A brand of the Prysmian Group

3/C AIRGUARD® CSA (Replacement for MV Teck & CCW* Cables)

Medium Voltage Commercial & Industrial Cables

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 & hydrocarbon resistant polymeric layer, and overall sun resistant PVC jacket.

Specifications	Ratings
CSA -CSA C68.10	Direct Buried Cold Impact/Bend Test (-40°C) Sunlight Resistant FT4
CSA - C22.2 No. 230	FT4 & TC Rated
CSA - C96.1	Type MP, MP-GC, FT-4 & FT-5
MSHA	Type MP and Type MP-GC
IEEE	IEEE 383 & 1202 Flame Test

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

Options

- Colored Jackets

Applications and Benefits
Prysmian's patented AIRGUARD® cable is a direct replacement for continuously corrugated and welded aluminum armored cables (*in Class 1 Div 2 locations) with 5X the impact performance and 2X-3X the sidewall bearing pressure limit (@ 3000 lbs per rad-ft) This enables longer pulls than with CCW type cables. Please call in regards to the product literature and performance testing & videos.

Design Parameters

CONDUCTOR: Class B Compact concentric strand aluminum alloy 1350 or 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 & 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 per UL, ICEA, and ASTM.

ASSEMBLY: Phase identified conductors cabled with fillers and a grounding conductor, 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 & a chemical resistant extruded polymer layer is applied.

JACKET: Sunlight & moisture resistant polyvinyl chloride (PVC) jacket.

*Mechanically stronger than Teck and CCW type cables.

Installation

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

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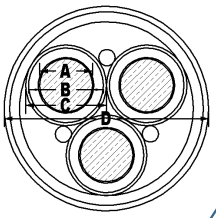

Product Number	Conductor	Insulation Thickness (mils)	Ground Wires		Conductor Diameter (mm)	Insulation Diameter (mm)	Insulation Shield Diameter (mm)	Overall Jacket Diameter (mm)	Cable Weight (kg/km)	Minimum Bending Radius (mm)	† Ampacity (Amps)		†† Impedance (micro-ohms/m)	
			No.	Size	(A)	(B)	(C)	(D)			‡105°C In Duct	‡105°C In Air/Tray	Pos/Neg Seq	Zero Seq
5kV 100% Copper Three Conductor														
308232A	2 AWG CU	90	3	10 AWG	6.76	12.50	13.92	41.68	2761	292	145	154	212 + j40	1223 + j24
QXU932A	1 AWG CU	90	3	10 AWG	7.59	13.34	14.76	43.48	3136	305	165	180	169 + j38	1125 + j22
QXU933A	1/0 AWG CU	90	3	10 AWG	8.66	14.40	15.82	47.98	3817	336	190	205	134 + j37	1028 + j20
QXR126A	2/0 AWG CU	90	3	10 AWG	9.55	15.34	16.81	50.11	4378	351	220	240	106 + j36	949 + j20
308360A	4/0 AWG CU	90	3	8 AWG	12.17	17.96	19.43	56.29	6054	395	285	320	67 + j33	799 + j17
308088A	250 MCM CU	90	3	8 AWG	13.26	19.25	20.73	58.57	6789	411	315	355	57 + j33	744 + j17
QXV917A	350 MCM CU	90	3	6 AWG	15.80	21.79	23.27	64.06	8779	449	380	440	41 + j31	654 + j15
QXV918A	500 MCM CU	90	3	5 AWG	18.85	24.84	26.26	70.54	11539	494	460	545	29 + j30	573 + j14

PRODUCT NOTES:

[S] Items are Prysmian authorized stock.

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

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†Ampacities are based on the following:

Three Phase Operation

In Duct: Cable in underground electrical ducts; one cable per duct; based on ambient temperature of 20°C; 2014 NEC Table 310.60(C)(79)

Air: Cable isolated in air and an ambient temperature of 40°C; per 2014 NEC Table 310.60(C)(71) and 392.80(B)(1)(b)

In Cable Tray: Per 2014 NEC Article 392.80(B)(1)(b), where 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 310.60(C)(71) (Copper).

‡EPROTENAX™ EPR-insulated cables are capable of operating at 105°C. However, the maximum operating temperature of the cable must consider 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. Return ONLY in copper tape shields.

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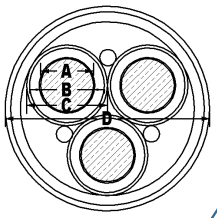

Product Number	Conductor	Insulation Thickness (mils)	Ground Wires		Conductor Diameter (mm)	Insulation Diameter (mm)	Insulation Shield Diameter (mm)	Overall Jacket Diameter (mm)	Cable Weight (kg/km)	Minimum Bending Radius (mm)	† Ampacity (Amps)		†† Impedance (micro-ohms/m)	
			No.	Size	(A)	(B)	(C)	(D)			‡105°C In Duct	‡105°C In Air/Tray	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	2442	292	125	135	1109 + j148	4346 + j92
QK4780A	2 AWG CU	115	3	10 AWG	6.76	13.87	15.54	45.47	3109	319	160	185	695 + j138	3720 + j85
QK6780A	1 AWG CU	115	3	10 AWG	7.59	14.61	16.28	46.74	3786	328	185	210	554 + j131	3428 + j79
QK8780A	1/0 AWG CU	115	3	10 AWG	8.66	15.67	17.34	51.31	4274	360	210	240	440 + j128	3129 + j72
QK9780A	2/0 AWG CU	115	3	10 AWG	9.55	16.56	18.24	53.09	4795	372	235	275	348 + j121	2913 + j69
QKB780A	4/0 MCM CU	115	3	8 AWG	12.17	19.18	20.86	58.42	6341	409	305	360	220 + j115	2467 + j62
QKC780A	250 MCM CU	115	3	8 AWG	13.26	20.57	22.25	61.47	7298	431	335	400	187 + j112	2309 + j59
QKD780A	350 MCM CU	115	3	7 AWG	15.80	23.07	24.74	66.80	9103	468	400	490	134 + j105	2040 + j52
QKE780A	500 MCM CU	115	3	7 AWG	18.85	26.12	28.25	74.93	12114	525	485	600	95 + j102	1797 + j49
QKF780A	750 MCM CU	115	3	6 AWG	23.29	30.81	36.72	85.85	17013	601	585	745	66 + j98	1525 + j43
QKG780A	1000 MCM CU	115	3	5 AWG	27.20	27.20	34.72	93.73	22135	657	660	860	52 + j95	1355 + j43
8kV 133% Copper Three Conductor														
QXM200A	2 AWG CU	140	3	10 AWG	6.76	15.04	16.46	49.35	3508	346	160	185	697 + j145	3489 + j92
QXM201A	1 AWG CU	140	3	10 AWG	7.59	15.88	17.30	51.16	3906	359	185	210	555 + j137	3217 + j84
QXM202A	1/0 AWG CU	140	3	10 AWG	8.66	16.94	18.36	53.47	4423	375	210	240	439 + j131	2952 + j78
QXM203A	2/0 AWG CU	140	3	10 AWG	9.55	17.88	19.35	55.60	5002	390	235	275	349 + j128	2737 + j75
QXM204A	3/0 AWG CU	140	3	8 AWG	10.74	19.08	20.55	58.19	5796	408	270	315	277 + j123	2531 + j70
QXM205A	4/0 AWG CU	140	3	8 AWG	12.17	20.50	21.97	61.26	6688	429	305	360	221 + j119	2333 + j66
QXM206A	250 MCM CU	140	3	8 AWG	13.26	21.79	23.27	64.06	7520	449	335	400	187 + j116	2183 + j63
QXM207A	350 MCM CU	140	3	7 AWG	15.80	24.33	25.81	69.55	9511	487	400	490	135 + j110	1939 + j57
QXM208A	500 MCM CU	140	3	7 AWG	18.85	27.38	28.80	77.29	12500	542	485	600	97 + j105	1718 + j52
QXM209A	750 MCM CU	140	3	6 AWG	23.29	32.03	33.45	88.65	17506	621	585	745	67 + j100	1467 + j47
QXM210A	1000 MCM CU	140	3	5 AWG	27.20	35.94	37.36	97.10	22036	680	660	860	53 + j96	1308 + j44

PRODUCT NOTES:

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†Ampacities are based on the following:

Three Phase Operation

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Air: Cable isolated in air and an ambient temperature of 40°C; per 2014 NEC Table 310.60(C)(71) and 392.80(B)(1)(b)

In Cable Tray: Per 2014 NEC Article 392.80(B)(1)(b), where 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 310.60(C)(71) (Copper).

‡EPROTENAX™ EPR-insulated cables are capable of operating at 105°C. However, the maximum operating temperature of the cable must consider 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. Return ONLY in copper tape shields.

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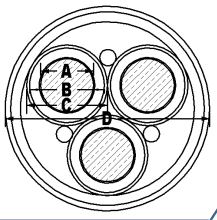

Product Number	Conductor	Insulation Thickness (mils)	Ground Wires	Conductor Diameter (mm)	Insulation Diameter (mm)	Insulation Shield Diameter (mm)	Overall Jacket Diameter (mm)	Cable Weight (kg/km)	Minimum Bending Radius (mm)	† Ampacity (Amps)		†† Impedance (micro-ohms/m)	
			No.	Size	(A)	(B)	(C)	(D)			‡105°C In Duct	‡105°C In Air/Tray	Pos/Neg Seq	Zero Seq
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 + j7
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

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Three Phase Operation

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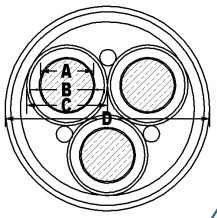

Product Number	Conductor	Insulation Thickness (mils)	Ground Wires		Conductor Diameter (mm)	Insulation Diameter (mm)	Insulation Shield Diameter (mm)	Overall Jacket Diameter (mm)	Cable Weight (kg/km)	Minimum Bending Radius (mm)	† Ampacity (Amps)		†† Impedance (micro-ohms/m)	
			No.	Size	(A)	(B)	(C)	(D)			‡105°C In Duct	‡105°C In Air/Tray	Pos/Neg Seq	Zero Seq
25kV 100% Copper Three Conductor														
QXU975A	500 MCM CU	245	3	7 AWG	18.85	32.97	34.39	90.68	14,820	635	485	600	93 + j118	1382 + j66
QXR208A	750 MCM CU	245	3	6 AWG	23.29	37.62	39.04	100.71	19,957	705	585	745	65 + j111	1204 + j59
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	7,159	513	210	240	440 + j161	2086 + j108
QQ9580A	2/0 AWG CU	320	3	10 AWG	9.55	27.23	29.36	76.45	7,985	536	235	275	351 + j157	1948 + j105
QQB580A	4/0 AWG CU	320	3	8 AWG	12.17	29.85	31.98	83.81	10,089	587	305	360	223 + j144	1692 + j92
QQC580A	250 AWG CU	320	3	8 AWG	13.26	31.24	33.37	87.63	11,304	614	335	400	187 + j141	1604 + j89
QQD580A	350 MCM CU	320	3	7 AWG	15.80	33.74	35.87	91.44	13,277	641	400	490	134 + j131	1453 + j79
QQE580A	500 MCM CU	320	3	7 AWG	18.85	36.78	38.92	98.04	16,380	687	485	600	95 + j125	1312 + j72
QQF580A	750 MCM CU	320	3	6 AWG	23.29	41.47	44.12	108.71	21,752	761	585	745	66 + j118	1155 + j66
QQG580A	1000 MCM CU	320	3	5 AWG	27.20	45.40	48.05	118.11	26,784	827	660	860	52 + j112	1053 + j59

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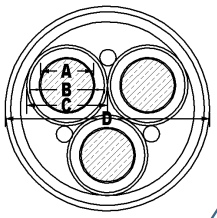

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			No.	Size	(A)	(B)	(C)	(D)			‡105°C In Duct	‡105°C In Air/Tray	Pos/Neg Seq	Zero Seq
35kV 133% Copper Three Conductor														
QR8580A	1/0 AWG CU	420	3	10 AWG	8.66	31.67	33.80	86.11	9296	603	210	240	440 + j174	1840 + j121
QR9580A	2/0 AWG CU	420	3	10 AWG	9.55	32.55	34.70	88.90	10,386	623	235	275	351 + j167	1706 + j115
QRB580A	4/0 AWG CU	420	3	8 AWG	12.17	35.18	37.32	93.73	12,051	657	305	360	223 + j154	1489 + j102
QRC580A	250 MCM CU	420	3	8 AWG	13.26	36.53	38.66	96.01	13,990	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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