Caledonian
www.caledonian-cables.co.uk

Caledonian Submersible Pump Cables for Oil Industry

- >> *IEEE 1018*
- >> *IEEE 1019*
- >> *API RP 11S5*

ADDISON
www.addison-cables.com

COMPANY PROFILE

Caledonian, established in 1978, offers one of the most complete lines of fiber and copper cabling system solutions with over hundreds of different cabling system products. Our superior products provide leading edge within every cable series and for every application.


ISO 9001
REGISTERED FIRM

Registration Certificate

This document certifies that the administration systems of

Caledonian Cables Limited/Addison Technology Limited

have been assessed and approved by QAS International to the following management systems, standards and guidelines:

ISO 9001 : 2008

The approved administration systems apply to the following:

The manufacture and supply of electrical cables and ancillary power equipment to customers internationally.

Original Approval 6th September 1997
Current Certificate 7th February 2011
Certificate Expiry 7th February 2012
Certificate Number 44211

On behalf of QAS International

Among the national and international standards with which our cables could comply are: BS - British Standard; LPCB Fire Performance Standard, ISO Standard etc. Caledonian Cables offers a comprehensive stock of cables and cabling products through its nationwide network of resellers and distributors. Caledonian Cables has continually expanded its global presence in Europe and Asia.

Caledonian & Addison, produces a wide range of cables for communication, power and electronics in its primary plants in UK, Italy and Spain. To stay in front, we continually keep expanding our manufacturing capabilities in more low cost region such as Romania, Taiwan, Malaysia etc. This low-cost manufacturing facilities enable us provide a flexible, scalable global system that delivers superior operational performance and optimal results for our customers.

Our extensive global network of manufacturing facilities gives us significant scale and the flexibility to fulfill our customer requirements. This global presence provides design and consultancy solutions that are combined with core cable manufacturing, logistic services, and vertically integrated with our E commerce technologies, to optimize customer operations by lowering costs and reducing time to market.

Caledonian & Addison has been respected for its high standards of quality, excellent service level, competitive pricing and a unique and innovative spirit. With our latest technologies, we are both inspired and well-positioned to meet the changing needs of our customers. We have the resources to diversify and to enhance our product lines and services. We understand the need for change and with our accurate planning, we are ready for the future and the promise of new marketing opportunities. Our tradition of growth through excellence is assured.

Our Design Centers work closely with customers to constantly improve its standard range of products and technologies and to develop customized, country and industry-specific solutions. Caledonian & Addison has established an extensive network of design, manufacturing, and logistics facilities in the world's major markets to serve the growing outsourcing needs of both multinational and regional customers.

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176℉/80℃ PP/HDPE Unarmored Round Electrical Submersible Pump Cable

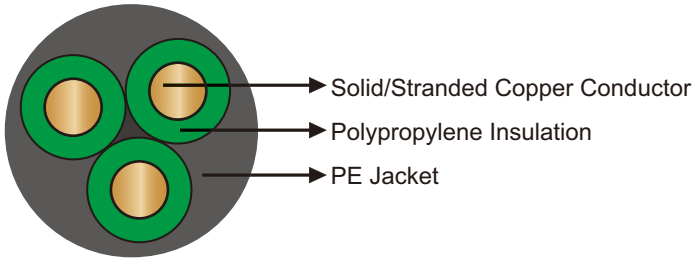
» Applications

These cables are designed for transmitting power to the submersible motor in the oil industry, suitable for installed down well in the oil industry.

» Standard

IEEE Std. 1019
API RP 11S5
API RP 11S6

» Construction



Conductor:

Solid/stranded copper conductor.

Insulation:

Polypropylene insulation.

Jacket:

Excellent abrasion resistance PE.

Round Cables

» Dimensions and Weight

3kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYPHY(U)-80-3kV-3G10S	-	10	0.14	3.556	0.075	1.9	0.98	24.9	518	771
QYPHY(U)-80-3kV-3G6	6	13.3	0.162	4.115	0.075	1.9	1.04	26.5	613	913
QYPHY(U)-80-3kV-3G16S	-	16	0.178	4.521	0.075	1.9	1.09	27.7	689	1025
QYPHY(U)-80-3kV-3G4	4	21.1	0.204	5.182	0.075	1.9	1.17	29.7	823	1225
QYPHY(U)-80-3kV-3G25S	-	25	0.222	5.639	0.075	1.9	1.22	31.1	924	1375
QYPHY(U)-80-3kV-3G2	2	33.6	0.258	6.553	0.075	1.9	1.33	33.8	1146	1705
QYPHY(U)-80-3kV-3G1	1	42.4	0.289	7.341	0.075	1.9	1.42	36.1	1358	2021
QYPHY(U)-80-3kV-3G1/0	1/0	53.5	0.368	9.347	0.075	1.9	1.66	42.1	1987	2958
QYPHY(U)-80-3kV-3G2/0	2/0	67.4	0.414	10.516	0.075	1.9	1.80	45.6	2413	3591

5kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYPHY(U)-80-5kV-3G10S	-	10	0.14	3.556	0.09	2.3	1.07	27.2	582	866
QYPHY(U)-80-5kV-3G6	6	13.3	0.162	4.115	0.09	2.3	1.14	28.9	681	1013
QYPHY(U)-80-5kV-3G16S	-	16	0.178	4.521	0.09	2.3	1.19	30.1	759	1129
QYPHY(U)-80-5kV-3G4	4	21.1	0.204	5.182	0.09	2.3	1.26	32.1	897	1335
QYPHY(U)-80-5kV-3G25S	-	25	0.222	5.639	0.09	2.3	1.32	33.4	1001	1489
QYPHY(U)-80-5kV-3G2	2	33.6	0.258	6.553	0.09	2.3	1.42	36.2	1228	1827
QYPHY(U)-80-5kV-3G1	1	42.4	0.289	7.341	0.09	2.3	1.52	38.5	1445	2150
QYPHY(U)-80-5kV-3G1/0	1/0	53.5	0.368	9.347	0.09	2.3	1.75	44.5	2087	3105
QYPHY(U)-80-5kV-3G2/0	2/0	67.4	0.414	10.516	0.09	2.3	1.89	47.9	2520	3749

176℉/80℃ PP/HDPE Round Electrical Submersible Pump Cable

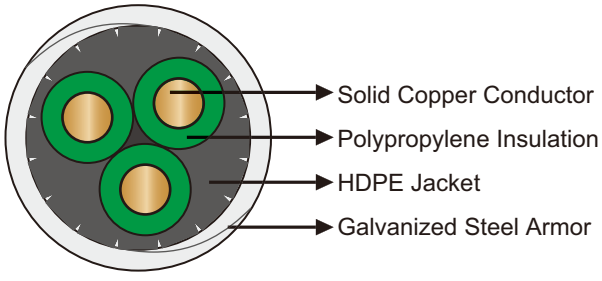
» Applications

These cables are designed for transmitting power to the submersible motor in the oil industry, suitable for installed down well in the oil industry.

» Standard

IEEE Std. 1019
API RP 11S5
API RP 11S6

» Construction



Conductor:

Solid bare copper conductor with poly adhesive layer.

Insulation:

Polypropylene insulation

Jacket:

Integral HDPE jacket.

Armor:

Galvanized steel armor.

Round Cables

» Dimensions and Weight

3kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYPHY-80-3kV-3G6	6	13.3	0.16	4.1	0.075	1.9	1.1	26.8	860	1280
QYPHY-80-3kV-3G4	4	21.1	0.20	5.1	0.075	1.9	1.1	29.1	1080	1607
QYPHY-80-3kV-3G2	2	33.5	0.26	6.6	0.075	1.9	1.3	32.6	1420	2113
QYPHY-80-3kV-3G1	1	42.4	0.29	7.4	0.075	1.9	1.3	33.8	1640	2440

4kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYPHY-80-4kV-3G6	6	13.3	0.16	4.1	0.08	2.1	1.1	27.7	900	1339
QYPHY-80-4kV-3G4	4	21.1	0.20	5.1	0.08	2.1	1.2	30.0	1120	1666
QYPHY-80-4kV-3G2	2	33.5	0.26	6.6	0.08	2.1	1.3	33.5	1460	2172
QYPHY-80-4kV-3G1	1	42.4	0.29	7.4	0.08	2.1	1.4	34.6	1680	2500

5kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/ft	kg/m
QYPHY-80-5kV-3G6	6	13.3	0.16	4.1	0.09	2.3	1.1	28.5	930	1384
QYPHY-80-5kV-3G4	4	21.1	0.20	5.1	0.09	2.3	1.2	30.9	1160	1726
QYPHY-80-5kV-3G2	2	33.5	0.26	6.6	0.09	2.3	1.4	34.3	1500	2232
QYPHY-80-5kV-3G1	1	42.4	0.29	7.4	0.09	2.3	1.4	35.5	1720	2559

Other conductor size can be offered upon request.

205℉/96℃ PP/NBR Round Electrical Submersible Pump Cable

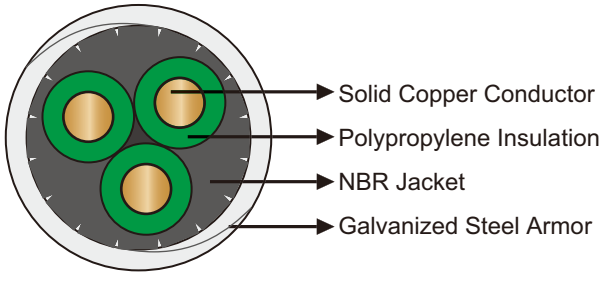
» Applications

These cables are designed for transmitting power to the submersible motor in the oil industry, suitable for installed down well in the oil industry.

» Standard

IEEE Std. 1019
API RP 11S5
API RP 11S6

» Construction



Conductor:

Solid/stranded copper conductor.

Insulation:

Polypropylene insulation.

Jacket:

Oil-resistant nitrile rubber.

Armor:

Galvanized steel.

Round Cables

» Dimensions and Weight

3kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYPNY-96-3kV-3G10S	-	10	0.14	3.556	0.075	1.9	1.03	26.1	724	1077
QYPNY-96-3kV-3G6	6	13.3	0.162	4.115	0.075	1.9	1.09	27.8	832	1238
QYPNY-96-3kV-3G16S	-	16	0.178	4.521	0.075	1.9	1.14	29.0	917	1364
QYPNY-96-3kV-3G4	4	21.1	0.204	5.182	0.075	1.9	1.22	31.0	1066	1587
QYPNY-96-3kV-3G25S	-	25	0.222	5.639	0.075	1.9	1.27	32.3	1178	1752
QYPNY-96-3kV-3G2	2	33.6	0.258	6.553	0.075	1.9	1.38	35.1	1420	2114
QYPNY-96-3kV-3G1	1	42.4	0.289	7.341	0.075	1.9	1.47	37.4	1651	2456
QYPNY-96-3kV-3G1/0	1/0	53.5	0.368	9.347	0.075	1.9	1.71	43.4	2326	3462
QYPNY-96-3kV-3G2/0	2/0	67.4	0.414	10.516	0.075	1.9	1.84	46.8	2779	4135

5kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYPNY-96-5kV-3G10S	-	10	0.14	3.556	0.09	2.3	1.12	28.5	806	1199
QYPNY-96-5kV-3G6	6	13.3	0.162	4.115	0.09	2.3	1.19	30.2	917	1365
QYPNY-96-5kV-3G16S	-	16	0.178	4.521	0.09	2.3	1.24	31.4	1005	1495
QYPNY-96-5kV-3G4	4	21.1	0.204	5.182	0.09	2.3	1.31	33.4	1158	1724
QYPNY-96-5kV-3G25S	-	25	0.222	5.639	0.09	2.3	1.37	34.7	1272	1894
QYPNY-96-5kV-3G2	2	33.6	0.258	6.553	0.09	2.3	1.47	37.4	1521	2263
QYPNY-96-5kV-3G1	1	42.4	0.289	7.341	0.09	2.3	1.57	39.8	1756	2613
QYPNY-96-5kV-3G1/0	1/0	53.5	0.368	9.347	0.09	2.3	1.80	45.7	2444	3637
QYPNY-96-5kV-3G2/0	2/0	67.4	0.414	10.516	0.09	2.3	1.94	49.2	2903	4321

284℉/140℃ EPDM/NBR Round Electrical Submersible Pump Cable

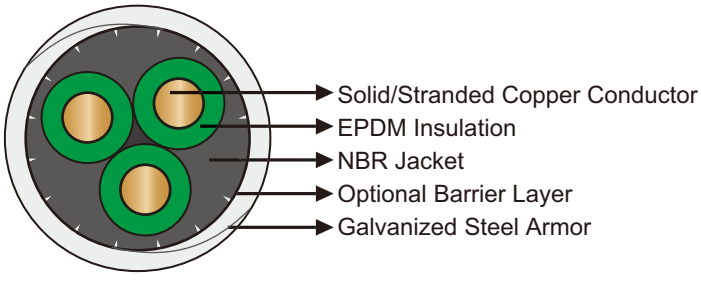
» Applications

These cables are designed for transmitting power to the submersible motor in the oil industry, suitable for installed down well in the oil industry.

» Standard

IEEE Std. 1018
API RP 11S5
API RP 11S6

» Construction



Conductor:

Solid/stranded copper conductor.

Insulation:

EPDM insulation.

Optional Barrier:

Tape, braid, tape and braid, or extruded barrier, used for fluid protection and hoop strength.

Jacket:

Oil-resistant nitrile rubber.

Armor:

Galvanized steel.

Round Cables

» Dimensions and Weight

3kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYENY-140-3kV-3G10S	-	10	0.14	3.556	0.075	1.9	1.03	26.1	661	983
QYENY-140-3kV-3G6	6	13.3	0.162	4.115	0.075	1.9	1.09	27.8	763	1135
QYENY-140-3kV-3G16S	-	16	0.178	4.521	0.075	1.9	1.14	29.0	843	1254
QYENY-140-3kV-3G4	4	21.1	0.204	5.182	0.075	1.9	1.22	31.0	985	1465
QYENY-140-3kV-3G25S	-	25	0.222	5.639	0.075	1.9	1.27	32.3	1091	1623
QYENY-140-3kV-3G2	2	33.6	0.258	6.553	0.075	1.9	1.38	35.1	1323	1969
QYENY-140-3kV-3G1	1	42.4	0.289	7.341	0.075	1.9	1.47	37.4	1544	2298
QYENY-140-3kV-3G1/0	1/0	53.5	0.368	9.347	0.075	1.9	1.71	43.4	2197	3269
QYENY-140-3kV-3G2/0	2/0	67.4	0.414	10.516	0.075	1.9	1.84	46.8	2635	3922

5kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYENY-140-5kV-3G10S	-	10	0.14	3.556	0.09	2.3	1.12	28.5	724	1077
QYENY-140-5kV-3G6	6	13.3	0.162	4.115	0.09	2.3	1.19	30.2	828	1232
QYENY-140-5kV-3G16S	-	16	0.178	4.521	0.09	2.3	1.24	31.4	910	1354
QYENY-140-5kV-3G4	4	21.1	0.204	5.182	0.09	2.3	1.31	33.4	1054	1568
QYENY-140-5kV-3G25S	-	25	0.222	5.639	0.09	2.3	1.37	34.7	1162	1729
QYENY-140-5kV-3G2	2	33.6	0.258	6.553	0.09	2.3	1.47	37.4	1397	2079
QYENY-140-5kV-3G1	1	42.4	0.289	7.341	0.09	2.3	1.57	39.8	1622	2413
QYENY-140-5kV-3G1/0	1/0	53.5	0.368	9.347	0.09	2.3	1.80	45.7	2281	3395
QYENY-140-5kV-3G2/0	2/0	67.4	0.414	10.516	0.09	2.3	1.94	49.2	2725	4055

400℉/204℃ EPDM/EPDM Round Electrical Submersible Pump Cable

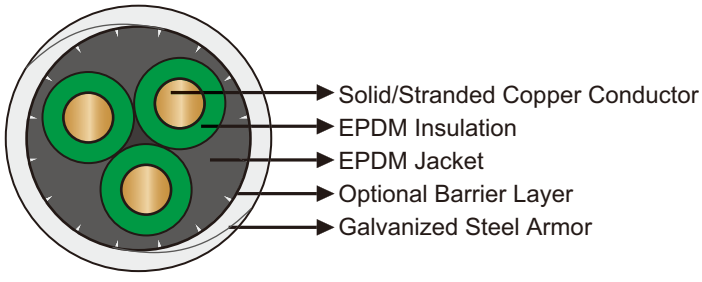
» Applications

These cables are designed for transmitting power to the submersible motor in the oil industry, suitable for installed down well in the oil industry.

» Standard

IEEE Std. 1018
API RP 11S5
API RP 11S6

» Construction



Conductor:

Solid/stranded copper conductor.

Insulation:

EPDM insulation.

Optional Barrier:

Tape, braid, tape and braid, or extruded barrier, used for fluid protection and hoop strength.

Jacket:

EPDM rubber.

Armor:

Galvanized steel.

Round Cables

» Dimensions and Weight

3kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYEEY-204-3kV-3G10S	-	10	0.14	3.556	0.075	1.9	1.03	26.1	694	1032
QYEEY-204-3kV-3G6	6	13.3	0.162	4.115	0.075	1.9	1.09	27.8	798	1187
QYEEY-204-3kV-3G16S	-	16	0.178	4.521	0.075	1.9	1.14	29.0	880	1309
QYEEY-204-3kV-3G4	4	21.1	0.204	5.182	0.075	1.9	1.22	31.0	1024	1524
QYEEY-204-3kV-3G25S	-	25	0.222	5.639	0.075	1.9	1.27	32.3	1132	1685
QYEEY-204-3kV-3G2	2	33.6	0.258	6.553	0.075	1.9	1.38	35.1	1368	2036
QYEEY-204-3kV-3G1	1	42.4	0.289	7.341	0.075	1.9	1.47	37.4	1593	2370
QYEEY-204-3kV-3G1/0	1/0	53.5	0.368	9.347	0.075	1.9	1.71	43.4	2254	3354
QYEEY-204-3kV-3G2/0	2/0	67.4	0.414	10.516	0.075	1.9	1.84	46.8	2697	4014

5kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYEEY-204-5kV-3G10S	-	10	0.14	3.556	0.09	2.3	1.12	28.5	760	1131
QYEEY-204-5kV-3G6	6	13.3	0.162	4.115	0.09	2.3	1.19	30.2	867	1290
QYEEY-204-5kV-3G16S	-	16	0.178	4.521	0.09	2.3	1.24	31.4	950	1414
QYEEY-204-5kV-3G4	4	21.1	0.204	5.182	0.09	2.3	1.31	33.4	1097	1632
QYEEY-204-5kV-3G25S	-	25	0.222	5.639	0.09	2.3	1.37	34.7	1207	1796
QYEEY-204-5kV-3G2	2	33.6	0.258	6.553	0.09	2.3	1.47	37.4	1446	2152
QYEEY-204-5kV-3G1	1	42.4	0.289	7.341	0.09	2.3	1.57	39.8	1674	2491
QYEEY-204-5kV-3G1/0	1/0	53.5	0.368	9.347	0.09	2.3	1.80	45.7	2342	3485
QYEEY-204-5kV-3G2/0	2/0	67.4	0.414	10.516	0.09	2.3	1.94	49.2	2790	4152

176℉/80℃ PP/HDPE Flat Electrical Submersible Pump Cable

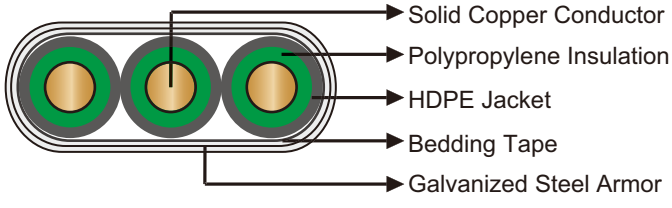
» Applications

These cables are designed for transmitting power to the submersible motor in the oil industry, suitable for installed down well in the oil industry.

» Standard

IEEE Std. 1019
API RP 11S5
API RP 11S6

» Construction



Conductor:

Solid bare copper conductor with poly adhesive layer.

Insulation:

Polypropylene insulation

Jacket:

HDPE jacket.

Tape:

Helicoidally applied bedding tape.

Armor:

Galvanized steel armor.

Flat Cables

» Dimensions and Weight

3kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYPH-80-3kV-3G6	6	13.3	0.16	4.1	0.075	1.9	1.5 x 0.6	39.2 x 14.4	850	1265
QYPH-80-3kV-3G4	4	21.1	0.20	5.1	0.075	1.9	1.7 x 0.6	42.4 x 15.5	1060	1577
QYPH-80-3kV-3G2	2	33.5	0.26	6.6	0.075	1.9	1.8 x 0.7	46.5 x 16.9	1360	2023
QYPH-80-3kV-3G1	1	42.4	0.29	7.4	0.075	1.9	1.9 x 0.7	48.9 x 17.7	1560	2321

4kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYPH-80-4kV-3G6	6	13.3	0.16	4.1	0.08	2.1	1.6 x 0.6	40.4 x 14.8	880	1309
QYPH-80-4kV-3G4	4	21.1	0.20	5.1	0.08	2.1	1.7 x 0.6	43.6 x 15.9	1090	1622
QYPH-80-4kV-3G2	2	33.5	0.26	6.6	0.08	2.1	1.9 x 0.7	47.7 x 17.3	1390	2068
QYPH-80-4kV-3G1	1	42.4	0.29	7.4	0.08	2.1	2.0 x 0.7	50.1 x 18.1	1590	2366

5kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYPH-80-5kV-3G6	6	13.3	0.16	4.1	0.09	2.3	1.6 x 0.6	41.6 x 15.2	910	1354
QYPH-80-5kV-3G4	4	21.1	0.20	5.1	0.09	2.3	1.8 x 0.6	44.8 x 16.3	1120	1666
QYPH-80-5kV-3G2	2	33.5	0.26	6.6	0.09	2.3	1.9 x 0.7	48.9 x 17.7	1420	2113
QYPH-80-5kV-3G1	1	42.4	0.29	7.4	0.09	2.3	2.0 x 0.7	51.3 x 18.5	1620	2410

Other conductor size can be offered upon request.

205℉/96℃ PP/NBR Flat Electrical Submersible Pump Cable

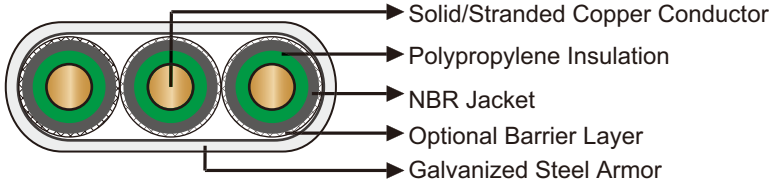
» Applications

These cables are designed for transmitting power to the submersible motor in the oil industry, suitable for installed down well in the oil industry.

» Standard

IEEE Std. 1019
API RP 11S5
API RP 11S6

» Construction



Conductor:

Solid/stranded copper conductor.

Insulation:

Polypropylene insulation.

Jacket:

Oil-resistant nitrile rubber. Each insulated conductor should be individually jacketed or three conductors laid parallel within a common encapsulated jacket.

Optional Barrier:

Tape, braid, tape and braid, or extruded barrier, used for fluid protection and hoop strength.

Armor:

Galvanized steel.

Flat Cables

» Dimensions and Weight

3kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYPN-96-3kV-3G10S	-	10	0.14	3.556	0.075	1.9	1.59×0.56	40.5×14.2	840	1249
QYPN-96-3kV-3G6	6	13.3	0.162	4.115	0.075	1.9	1.68×0.59	42.8×14.9	952	1416
QYPN-96-3kV-3G16S	-	16	0.178	4.521	0.075	1.9	1.75×0.61	44.5×15.5	1040	1547
QYPN-96-3kV-3G4	4	21.1	0.204	5.182	0.075	1.9	1.86×0.65	47.2×16.4	1194	1776
QYPN-96-3kV-3G25S	-	25	0.222	5.639	0.075	1.9	1.93×0.67	49.1×17.0	1308	1947
QYPN-96-3kV-3G2	2	33.6	0.258	6.553	0.075	1.9	2.08×0.72	52.9×18.3	1557	2318
QYPN-96-3kV-3G1	1	42.4	0.289	7.341	0.075	1.9	2.21×0.76	56.1×19.4	1793	2669
QYPN-96-3kV-3G1/0	1/0	53.5	0.368	9.347	0.075	1.9	2.54×0.87	64.4×22.2	2483	3695
QYPN-96-3kV-3G2/0	2/0	67.4	0.414	10.516	0.075	1.9	2.73×0.94	69.3×23.8	2944	4381

5kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/ kft	kg/ km
QYPN-96-5kV-3G10S	-	10	0.14	3.556	0.09	2.3	1.72×0.60	43.8×15.3	927	1380
QYPN-96-5kV-3G6	6	13.3	0.162	4.115	0.09	2.3	1.81×0.63	46.1×16.0	1043	1552
QYPN-96-5kV-3G16S	-	16	0.178	4.521	0.09	2.3	1.88×0.65	47.8×16.6	1133	1686
QYPN-96-5kV-3G4	4	21.1	0.204	5.182	0.09	2.3	1.99×0.69	50.5×17.5	1291	1922
QYPN-96-5kV-3G25S	-	25	0.222	5.639	0.09	2.3	2.06×0.71	52.4×18.1	1409	2096
QYPN-96-5kV-3G2	2	33.6	0.258	6.553	0.09	2.3	2.21×0.76	56.2×19.4	1663	2475
QYPN-96-5kV-3G1	1	42.4	0.289	7.341	0.09	2.3	2.34×0.81	59.5×20.5	1904	2834
QYPN-96-5kV-3G1/0	1/0	53.5	0.368	9.347	0.09	2.3	2.67×0.92	67.8×23.3	2606	3878
QYPN-96-5kV-3G2/0	2/0	67.4	0.414	10.516	0.09	2.3	2.86×0.98	72.6×24.9	3074	4575

250℉/121℃ PP/LEAD Flat Electrical Submersible Pump Cable

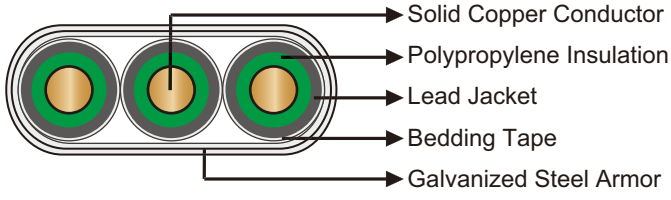
» Application

These cables are designed for transmitting power to the submersible motor in the oil industry, suitable for installed down well in the oil industry.

» Standard

IEEE Std. 1019
API RP 11S5
API RP 11S6

» Construction



Conductor:

Solid bare copper conductor.

Insulation:

Polypropylene insulation with a metal deactivator and a poly adhesive layer to the conductor.

Jacket:

Lead jacket.

Tape:

Longitudinally applied, rubber backed, fabric bedding tap.

Armor:

Galvanized steel tape.

Flat Cables

» Dimensions and Weight

5kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYPQ-121-5kV-3G4	4	21.1	0.20	5.2	0.09	2.3	1.60 x 0.62	40.6 x 15.7	1700	2529
QYPQ-121-5kV-3G2	2	33.6	0.26	6.6	0.09	2.3	1.76 x 0.67	44.7 x 17.0	2100	3124
QYPQ-121-5kV-3G1	1	42.4	0.29	7.4	0.09	2.3	1.85 x 0.70	47.0 x 17.8	2400	3571

Other conductor size can be offered upon request.

250℉/121℃ EPDM/NBR Flat Electrical Submersible Pump Cable

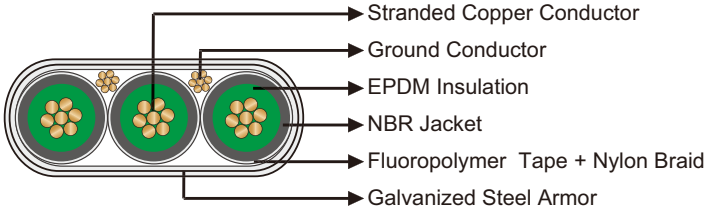
» Application

These cables are designed for installed down well in the oil industry.

» Standard

IEEE Std. 1018
API RP 11S5
API RP 11S6

» Construction



Conductor: Stranded bare copper (7/3.503) with water & gas blocking compound adhesive in the outer layer.

Insulation: EPDM insulation.

Jacket: NBR jacket.

Tape: Fluoropolymer tape.

Braid: Nylon braid.

Ground Conductor: Stranded bare copper (7/1.4mm), 2x7AWG (4AWG).

Armor: Interlocked galvanized steel.

» Dimensions and Weight

5kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYEN-121-5kV-3G2/0	2/0	67.4	0.41	10.47	0.09	2.3	2.40x0.85	61.0 x 21.7	2734	4070

Other conductor size can be offered upon request.

284℉/140℃ EPDM/NBR Flat Electrical Submersible Pump Cable

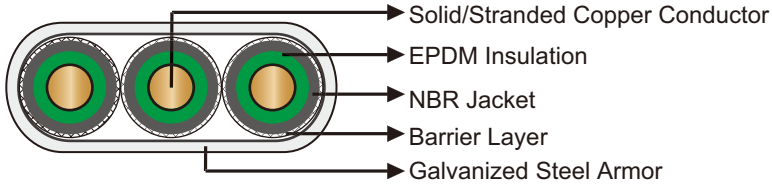
» Applications

These cables are designed for transmitting power to the submersible motor in the oil industry, suitable for installed down well in the oil industry.

» Standard

IEEE Std. 1018
API RP 11S5
API RP 11S6

» Construction



Conductor:

Solid/stranded copper conductor.

Insulation:

EPDM insulation.

Jacket:

Oil-resistant nitrile rubber. Each insulated conductor should be individually jacketed or three conductors laid parallel within a common encapsulated jacket.

Barrier:

Barrier tape and braid, used for fluid protection and hoop strength.

Armor:

Galvanized steel.

Flat Cables

» Dimensions and Weight

3kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYEN-140-3kV-3G10S	-	10	0.14	3.556	0.075	1.9	1.55×0.54	39.3×13.8	751	1118
QYEN-140-3kV-3G6	6	13.3	0.162	4.115	0.075	1.9	1.64×0.57	41.6×14.5	856	1274
QYEN-140-3kV-3G16S	-	16	0.178	4.521	0.075	1.9	1.70×0.59	43.3×15.1	939	1397
QYEN-140-3kV-3G4	4	21.1	0.204	5.182	0.075	1.9	1.81×0.63	46.0×16.0	1084	1613
QYEN-140-3kV-3G25S	-	25	0.222	5.639	0.075	1.9	1.89×0.66	47.9×16.6	1193	1775
QYEN-140-3kV-3G2	2	33.6	0.258	6.553	0.075	1.9	2.03×0.71	51.7×17.9	1430	2128
QYEN-140-3kV-3G1	1	42.4	0.289	7.341	0.075	1.9	2.16×0.75	54.9×19.0	1656	2464
QYEN-140-3kV-3G1/0	1/0	53.5	0.368	9.347	0.075	1.9	2.49×0.86	63.2×21.8	2319	3451
QYEN-140-3kV-3G2/0	2/0	67.4	0.414	10.516	0.075	1.9	2.68×0.92	68.1×23.4	2764	4114

5kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYEN-140-5kV-3G10S	-	10	0.14	3.556	0.09	2.3	1.68×0.59	42.6×14.9	819	1219
QYEN-140-5kV-3G6	6	13.3	0.162	4.115	0.09	2.3	1.77×0.62	44.9×15.6	926	1378
QYEN-140-5kV-3G16S	-	16	0.178	4.521	0.09	2.3	1.83×0.64	46.6×16.2	1010	1503
QYEN-140-5kV-3G4	4	21.1	0.204	5.182	0.09	2.3	1.94×0.67	49.3×17.1	1158	1723
QYEN-140-5kV-3G25S	-	25	0.222	5.639	0.09	2.3	2.02×0.70	51.2×17.7	1268	1887
QYEN-140-5kV-3G2	2	33.6	0.258	6.553	0.09	2.3	2.17×0.75	55.0×19.0	1509	2245
QYEN-140-5kV-3G1	1	42.4	0.289	7.341	0.09	2.3	2.29×0.79	58.3×20.1	1737	2585
QYEN-140-5kV-3G1/0	1/0	53.5	0.368	9.347	0.09	2.3	2.62×0.90	66.6×22.9	2408	3584
QYEN-140-5kV-3G2/0	2/0	67.4	0.414	10.516	0.09	2.3	2.81×0.96	71.4×24.5	2858	4253

400℉/204℃ EPDM/EPDM Flat Electrical Submersible Pump Cable

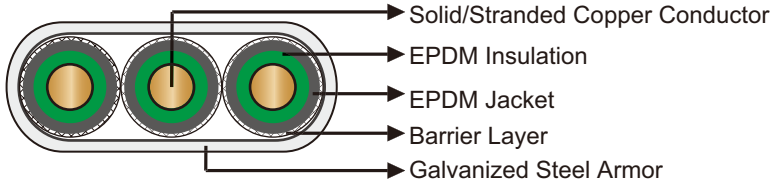
» Applications

These cables are designed for transmitting power to the submersible motor in the oil industry, suitable for installed down well in the oil industry.

» Standard

IEEE Std. 1018
API RP 11S5
API RP 11S6

» Construction



Conductor:

Solid/stranded copper conductor.

Insulation:

EPDM insulation.

Jacket:

EPDM rubber. Each insulated conductor should be individually jacketed or three conductors laid parallel within a common encapsulated jacket.

Barrier:

Barrier tape and braid, used for fluid protection and hoop strength.

Armor:

Galvanized steel.

Flat Cables

» Dimensions and Weight

3kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYEE-204-3kV-3G10S	-	10	0.14	3.556	0.075	1.9	1.55×0.54	39.3×13.8	793	1180
QYEE-204-3kV-3G6	6	13.3	0.162	4.115	0.075	1.9	1.64×0.57	41.6×14.5	901	1341
QYEE-204-3kV-3G16S	-	16	0.178	4.521	0.075	1.9	1.70×0.59	43.3×15.1	985	1466
QYEE-204-3kV-3G4	4	21.1	0.204	5.182	0.075	1.9	1.81×0.63	46.0×16.0	1134	1688
QYEE-204-3kV-3G25S	-	25	0.222	5.639	0.075	1.9	1.89×0.66	47.9×16.6	1245	1853
QYEE-204-3kV-3G2	2	33.6	0.258	6.553	0.075	1.9	2.03×0.71	51.7×17.9	1487	2213
QYEE-204-3kV-3G1	1	42.4	0.289	7.341	0.075	1.9	2.16×0.75	54.9×19.0	1717	2555
QYEE-204-3kV-3G1/0	1/0	53.5	0.368	9.347	0.075	1.9	2.49×0.86	63.2×21.8	2390	3557
QYEE-204-3kV-3G2/0	2/0	67.4	0.414	10.516	0.075	1.9	2.68×0.92	68.1×23.4	2841	4229

5kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYEE-204-5kV-3G10S	-	10	0.14	3.556	0.09	2.3	1.68×0.59	42.6×14.9	865	1287
QYEE-204-5kV-3G6	6	13.3	0.162	4.115	0.09	2.3	1.77×0.62	44.9×15.6	975	1451
QYEE-204-5kV-3G16S	-	16	0.178	4.521	0.09	2.3	1.83×0.64	46.6×16.2	1061	1579
QYEE-204-5kV-3G4	4	21.1	0.204	5.182	0.09	2.3	1.94×0.67	49.3×17.1	1212	1804
QYEE-204-5kV-3G25S	-	25	0.222	5.639	0.09	2.3	2.02×0.70	51.2×17.7	1325	1971
QYEE-204-5kV-3G2	2	33.6	0.258	6.553	0.09	2.3	2.17×0.75	55.0×19.0	1570	2336
QYEE-204-5kV-3G1	1	42.4	0.289	7.341	0.09	2.3	2.29×0.79	58.3×20.1	1802	2682
QYEE-204-5kV-3G1/0	1/0	53.5	0.368	9.347	0.09	2.3	2.62×0.90	66.6×22.9	2483	3696
QYEE-204-5kV-3G2/0	2/0	67.4	0.414	10.516	0.09	2.3	2.81×0.96	71.4×24.5	2939	4374

400℉/204℃ EPDM/LEAD Flat Electrical Submersible Pump Cable

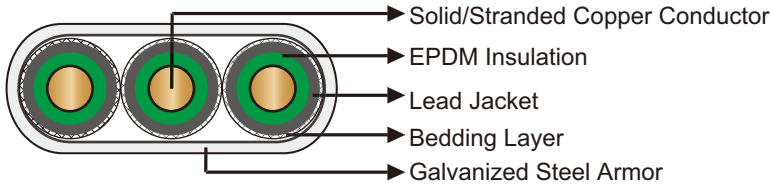
» Applications

These cables are designed for transmitting power to the submersible motor in the oil industry, suitable for installed down well in the oil industry.

» Standard

IEEE Std. 1018
API RP 11S5
API RP 11S6

» Construction



Conductor:

Solid/stranded copper conductor.

Insulation:

EPDM insulation.

Jacket:

Lead jacket. Each insulated conductor should have a lead sheath extruded over the insulation.

Bedding Layer:

Bedding tape or braid.

Armor:

Galvanized steel.

Flat Cables

» Dimensions and Weight

5kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYEQ-204-5kV-3G10S	-	10	0.14	3.556	0.075	1.9	1.48×0.52	37.5×13.2	1461	2175
QYEQ-204-5kV-3G6	6	13.3	0.162	4.115	0.075	1.9	1.57×0.55	39.8×13.9	1617	2406
QYEQ-204-5kV-3G16S	-	16	0.178	4.521	0.075	1.9	1.63×0.57	41.5×14.5	1736	2583
QYEQ-204-5kV-3G4	4	21.1	0.204	5.182	0.075	1.9	1.74×0.61	44.2×15.4	1941	2888
QYEQ-204-5kV-3G25S	-	25	0.222	5.639	0.075	1.9	1.81×0.63	46.1×16.0	2091	3111
QYEQ-204-5kV-3G2	2	33.6	0.258	6.553	0.075	1.9	1.96×0.68	49.9×17.3	2410	3587
QYEQ-204-5kV-3G1	1	42.4	0.289	7.341	0.075	1.9	2.09×0.72	53.1×18.4	2707	4029
QYEQ-204-5kV-3G1/0	1/0	53.5	0.368	9.347	0.075	1.9	2.42×0.83	61.4×21.2	3552	5285
QYEQ-204-5kV-3G2/0	2/0	67.4	0.414	10.516	0.075	1.9	2.61×0.90	66.3×22.8	4103	6105

450℉/232℃ EPDM/LEAD Flat Electrical Submersible Pump Cable

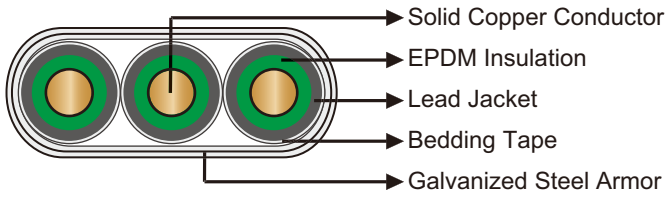
» Application

These cables are designed for transmitting power to the submersible motor in the oil industry, suitable for installed down well in the oil industry.

» Standard

IEEE Std. 1018
API RP 11S5
API RP 11S6

» Construction



Conductor: Solid bare copper conductor.
Insulation: EPDM insulation with a poly adhesive layer to the conductor.
Jacket: Lead jacket.
Tape: Longitudinally applied, rubber backed, fabric bedding tap.
Armor: Galvanized steel tape.

» Dimensions and Weight

5kV

Cable Type	Conductor Size		Conductor O.D.		Insulation Thickness		Overall O.D.		Weight	
	AWG	mm²	inches	mm	Inches	mm	Inches	mm	lbs/kft	kg/km
QYEQ-232-5kV-3G4	4	21.1	0.20	5.2	0.08	2.0	1.47 x 0.59	37.3 x 15.1	1478	2200
QYEQ-232-5kV-3G2	2	33.6	0.26	6.6	0.08	2.0	1.63 x 0.64	41.4 x 16.3	1882	2800
QYEQ-232-5kV-3G1	1	42.4	0.29	7.4	0.08	2.0	1.73 x 0.67	43.9 x 17.0	2083	3100

Other conductor size can be offered upon request.

Material Options

» Conductor (tinned or untinned)

- AWG / Solid conductor
- AWG / Stranded conductor
- Compacted strand conductor

» Insulation

- Polypropylene
- Ethylene propylene diene (EPDM)

» Barrier (optional)

- Extruded fluoropolymers
- Wrapped tapes
- Tape and woven braid

» Jacket

- High density polyethylene (HDPE)
- Ethylene propylene diene (EPDM)
- Nitrile
- Polypropylene

» Armor

- Galvanized steel (one or two layers)
- Heavy galvanized steel
- Stainless steel
- Double galvanized steel (two layers)

Conductor Characteristics

Conductor Size	Conductor Area	Nominal Diameter of Conductor (mm)			Conductor Resistance (ohms/km @ 25 °C)	
	mm²	Solid	Stranded 7 wire	Compact 7 wire	Plain Copper	Tinned Copper
10mm²	10.0	3.57	—	—	1.87	1.88
6 AWG	13.3	4.11	—	—	1.32	1.36
16mm²	16.0	4.48	—	—	1.17	1.18
4 AWG	21.1	5.19	—	—	0.830	0.856
4 AWG	21.1	—	5.89	5.41	0.846	0.882
25mm²	25.0	5.64	—	—	0.742	0.749
2 AWG	33.6	6.54	—	—	0.522	0.538
2 AWG	33.6	—	7.42	6.81	0.531	0.554
1 AWG	42.4	7.35	—	—	0.413	0.426
1 AWG	42.4	—	8.33	7.57	0.423	0.440
1/0 AWG	53.5	—	9.35	8.56	0.335	0.348
2/0 AWG	67.4	—	10.80	—	0.266	0.276

Material properties

Polypropylene properties

Physical requirements—unaged	
Tensile strength, minimum, MPa	20.7 (3000 psi)
Elongation at rupture, minimum, percent	250
Physical requirements—aged in air	
Oven at 121 °C (250 °F) for 1 week	
Tensile strength, minimum, percent of unaged value	75
Elongation at rupture, minimum, percent retention	75

Ethylene-propylene properties

Physical requirements—unaged	
Tensile strength, minimum, MPa	6.2 (900 psi)
Elongation at rupture, minimum, percent	100
Physical requirements—aged in air	
Oven at 121 °C (250 °F) for 1 week	
Tensile strength, minimum, percent of unaged value	70
Elongation at rupture, minimum, percent retention	70

Nitrile properties

Physical requirements—unaged	
Tensile strength, minimum, MPa	12.4 (1800 psi)
Elongation at rupture, minimum, percent	300
Physical requirements—aged in air	
Oven at 100 °C (212 °F) for 1 week	
Tensile strength, minimum, percent of unaged value	50
Elongation at rupture, minimum, percent retention	50
Physical requirements—aged in ASTM	
IRM 9002 oil at 121 °C (250 °F) for 18 hours	
Tensile strength, minimum, percent of unaged value	60
Elongation at rupture, minimum, percent retention	60

EPDM properties

Physical requirements—unaged	
Tensile strength, minimum, MPa	6.9 (1000 psi)
Elongation at rupture, minimum, percent	125
Physical requirements—aged in air	
Oven at 121 °C (250 °F) for 1 week	
Tensile strength, minimum, percent of unaged value	75
Elongation at rupture, minimum, percent retention	75
Physical requirements—aged in ASTM	
IRM 9002 oil at 121 °C (250 °F) for 18 hours	
Tensile strength, minimum, percent of unaged value	60
Elongation at rupture, minimum, percent retention	60

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