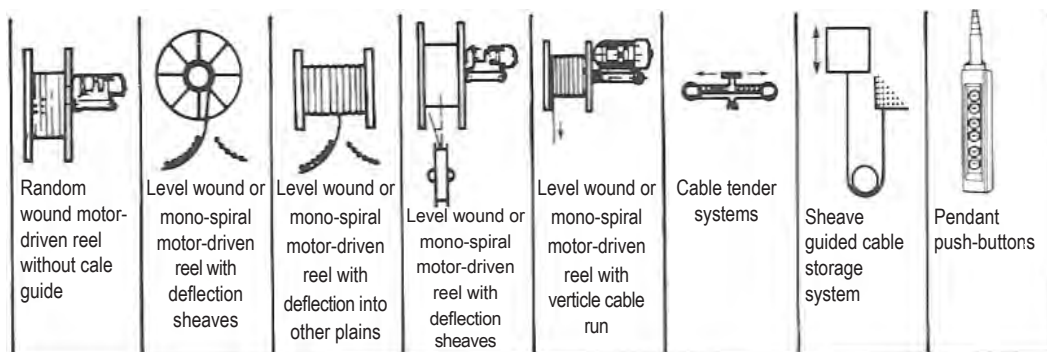
Benefits

Features & Benefits	Central messenger	Superior tensile force capabilities
	Extra finely stranded tin coated copper conductors with a short length of lay	High durability under constant flexing conditions Highly flexible conductor assembly
	PROTOLON EP insulation	Highly resistant to ozone
	Inner jacket locked construction of conductor assembly	Resistance to sheave induced corkscrewing Water blocked
	Extra heavy duty yellow neoprene double extruded jacket	Highly resistant to oil, flame, and high temperatures
	Reinforced RS version available	Improved vertical suspension performance
	Wide mesh textile braid reinforcement in a vulcanized bond	Provides high torsion resistance
	Good conductor geometry	Promotes long conductor life
	Large standard range with many sizes stocked	Readily available
	Metric sizes available	International jobs
	Composite cables with integrated optical fibers available (Please contact Pirelli)	Power and control/data transmission through one single cable No interference with control/data circuits
	Design exceeds NSHTÖU construction requirements specified in VDE 0250	Optimal operational performance

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APPROPRIATE APPLICATIONS



Electrical Parameters	Rated Voltage:	600 volts
	Maximum permissible operating voltage in three phase and single phase AC systems:	1200 volts
	Maximum permissible operating voltage in DC systems:	1800 volts
	AC factory test voltage:	2500 volts over 5 minutes
	Current carrying capacity:	See ampacity table

Thermal Parameters	Ambient Temperature:	
	Fully Flexible:	-25°C to 60°C
	Fixed Installation:	-45°C to 80°C
	Maximum permissible conductor temperature:	90°C

Mechanical Parameters	Maximum tensile load:	30 N/mm ²
	Torsional stresses at entries:	±25°/m
	Minimum bending radii:	See bending radii table
	Minimum distances with S-type directional changes:	20 x D
	Travel Speed:	No restriction
	Gantry (reeling operation)	Consult manufacture for reeling speeds above 600 feet/minute
	Trolley: (festoon and cable tender system)	Up to 800 feet/minute (cable tender system)
	Hoist: (vertical reeling) Additional tests	Up to 525 feet/minute Reverse bending test and roller bending test

Chemical Parameters	Resistance to:	UV & oil; Also see Properties of Materials chart
	Weather Resistance:	Unrestricted use outdoors and indoors, resistant to ozone and moisture

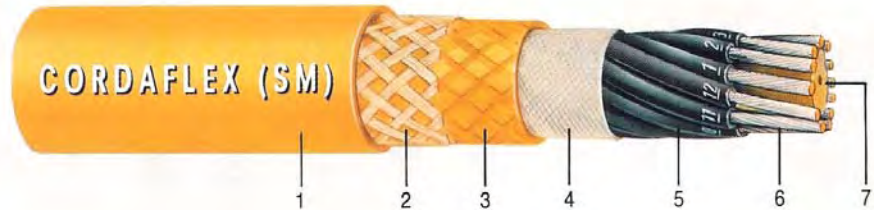
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Design Features	Conductor:	Electrolytic copper, tinned, very finely stranded, class "FS"
	Insulation:	PROTOLON, basic material EPR, rubber compound 3GI3
	Shield for individually shielded conductors and twisted and shielded pairs	Braid screen made of tinned copper wires, transfer impedance optimized at 30 MHz Surface covered: Approximately 60% for shielded conductors Approximately 80% for shielded pairs
	Conductor identification:	Up to 5 conductors: colored, green/yellow, black, blue, brown, black; Larger than 5 conductors: Black with white numbering
	Core arrangement:	Laid up in a maximum of 3 layers
	Support element:	Central support element for "RS" "(kN)" version ("kN" value = breaking load of the support element)
	Inner Sheath:	PROTOFIRM Basic Material: PCP Rubber compound: 5GM5 Color: yellow
	Outer Sheath:	PROTOFIRM Basic Material: PCP Rubber compound: 5GM5 Color: yellow
	Anti-torsion braid:	Strengthened braid made of polyester threads, in a vulcanized bond between the inner and outer sheath Surface covered: approximately 25%
	Marking:	600V 90°C CORDAFLEX (SM) (number of cores) (cross-section) OUTDOOR P-189-3-MSHA GERMANY, UL

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- 1 Neoprene outer jacket
- 2 High tenacity textile braid in vulcanized bond
- 3 Neoprene inner jacket
- 4 Binder tape
- 5 PROTOLOX EP insulation
- 6 Extra finely stranded tin coated copper conductors
- 7 EPDM center filler

**Control Cable****CORDAFLEX (SM) Control Cable - #16 AWG**

Distributor Part Number	Pirelli Part Number	Number of Control Conductors	Conductor Size		Approximate Number of Strands Per Conductor	Nominal Overall Diameter		Cable Weight		Maximum Continuous Safe Reeling Tension	
			AWG/MCM	mm ²		inch	mm	lbs/1000 ft	kg/km	lbs	Newtons
*4EC-1603-05	5DH3 446	3	#16	1.31	45	0.510	13.0	145	216	27	118
*4EC-1604-05	5DH3 608	4	#16	1.31	45	0.550	14.0	185	275	35	157
4EC-1607-05	5DH3 591	7	#16	1.31	45	0.750	19.1	325	484	62	275
4EC-1609-05	5DH3 593	9	#16	1.31	45	0.830	21.1	410	610	80	354
4EC-1612-05	5DH3 592	12	#16	1.31	45	1.000	25.4	580	863	106	472
4EC-1616-05	5DH3 598	16	#16	1.31	45	0.945	24.0	530	789	141	629
4EC-1620-05	5DH3 590	20	#16	1.31	45	1.025	26.0	550	818	177	786
4EC-1624-05	5DH3 594	24	#16	1.31	45	1.100	27.9	660	982	212	943
4EC-1630-05	5DH3 595	30	#16	1.31	45	1.300	33.0	1030	1533	265	1179
4EC-1636-05	5DH3 596	36	#16	1.31	45	1.280	32.5	1035	1540	318	1415
4EC-1644-05	5DH3 597	44	#16	1.31	45	1.480	37.6	1350	2009	389	1729
4EC-1654-05	5DH3 576	54	#16	1.31	45	1.715	43.6	1715	2552	477	2122

CORDAFLEX (SM) Control Cable - #14 AWG

*4EC-1403-05	5DH3 467	3	#14	2.08	71	0.550	14.0	180	268	42	187
*4EC-1404-05	5DH3 600	4	#14	2.08	71	0.610	15.5	185	275	56	250
4EC-1407-05	5DH3 581	7	#14	2.08	71	0.825	21.0	420	625	98	437
4EC-1409-05	5DH3 583	9	#14	2.08	71	0.965	24.5	560	833	126	562
4EC-1412-05	5DH3 582	12	#14	2.08	71	1.100	27.9	760	1131	168	749
4EC-1416-05	5DH3 588	16	#14	2.08	71	1.045	26.5	725	1079	224	998
4EC-1420-05	5DH3 580	20	#14	2.08	71	1.200	30.5	930	1384	281	1248
4EC-1424-05	5DH3 584	24	#14	2.08	71	1.300	33.0	1095	1629	337	1498
4EC-1430-05	5DH3 585	30	#14	2.08	71	1.520	38.6	1460	2172	421	1872
4EC-1436-05	5DH3 586	36	#14	2.08	71	1.495	38.0	1500	2232	505	2246
4EC-1444-05	5DH3 587	44	#14	2.08	71	1.710	43.4	1900	2827	617	2746
4EC-1454-05	5DH3 575	54	#14	2.08	71	1.870	47.5	2215	3296	757	3370

CORDAFLEX (SM) Control Cable - #12 AWG

*4EC-1203-05	5DH3 578	3	#12	3.31	72	0.610	15.5	245	365	67	298
*4EC-1204-05	5DH3 601	4	#12	3.31	72	0.710	18.0	330	491	89	397
4EC-1207-05	5DH3 561	7	#12	3.31	72	0.945	24.0	575	856	156	695
4EC-1209-05	5DH3 577	9	#12	3.31	72	1.065	27.1	745	1109	201	894
4EC-1212-05	5DH3 562	12	#12	3.31	72	1.300	33.0	1055	1570	268	1192
4EC-1216-05	5DH3 568	16	#12	3.31	72	1.220	31.0	1020	1518	357	1589
4EC-1220-05	5DH3 560	20	#12	3.31	72	1.360	34.5	1245	1853	446	1986
4EC-1224-05	5DH3 564	24	#12	3.31	72	1.520	38.6	1570	2336	536	2383
4EC-1230-05	5DH3 565	30	#12	3.31	72	1.750	44.5	2070	3080	670	2979
4EC-1236-05	5DH3 566	36	#12	3.31	72	1.730	43.9	2136	3178	804	3575
4EC-1244-05	5DH3 567	44	#12	3.31	72	1.930	49.0	2590	3854	982	4369
4EC-1254-05	5DH3 574	54	#12	3.31	72	2.205	56.0	3190	4747	1205	5362

CORDAFLEX (SM) Control Cable - #10 AWG

*4EC-1002-05	5DH3 610	2	#10	5.26	114	0.750	19.1	310	461	71	316
*4EC-1003-05	5DH3 620	3	#10	5.26	114	0.770	19.6	385	573	106	473
4EC-1004-05	5DH3 460	4	#10	5.26	114	0.835	21.2	465	692	142	631
4EC-1007-05	5DH3 626	7	#10	5.26	114	1.120	28.4	835	1242	248	1105
4EC-1009-05	5DH3 627	9	#10	5.26	114	1.300	33.0	1130	1681	319	1420
4EC-1012-05	5DH3 628	12	#10	5.26	114	1.590	40.4	1565	2329	426	1894

* Power cable, left conductor lay

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- 1 Neoprene outer jacket
- 2 High tenacity textile braid in vulcanized bond
- 3 Neoprene inner jacket
- 4 Binder tape
- 5 PROTON EP insulation
- 6 Separator tape
- 7 Extra finely stranded tin coated copper conductors
- 8 Heavy duty KEVLAR® messengers in shaped EPDM center filler

Reinforced Spreader (RS) Cable



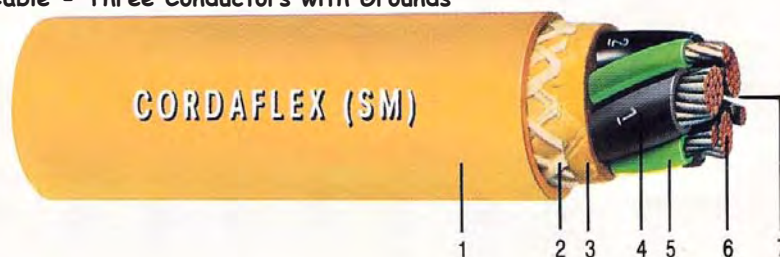
CORDAFLEX (SM) Reinforced Spreader (RS) Cable

Distributor Part Number	Pirelli Part Number	Number of Control Conductors	Conductor Size		Approximate Number of Strands Per Conductor	Nominal Overall Diameter		Cable Weight		Maximum Continuous Safe Reeling Tension	
			AWG/MCM	mm ²		inch	mm	lbs/ 1000 ft	kg/km	lbs	Newtons
4EC-1424RS-05	5DH3 617	24	#14	2.08	71	1.300	33.1	1095	1630	604	2700
4EC-1224RS-05	5DH3 414	24	#12	3.31	72	1.580	40.2	1500	2230	827	3700
* 4EC-1236-05K	5DH3 297	36	#12	3.31	72	1.740	44.2	2023	3010	1185	5270
4EC-1244RS-05	5DH3 494	44	#12	3.31	72	1.980	50.3	2446	3640	1365	6070

* SMK-RS; not UL listed at time of printing, please call Pirelli for information

- 1 Neoprene outer jacket
- 2 High tenacity textile braid in vulcanized bond
- 3 Neoprene inner jacket
- 4 PROTON EP insulation
- 5 Extra finely stranded tin coated copper conductors
- 6 EPDM center filler

Power Cable - Three Conductors with Grounds



CORDAFLEX (SM) Power Cable - Three Conductors with Grounds

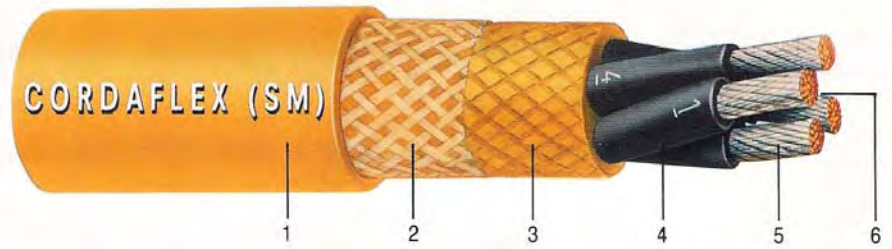
Distributor Part Number	Pirelli Part Number	Power Conductors				Ground Conductors				Nominal Overall Diameter		Cable Weight		Maximum Continuous Safe Reeling Tension	
		Number of Power Conductors	Conductor Size		Approximate Number of Strands Per Conductor	Number of Ground Conductors	Conductor Size		Approximate Number of Strands Per Conductor						
			AWG/MCM	mm²			AWG/MCM	mm²							
		inch	mm	1000 ft	kg/km	lbs	Newtons								
4EC-1013W/G3-05	5DH3 470	3	#1/0	53.48	589	3	#7	10.55	234	1.720	43.7	2399	3570	1082	4813
4EC-2023W/G3-05	5DH3 471	3	#2/0	67.43	743	3	#6	13.30	200	1.840	46.7	2943	4379	1364	6069
4EC-3033W/G3-05	5DH3 472	3	#3/0	85.03	759	3	#5	16.77	253	2.000	50.8	3575	5320	1720	7653
4EC-4043W/G3-05	5DH3 473	3	#4/0	107.2	953	3	#4	21.15	323	2.230	56.6	4455	6629	2169	9648
4EC-2503W/G3-05	5DH3 474	3	250 MCM	126.64	1124	3	#4	21.15	323	2.330	59.2	4972	7398	2562	11398
4EC-3503W/G3-05	5DH3 475	3	350 MCM	177.35	1568	3	#2	33.63	513	2.740	69.6	6975	10379	3588	15962
4EC-5003W/G3-05	5DH3 476	3	500 MCM	253.35	2253	3	#1	42.41	475	3.200	81.3	9589	14268	5126	22802

Pirelli - Toll Free: 800.777.FLEX (3539) 608.278.8570 608.278.8580 fax



CORDAFLEX (SM)

- 1 Neoprene outer jacket
- 2 High tenacity textile braid in vulcanized bond
- 3 Neoprene inner jacket
- 4 PROTON EP insulation
- 5 Extra finely stranded tin coated copper conductors
- 6 EPDM center filler

**Power Cable****CORDAFLEX (SM) Power Cable - #16 AWG**

Distributor Part Number	Pirelli Part Number	Number of Conductors	Conductor Size		Approximate Number of Strands Per Conductor	Nominal Overall Diameter		Cable Weight		Maximum Continuous Safe Reeling Tension	
			AWG/MCM	mm ²		inch	mm	lbs/ 1000 ft	kg/km	lbs	Newtons
4EC-1604-05	5DH3 608	4	#16	1.31	45	0.550	14.0	185	275	35	157

CORDAFLEX (SM) Power Cable - #14 AWG

4EC-1404-05	5DH3 600	4	#14	2.08	71	0.610	15.5	230	340	56	250
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CORDAFLEX (SM) Power Cable - #12 AWG

4EC-1203-05	5DH3 578	3	#12	3.31	72	0.610	15.5	245	365	67	298
4EC-1204-05	5DH3 601	4	#12	3.31	72	0.710	18.0	330	491	89	397

CORDAFLEX (SM) Power Cable - #10 AWG

4EC-1002-05	5DH3 610	2	#10	5.26	114	0.750	19.1	310	461	71	316
4EC-1003-05	5DH3 620	3	#10	5.26	114	0.770	19.6	385	573	106	473
4EC-1004-05	5DH3 460	4	#10	5.26	114	0.835	21.2	465	692	142	631

CORDAFLEX (SM) Power Cable - #8 AWG

4EC-0802-05	5DH3 611	2	#8	8.37	185	0.830	21.1	420	625	113	502
4EC-0803-05	5DH3 621	3	#8	8.37	185	0.885	22.5	525	781	169	753
4EC-0804-05	5DH3 461	4	#8	8.37	185	0.980	24.9	680	1012	226	1004

CORDAFLEX (SM) Power Cable - #6 AWG

4EC-0602-05	5DH3 612	2	#6	13.30	200	0.945	24.0	565	841	179	798
4EC-0603-05	5DH3 622	3	#6	13.30	200	1.005	25.5	725	1079	269	1197
4EC-0604-05	5DH3 462	4	#6	13.30	200	1.100	27.9	895	1332	359	1596
4EC-0606-05	5DH3 458	6	#6	13.30	200	1.420	36.1	1420	2113	538	2394

CORDAFLEX (SM) Power Cable - #4 AWG

4EC-0402-05	5DH3 613	2	#4	21.15	323	1.100	27.9	800	1190	285	1269
4EC-0403-05	5DH3 623	3	#4	21.15	323	1.200	30.5	1080	1607	428	1904
4EC-0404-05	5DH3 463	4	#4	21.15	323	1.320	33.5	1345	2001	571	2538

CORDAFLEX (SM) Power Cable - #2 AWG

4EC-0202-05	5DH3 614	2	#2	33.63	513	1.200	30.5	1130	1681	454	2018
4EC-0203-05	5DH3 624	3	#2	33.63	513	1.360	34.5	1480	2202	680	3027
4EC-0204-05	5DH3 464	4	#2	33.63	513	1.540	39.1	1950	2902	907	4036

CORDAFLEX (SM) Power Cable - #1 AWG

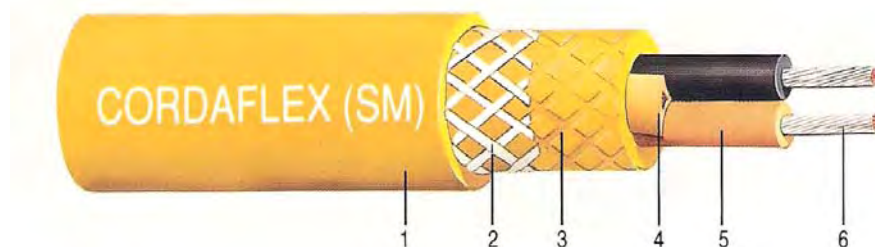
4EC-0104-05	5DH3 465	4	#1	42.41	475	1.770	45.0	2445	3638	1144	5089
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CORDAFLEX (SM)

- 1 Neoprene outer jacket
- 2 High tenacity textile braid in vulcanized bond
- 3 Neoprene inner jacket
- 4 Heavy duty KEVLAR® messengers in shaped EPDM filler pads
- 5 PROTON EP insulation
- 6 Extra finely stranded tin coated copper conductors



Magnet Crane Cable - Two Conductors



CORDAFLEX (SM) Magnet Crane Cable - Two Conductor

Distributor Part Number	Pirelli Part Number	Number of Conductors	Conductor Size		Approximate Number of Strands Per Conductor	Nominal Overall Diameter		Cable Weight		Maximum Continuous Safe Reeling Tension	
			AWG/MCM	mm²		inch	mm	lbs/ 1000 ft	kg/km	lbs	Newtons
4EC-1002-05	5DH3 610	2	#10	5.26	176	0.735	18.7	310	461	71	316
4EC-0802-05	5DH3 611	2	#8	8.37	280	0.835	21.2	420	625	113	502
4EC-0602-05	5DH3 612	2	#6	13.30	280	0.955	24.3	565	841	179	798
4EC-0402-05	5DH3 613	2	#4	21.15	451	1.095	27.8	800	1190	285	1269
4EC-0202-05	5DH3 614	2	#2	33.63	717	1.270	32.3	1130	1681	454	2018

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