

RedaMAX 400

ESP power cable

APPLICATIONS

- Electric submersible pumps (ESPs) in
 - Moderately gassy wells
 - High-temperature applications

BENEFITS

- Longer ESP system life
- Lower life cycle cost
- Long insulation life

FEATURES

- High maximum conductor temperature, 204 degC [400 degF]
- Alloy-coated copper conductors to protect against corrosion
- Adhesive layer between conductor and ethylene propylene diene (EPDM) to prevent gas migration and eliminate damage caused by gas ingress
- EPDM insulation and jacket that offer long-term insulation electrical properties
- Fluorocarbon tape barrier or extruded barrier to protect the insulation from chemical attack and gas decompression
- Galvanized-coated steel, heavy galvanized-coated steel, stainless steel, and Monel[®] cable armor



Common cable designs in round profile with and without tape and braid as well as tape and braid in flat profile.

The RedaMAX[®] 400 family of power cables for ESPs uses patented EPDM insulation and jackets. The new EPDM formulation offers excellent electrical properties and physical properties such as tear resistance, increased tensile strength, and increased elasticity. These materials are selected to provide superior life in high-temperature environments and when moderate levels of gas are present.

RedaMAX 400 cable design variations provide a mechanical barrier that protects the insulation from well fluids. The barrier also provides mechanical

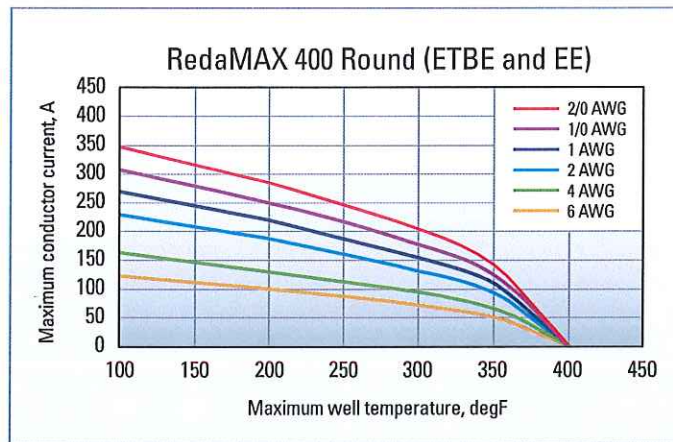
hoop strength, helping to mitigate the risk of explosive decompression in gassy environments. These cables have proven to be reusable and contribute to lower system costs.

Several common cable designs in the family are shown. Many other designs are available depending on the options selected.



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RedaMAX 400



RedaMAX 400 Specifications†

Description	Conductor Size	Conductor Diameter‡, in	Insulation Diameter, in	Jacket Diameter, in	Overall Dimensions, in	Weight, lbm/ft
4 kV flat (ETBE G4F)	2 AWG [§] /1	0.258	0.408	0.542 × 1.485	0.672 × 1.585	1.43
	16 mm ^{2††} /1	0.178	0.328	0.462 × 1.245	0.592 × 1.345	0.97
	4 AWG/1	0.204	0.354	0.488 × 1.325	0.618 × 1.425	1.12
4 kV round (ETBE G4R)	1 AWG/7 C/S	0.297	0.447	1.153	1.323	1.74
	4 AWG/1	0.204	0.354	0.954	1.124	1.15
	2 AWG/1	0.258	0.408	1.069	1.239	1.49
5 kV flat (ETBE G5F)	1 AWG/7 C/S	0.297	0.477	0.611 × 1.693	0.741 × 1.793	1.18
	2 AWG/7 C/S	0.268	0.448	0.582 × 1.606	0.712 × 1.706	1.75
	4 AWG/1	0.204	0.384	0.518 × 1.415	0.648 × 1.515	1.54
5 kV round (EE G5R)	1 AWG/7 C/S	0.297	0.477	1.188	1.358	1.78
	2 AWG/7 C/S	0.268	0.448	1.125	1.295	1.56
	4/1	0.204	0.384	0.986	1.158	1.17
5 kV round (ETBE G5R)	1 AWG/7 C/S	0.297	0.477	1.218	1.388	1.85
	1/1	0.289	0.469	1.201	1.371	1.81
	2 AWG/7	0.268	0.448	1.156	1.326	1.62
	2/1	0.258	0.438	1.133	1.303	1.58
	4/1	0.204	0.384	1.018	1.188	1.23

Notes: Tolerance for insulation is ±0.012; jacket minor is ±0.030; jacket major is ±0.040; weight tolerance is ±4%; overall minor is ±0.040; and overall major is ±0.045.

† Materials and specifications are subject to change without notice.

‡ Dimensions are nominal.

§ American Wire Gauge

†† Area of cross section

Cable Nomenclature

Conductor

#/1 = # AWG/solid conductor

#/7 = # AWG/stranded (round) conductor

#/7 C/S = compacted strand conductor

Insulation

PPE or P = polypropylene/ethylene

E = ethylene propylene diene (EPDM)

K = polyimide tape

T = semiconductive tape

Barrier

TB = proprietary high-temperature tape with braid

L = lead

Jacket

PE = high-density polyethylene (HDPE)

O = nitrile

E = ethylene propylene diene (EPDM)

PPE or P = polypropylene/ethylene

Aarmor (thickness of 0.015 to 0.034 in)

G = galvanized steel

HG = heavy galvanized steel

GG = double galvanized steel (two layers)

SS = stainless steel

M = Monel®

Voltage rating

3, 4, 5, 8 = voltage rating (kV)

Cable geometry

F = flat cable configuration

R = round cable configuration



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