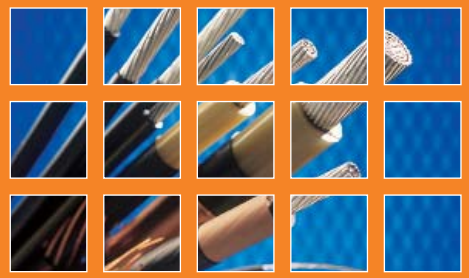
PRYSMIAN CABLES & SYSTEMS

5-35kV 3/C AIRGUARD™ CSA (alternate to MV Teck & CCW cables*)



2011.09.13

Description

Three conductor cable with stranded copper conductors, extruded insulation system consisting of a thermosetting semiconducting conductor shield, high dielectric strength EPROTENAX™ EPR insulation, thermosetting semiconducting insulation shield, helically applied bare copper tape shield, cabled with fillers and grounding conductors, overall binder tape, foamed polymeric layer for superior mechanical protection, longitudinally applied aluminum tape, extruded oil and hydrocarbon resistant polymeric layer, and overall, non-leaded sun resistant PVC jacket.

Specifications	Ratings
CSA C68.3	
	CSA C22.2 No. 230 FT4 & TC Rated
	Direct Buried
	Cold Impact/Bend Test (-40°C)
	Sunlight Resistant
	CSA C96.1 Type MP, MP-GC & FT-5
CSA C68.10	Future
ICEA T-29-520	
	210,000 Btu Flame Test
ICEA S-75-381	
	MSHA Type MP
IEEE 1202	

For 105°C continuous, 140°C emergency, 250°C short-circuit.

Design Parameters

Conductor

- Class B Compact concentric strand soft drawn annealed copper per ASTM.

Conductor Shield

- Extruded thermosetting semiconducting shield which is free stripping from the conductor and bonded to the insulation.

Insulation

- Natural high dielectric strength EPROTENAX™ EPR-based insulation, combined with other materials and agents that enhance the electrical and mechanical characteristics assuring extended cable life.

Insulation Shield

- Extruded thermosetting semiconducting shield with controlled adhesion to the insulation providing the required balance between electrical integrity and ease of stripping.

Metallic Shield

- Helically applied non-magnetic copper tape(s) over the insulation shield with a minimum overlap of 15%. A Mylar ribbon is longitudinally applied under the copper tape shield for phase identification - 1C w/ Red, 1C w/ Blue, and 1C w/ Black.

Grounding Conductors

- Bare stranded copper conductor, one in each interstice, per CSA and ASTM.

Assembly

- Phase identified conductors cabled with fillers and grounding conductors, forming a firm and cylindrical cable core. A binder tape is applied to maintain core symmetry and mechanical stability.

Mechanical Protection

- High strength and high crush resistant Air Bag™ Layer extruded over the core assembly

Chemical Protection

- A layer of Drylam™ which consists of aluminum tape and a chemical resistant extruded polymer layer is applied.

Jacket

- Sunlight resistant polyvinyl chloride, non-leaded (PVC) jacket.

*Mechanically stronger than Teck and CCW type cables.

Options

- Colored jackets
- CSA C22.2 No. 96.1 Type MP, MP-GC, FT-5

Installations

- Conduit in Air
- Direct Buried
- Underground Duct
- Isolated in Air
- In Cable Tray
- Wet Locations
- Dry Locations
- With Messenger
- Industrial
- -30°C Installation

Applications and Benefits

Prysmian's patented AIRGUARD™ cable is a replacement for continously corrugated and welded (CCW) armored cable with the benefit of improved impact performance (5X CCW) and improved sidewall bearing pressure of (**2X-3X CCW**). This enables the customer to pull the cable for longer distances than traditional metallic armored cable products. Airguard cables are also suitable for **installation in -30°C temperatures.** Please call to inquire about product litureature and cable testing performance videos.

Prysmian Power Cables and Systems
www.prysmianusa.com
www.prysmiancanada.com

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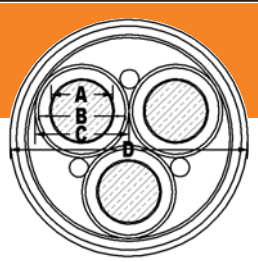
Canada: 137 Commerce Drive • R. R #3 • Prescott, Ontario K0E1T0
1-800-845-8507 (US) • 1-800-263-4405 (West-CAN) • 1-800-361-1418 (East-CAN)



5-35kV 3/C AIRGUARD™ CSA (Replacement for MV Teck & CCW* cables)

5-35kV
100% | 133%

Product Number	Conductor	Insulation Thickness (mils)	Ground Wires		Conductor Diameter (mm)	Insulation Diameter (mm)	Insulation Shield Diameter (mm)	Overall Jacket Diameter (mm)	Cable Weight (kg/km)	Minimum Bending Radius (mm)	†Ampacity (Amps)		†† Impedance (micro-ohms/m)	
			No.	Size	(A)	(B)	(C)	(D)			‡105°C In Duct	‡105°C In Air	Pos/Neg Seq	Zero Seq
5kV 133% 8kV 100% Copper Three Conductor														
QK2780A	4 AWG CU	115	3	13 AWG	5.46	12.47	14.15	41.66	1641	292	110	115	1109 + j148	4346 + j92
QK4780A	2 AWG CU	115	3	10 AWG	6.76	13.87	15.54	45.47	2089	319	145	154	695 + j138	3720 + j85
QK6780A	1 AWG CU	115	3	10 AWG	7.59	14.61	16.28	46.74	2544	328	165	180	554 + j131	3428 + j79
QK8780A	1/0 AWG CU	115	3	10 AWG	8.66	15.67	17.34	51.31	2872	360	190	205	440 + j128	3129 + j72
QK9780A	2/0 AWG CU	115	3	10 AWG	9.55	16.56	18.24	53.09	3222	372	220	240	348 + j121	2913 + j69
QKB780A	4/0 MCM CU	115	3	8 AWG	12.17	19.18	20.86	58.42	4261	409	285	320	220 + j115	2467 + j62
QKC780A	250 MCM CU	115	3	8 AWG	13.26	20.57	22.25	61.47	4904	431	315	355	187 + j112	2309 + j59
QKD780A	350 MCM CU	115	3	7 AWG	15.80	23.07	24.74	66.80	6117	468	380	440	134 + j105	2040 + j52
QKE780A	500 MCM CU	115	3	7 AWG	18.85	26.12	28.25	74.93	8140	525	460	545	95 + j102	1797 + j49
QKF780A	750 MCM CU	115	3	6 AWG	23.29	30.81	36.72	85.85	11432	601	570	685	66 + j98	1525 + j43
QKG780A	1000 MCM CU	115	3	5 AWG	27.20	34.72	36.85	93.73	14874	657	645	790	52 + j95	1355 + j43
15kV 133% Copper Three Conductor														
QN4780A	2 AWG CU	220	3	10 AWG	6.76	19.20	20.88	57.66	4468	404	160	185	695 + j161	2945 + j108
QN6780A	1 AWG CU	220	3	10 AWG	7.59	20.04	21.72	57.91	5201	406	185	210	554 + j151	2713 + j98
QN8780A	1/0 AWG CU	220	3	10 AWG	8.66	21.10	22.78	61.72	5458	433	210	240	440 + j144	2503 + j92
QN9780A	2/0 AWG CU	220	3	10 AWG	9.55	22.10	23.77	63.75	6076	447	235	275	351 + j141	2329 + j89
QNB780A	4/0 AWG CU	220	3	8 AWG	12.17	24.62	26.29	69.60	7860	488	305	360	220 + j131	2007 + j79
QNC780A	250 MCM CU	220	3	8 AWG	13.26	26.00	27.68	72.14	8723	505	335	400	187 + j128	1893 + j75
QND780A	350 MCM CU	220	3	7 AWG	15.80	28.50	30.64	80.26	11172	562	400	490	134 + j121	1699 + j69
QNE780A	500 MCM CU	220	3	7 AWG	18.85	31.55	33.68	86.87	14105	609	485	600	95 + j115	1519 + j62
QNF780A	750 MCM CU	220	3	6 AWG	23.29	34.51	38.37	96.77	19107	678	585	745	66 + j108	1315 + j56
QNG780A	1000 MCM CU	220	3	5 AWG	27.20	40.16	42.80	105.92	23945	742	660	860	52 + j105	1184 + j52

†Ampacities are based on the following:

Information Subject to Change without Notice.

PRODUCT NOTES:

▲ Items are Prysmian authorized stock.

The above dimensions are approximate and subject to normal manufacturing tolerances.

All metric (SI) dimensions are derived from a soft conversion.

Three Phase Operation

In Duct: Cable in underground electrical ducts; one cable per duct; based on ambient temperature of 20°C; NEC Table 310-79

Air: Cable isolated in air and an ambient temperature of 40°C; per NEC Table 310-71

In Cable Tray: Per NEC Article 318-13, for multi-conductor cables installed in a single layer in an uncovered cable tray, with maintained spacing of not less than one cable diameter between cables, the ampacities shall not exceed the allowable ampacities stated in Table 310-71 (Copper), "Isolated in Air" values noted above.

‡EPROTENAX™ EPR-insulated cables are capable of operating at 105°C. However, the maximum operating temperature of the cable should be based on the maximum operating temperature of the cable accessories to be used.

††Impedance based on 105°C operating temperature, shields short-circuited with no return in earth. At 90°C, the resistive portion of the impedances can be estimated at 96% of the values at 105°C, the reactive portions remain unchanged.

PRYSMIAN CABLES & SYSTEMS
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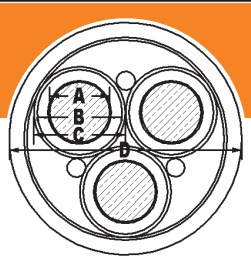

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			No.	Size	(A)	(B)	(C)	(D)			‡105°C In Duct	‡105°C In Air	Pos/Neg Seq	Zero Seq
25kV 133% Copper Three Conductor														
QQ6580A	1 AWG CU	320	3	10 AWG	7.59	25.27	26.95	70.87	6541	497	185	210	554 + j167	2263 + j115
QQ8580A	1/0 AWG CU	320	3	10 AWG	8.66	26.33	28.47	73.15	7159	513	210	240	440 + j161	2086 + j108
QQ9580A	2/0 AWG CU	320	3	10 AWG	9.55	27.23	29.36	76.45	7985	536	235	275	351 + j157	1948 + j105
QQB580A	4/0 AWG CU	320	3	8 AWG	12.17	29.85	31.98	83.81	10089	587	305	360	223 + j144	1692 + j92
QQC580A	250 AWG CU	320	3	8 AWG	13.26	31.24	33.37	87.63	11304	614	335	400	187 + j141	1604 + j89
QQD580A	350 MCM CU	320	3	7 AWG	15.80	33.74	35.87	91.44	13277	641	400	490	134 + j131	1453 + j79
QQE580A	500 MCM CU	320	3	7 AWG	18.85	36.78	38.92	98.04	16380	687	485	600	95 + j125	1312 + j72
QQF580A	750 MCM CU	320	3	6 AWG	23.29	41.47	44.12	108.71	21752	761	585	745	66 + j118	1155 + j66
QQG580A	1000 MCM CU	320	3	5 AWG	27.20	45.40	48.05	118.11	26784	827	660	860	52 + j112	1053 + j59
35kV 133% Copper Three Conductor														
QR8580A	1/0 AWG CU	420	3	10 AWG	8.66	31.67	33.80	86.11	9296	603	210	240	440 + j174	1840 + j121
QR9580A	2/0 AWG CU	420	3	10 AWG	9.55	32.55	34.70	88.90	10386	623	235	275	351 + j167	1706 + j115
QRB580A	4/0 AWG CU	420	3	8 AWG	12.17	35.18	37.32	93.73	12051	657	305	360	223 + j154	1489 + j102
QRC580A	250 MCM CU	420	3	8 AWG	13.26	36.53	38.66	96.01	13990	673	335	400	187 + j151	1417 + j98
QRD580A	350 MCM CU	420	3	7 AWG	15.80	39.07	41.71	102.11	16483	715	400	490	134 + j141	1286 + j89
QRE580A	500 MCM CU	420	3	7 AWG	18.85	42.12	44.72	109.22	18761	765	485	600	98 + j134	1168 + j82
QRF580A	750 MCM CU	420	3	6 AWG	23.29	46.82	49.72	120.14	24484	841	585	745	33 + j125	1036 + j72
QRG580A	1000 MCM CU	420	3	5 AWG	27.20	50.74	53.64	127.00	30723	889	660	860	52+ j121	951 + j69

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