

Products
Catalogue

ESP CABLES

ABOUT ESP CABLES PLANT ✓

We Specialize in the production of ESP Cable. The plant is a world-class production complex with a fully automated manufacturing process in compliance with top quality standards. The company has implemented the global quality management system ISO 9001:2015 and INTI S.QS 7-2024.

The quality of manufactured products is a top priority for the company. The main goal is zero failures due to cable line defects.

Our Advantages

- Multi-stage selection of suppliers
- Strict acceptance tests: not only DC, but also AC testing of each drum is required
- A special formula for production of ethylene propylene rubbers (EPDM) with the highest dielectric resistance
- Quality inspection of 100% of surfaces using AI to identify defects
- Cable production tailored to the customer's specific requirements

CELf CABLE ✓

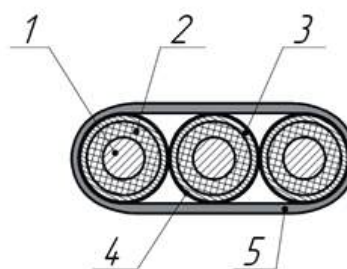
(Cuprum EPDM Lead Flat)

CELf Cable is the industry standard of reliability and durability. This cable is OUR premium quality product. It's guarantees to operators ZERO failures because of cable. CELf cables enable to use ESP systems in the most difficult downhole conditions.

CELf (Cuprum EPDM Lead Flat) cable is applicable in a wide range of temperatures from -40°F (-40°C) to 450°F (232°C). CELf cable is the best choice for extreme downhole conditions, featuring a special EPDM rubber insulation for high dielectric strength and excellent decompression resistance. A high modulus jacket and armor made of galvanized or stainless steel or Monel alloy provide the final layer of protection.

Features and Benefits

- Lead sheath – reliable operations in severe levels of high amount of H₂S and greater than 90% of CO₂
- CELf: High temperature cable – reliable operations in hot wells
- Solid copper conductors – prevents gas migration in the cable and increases clearance in the well
- Armored capillary line cable – allows for pressure measurement, chemical insertion, and diluent insertion
- Armored steel galvanized, stainless steel or Monel alloy
- CES-507 STANDARD SPECIFICATION FOR CEL TYPE CABLE
- 100% SURFACES of the cables are controlled by AI QUALITY INSPECTION Machines
- Continuous quality control on each production line, including the use of machine vision



1. Copper conductor
2. EPDM insulation
3. Lead sheath
4. Bedding tape
5. Steel armor tape

Well parameters	Conventional design	Anti corrosion design
pH	5 - 8,5	
Maximum concentration of solids, % / ppm	0,1 / 1	
Maximum microhardness of particles, Mohs scale	7	
Maximum water cut %	No limits - 100%	
Maximum GOR %	No limits	
Maximum hidrostatic pressure, PSI	5800 PSI	
Maximum concentration of H ₂ S %/ppm	0,001 / 0,01	0,125 / 1,25
Maximum concentration of CO ₂ %/ppm	-	0,115 / 1,15
Maximum concentration of Cl ⁻ %/ppm	-	7,5 / 75
Maximum concentration of HCO ₃ ⁻ %/ppm	-	0,1 / 1
Maximum concentration of Ca+2 %/ppm	-	0,9 / 9
Maximum concentration of (Na++K+) %/ppm	-	4,0 / 40

R 51777-2001

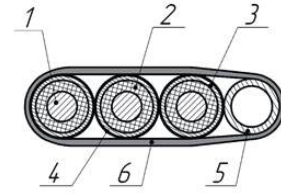
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IEEE 1017.2-2021

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Capillary Tube

- Standard dimensions: 3/8" x 0,049" (9,525mm x 1,25mm)
- Material: Stainless Steel AISI 316L
- Splice dimensions: 13,9mm x 47mm
- Splice max pressure, up to: 6000PSI (420 Bar)



1. Copper conductor 2. EPDM insulation 3. Lead sheath 4. Bedding tape 5. Capillary tube 6. Steel armor tape

R 51777-2001

Technical characteristics	4 AWG+cap tube	25 mm2+cap tube	2 AWG+cap tube	1 AWG+cap tube	10 mm2+cap tube	6 AWG+cap tube
Nominal conductor section, mm2	21,15	25	33,6	42,4	10	13,3
Nominal conductor diameter, mm	5,16	5,61	6,59	7,32	3,56	4,09
Qty and conductor section, mm2	3x21,15	3x25	3x33,6	3x42,4	3x10	3x13,3
Nominal voltage	4 kV	4 kV	4 kV	4 kV	5 kV	5 kV
Nominal insulation thickness, mm	1,435	1,435	1,435	1,435	1,943	1,943
Nominal insulation diameter (OD), mm	8,03	8,48	9,46	10,19	7,45	7,98
Nominal sheath thickness, mm	0,762	0,762	0,762	0,762	0,813	0,813
Nominal sheath diameter, mm	9,55	10,00	10,99	11,71	9,08	9,60
Nominal capillary tube diameter (OD), mm	9,53	9,53	9,53	9,53	9,53	9,53
Outer armor dimension, mm	12.37 x 41.07	12.82 x 42.42	13.80 x 45.37	14.52 x 47.53	11.89 x 39.64	12.42 x 41.22
Nominal weight of 1000 m, kg	2173	2336	2722	3032	1883	2045
Current leakage: Hipot to 30 KV D.C. Max.	0,944	1,011	1,159	1,267	0,557	0,617
Insulation resistance (15,6°C) Min.	1060	989	863	789	1794	1621
Conductor D.C. Resistance at 20°C Max	0,841	0,711	0,515	0,418	1,763	1,338
Adhesion	No limits					
GOR						

Technical characteristics	5 AWG+cap tube	4 AWG+cap tube	25 mm2+cap tube	2 AWG+cap tube	1 AWG+cap tube
Nominal conductor section, mm2	16	21,15	25	33,6	42,4
Nominal conductor diameter, mm	4,48	5,16	5,61	6,59	7,32
Qty and conductor section, mm2	3x16	3x21,15	3x25	3x33,6	3x42,4
Nominal voltage	5 kV	5 kV	5 kV	5 kV	5 kV
Nominal insulation thickness, mm	1,943	1,943	1,943	1,943	1,943
Nominal insulation diameter (OD), mm	8,37	9,05	9,50	10,48	11,20
Nominal sheath thickness, mm	0,813	0,813	0,813	0,813	0,813
Nominal sheath diameter, mm	9,99	10,67	11,12	12,10	12,83
Nominal capillary tube diameter (OD), mm	9,53	9,53	9,53	9,53	9,53
Outer armor dimension, mm	12.81 x 42.39	13.49 x 44.43	13.94 x 45.78	14.92 x 48.72	15.64 x 50.89
Nominal weight of 1000 m, kg	2172	2410	2579	2973	3292
Current leakage: Hipot to 30 KV D.C. Max.	0,661	0,737	0,787	0,896	0,977
Insulation resistance (15,6°C) Min.	1513	1357	1270	1116	1024
Conductor D.C. Resistance at 20°C Max.	1,116	0,841	0,711	0,515	0,418
Adhesion	No limits				
GOR					

IEEE 1017.2-2021

Technical characteristics	6 AWG+cap tube	5 AWG+cap tube	4 AWG+cap tube	25 mm2+cap tube	2 AWG+cap tube	1 AWG+cap tube
Nominal conductor section, mm ²	13,3	16	21,15	25	33,6	42,4
Nominal conductor diameter, mm	4,12	4,52	5,19	5,64	6,54	7,35
Qty and conductor section, mm ²	3x13,3	3x16	3x21,15	3x25	3x33,6	3x42,4
Nominal voltage	4 kV	4 kV	4 kV	4 kV	4 kV	4 kV
Nominal insulation thickness, mm	1,676	1,676	1,676	1,676	1,676	1,676
Nominal insulation diameter (OD), mm	7,47	7,87	8,54	8,99	9,90	10,70
Nominal sheath thickness, mm	0,813	0,813	0,813	0,813	0,813	0,813
Nominal sheath diameter, mm	9,09	9,50	10,17	10,62	11,52	12,33
Nominal capillary tube diameter (OD), mm	9,53	9,53	9,53	9,53	9,53	9,53
Outer armor dimension, mm	11.90 x 39.69	12.31 x 40.90	12.98 x 42.91	13.43 x 44.26	14.33 x 46.97	15.14 x 49.39
Nominal weight of 1000 m, kg	1614	1746	1982	2151	2540	2871
Current leakage: Hipot to 30 KV D.C. Max.	0,690	0,743	0,829	0,886	1,002	1,104
Insulation resistance (15,6°C) Min.	1449	1346	1207	1129	998	906
Conductor D.C. Resistance at 20°C Max.	1,322	1,095	0,831	0,704	0,523	0,415
Adhesion GOR	No limits					

Technical characteristics	10 mm2+cap tube	6 AWG+cap tube	5 AWG+cap tube	4 AWG+cap tube	25 mm2+cap tube	2 AWG+cap tube	1 AWG+cap tube
Nominal conductor section, mm2	10	13,3	16	21,15	25	33,6	42,4
Nominal conductor diameter, mm	3,56	4,12	4,52	5,19	5,64	6,54	7,35
Qty and conductor section, mm2	3x10	3x13,3	3x16	3x21,15	3x25	3x33,6	3x42,4
Nominal voltage	5 kV	5 kV	5 kV	5 kV	5 kV	5 kV	5 kV
Nominal insulation thickness, mm	1,981	1,981	1,981	1,981	1,981	1,981	1,981
Nominal insulation diameter (OD), mm	7,52	8,08	8,48	9,15	9,60	10,51	11,31
Nominal sheath thickness, mm	1,067	1,067	1,067	1,067	1,067	1,067	1,067
Nominal sheath diameter, mm	9,65	10,21	10,62	11,29	11,74	12,64	13,44
Nominal capillary tube diameter (OD), mm	9,53	9,53	9,53	9,53	9,53	9,53	9,53
Outer armor dimension, mm	12.47 x 41.37	13.03 x 42.04	13.43 x 44.26	14.10 x 46.27	14.55 x 47.61	15.45 x 50.33	16.26 x 52.74
Nominal weight of 1000 m, kg	1830	2015	2157	2417	2600	3013	3372
Current leakage: Hipot to 35 kV D.C. Max.	0,556	0,620	0,665	0,740	0,790	0,891	0,980
Insulation resistance (15,6°C) Min.	1797	1614	1503	1351	1265	1122	1020
Conductor D.C. Resistance at 20°C Max.	0,000	1,322	1,095	0,831	0,704	0,523	0,415
Adhesion	No limits						
GOR							

Max current vs temperature ✓

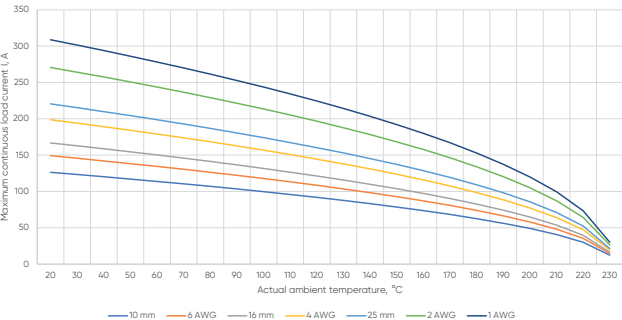
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Maximum continuous load current I, A, at actual ambient temperature, °C																								
AWG #	kV	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	232
10 mm	5	126	123	120	117	114	110	107	103	100	96	92	88	83	79	74	68	63	56	49	41	30	12	0
6 AWG	5	149	146	142	138	134	130	126	122	118	113	108	104	98	93	87	81	74	66	58	48	36	14	0
16 mm	5	167	163	159	155	150	146	141	136	132	127	121	116	110	104	97	90	83	74	65	54	40	16	0
4 AWG	5	199	194	189	184	179	174	168	163	157	151	144	138	131	124	116	107	98	88	77	64	47	19	0
25 mm	5	221	215	210	204	199	193	187	180	174	167	160	153	145	137	129	119	109	98	86	71	52	21	0
2 AWG	5	271	264	257	251	244	237	229	221	213	205	197	188	178	168	158	146	134	120	105	87	64	26	0
1 AWG	5	309	301	294	286	278	270	261	253	244	234	224	214	203	192	180	167	153	137	120	99	73	30	0

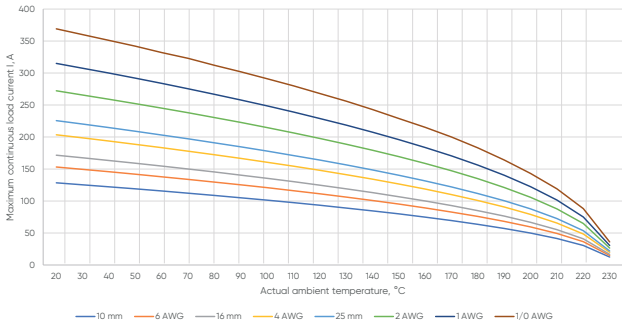
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Maximum continuous load current I, A, at actual ambient temperature, °C																								
AWG #	kV	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	232
10 mm	5	128	125	122	119	116	112	109	105	101	97	93	89	85	80	75	69	64	57	50	41	31	12	0
6 AWG	5	153	149	146	142	138	134	130	125	121	116	111	106	101	95	89	83	76	68	59	49	36	15	0
16 mm	5	172	168	163	159	155	150	145	140	135	130	125	119	113	107	100	93	85	76	67	55	41	17	0
4 AWG	5	204	199	194	189	183	178	172	167	161	154	148	141	134	127	119	110	101	91	79	66	48	20	0
25 mm	5	226	220	215	209	203	197	191	185	178	171	164	156	149	140	131	122	112	100	88	73	54	22	0
2 AWG	5	272	266	259	252	245	238	230	223	215	206	198	189	179	169	159	147	135	121	106	88	65	26	0
1 AWG	5	315	308	300	292	284	275	267	258	249	239	229	219	208	196	184	170	156	140	122	101	75	31	0
1/0 AWG	6	369	360	351	342	332	323	312	302	291	280	268	256	243	229	215	200	183	164	143	119	88	36	0

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IEEE 1017.2-2021



CTTF CABLE ✓

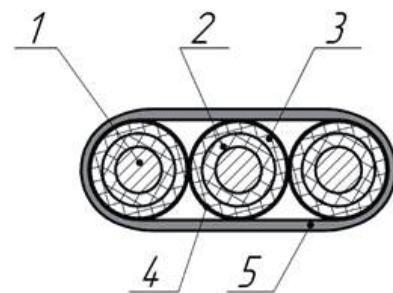
(Cuprum Cable Double Thermoplastic Flat)

The CTTF cable is made from polypropylene copolymers. It's designed by the company's engineers to help operators to maximize production in a wide range of challenging downhole conditions. This type of material ensures that dielectric properties are maintained when the temperature rating is exceeded. Our power cable designs have become the industry standard for reliability and durability.

CTTF (Cuprum Cable Double Thermoplastic Flat) cable is applicable in a range of temperatures from -40°F (-40°C) to 266°F (130°C). CTTF cable is one of the most cost effective cables in the TPOE cable family. The high dielectric electrical grade thermoplastic insulation is formulated for down-hole applications. Another layer of electrical grade thermoplastic is applied over the insulation as a jacket that adds physical protection. This cable can be used in shallow wells, marginal oil wells and water well applications where large quantities of CO_2 , and/or light ends are not an issue. An armor made of galvanized or stainless steel or Monel alloy provides a high level of protection.

Features and Benefits ✓

- CTTF: high dielectric electrical grade thermoplastic insulation – reliable operations in shallow and water wells
- CO_2 resistance
- ARMOR TAPE is applied to the insulation of each conductors. As of the customer's request, it is possible to apply tape to the insulation of three cores as a common cover.
- Armored steel galvanized, stainless steel or Monel alloy
- IEEE 1019, API RP 11S5, API RP 11S6
- 100% SURFACES of the cables are controlling by AI QUALITY INSPECTION Machines



1. Copper conductor
2. Polypropylene insulation (1st layer)
3. Polypropylene insulation (2nd layer)
4. Bedding tape
5. Steel armor tape

Well parameters	Conventional design	Anti corrosion design
pH	5 - 8,5	
Maximum concentration of solids, % / ppm	0,1 / 1	
Maximum microhardness of particles, Mohs scale	7	
Maximum water cut	No limits - 100%	
Maximum GOR	No limits	
Maximum hidrostatic pressure, PSI	5800 PSI	
Maximum concentration of H2S %/ppm	0,001 / 0,01	0,125 / 1,25
Maximum concentration of CO2 %/ppm	-	0,115 / 1,15
Maximum concentration of Cl- %/ppm	-	7,5 / 75
Maximum concentration of HCO3 %/ppm	-	0,1 / 1
Maximum concentration of Ca+2 %/ppm	-	0,9 / 9
Maximum concentration of (Na++K+) %/ppm	-	4,0 / 40

Technical characteristics ✓ (nominal voltage 4 kV)

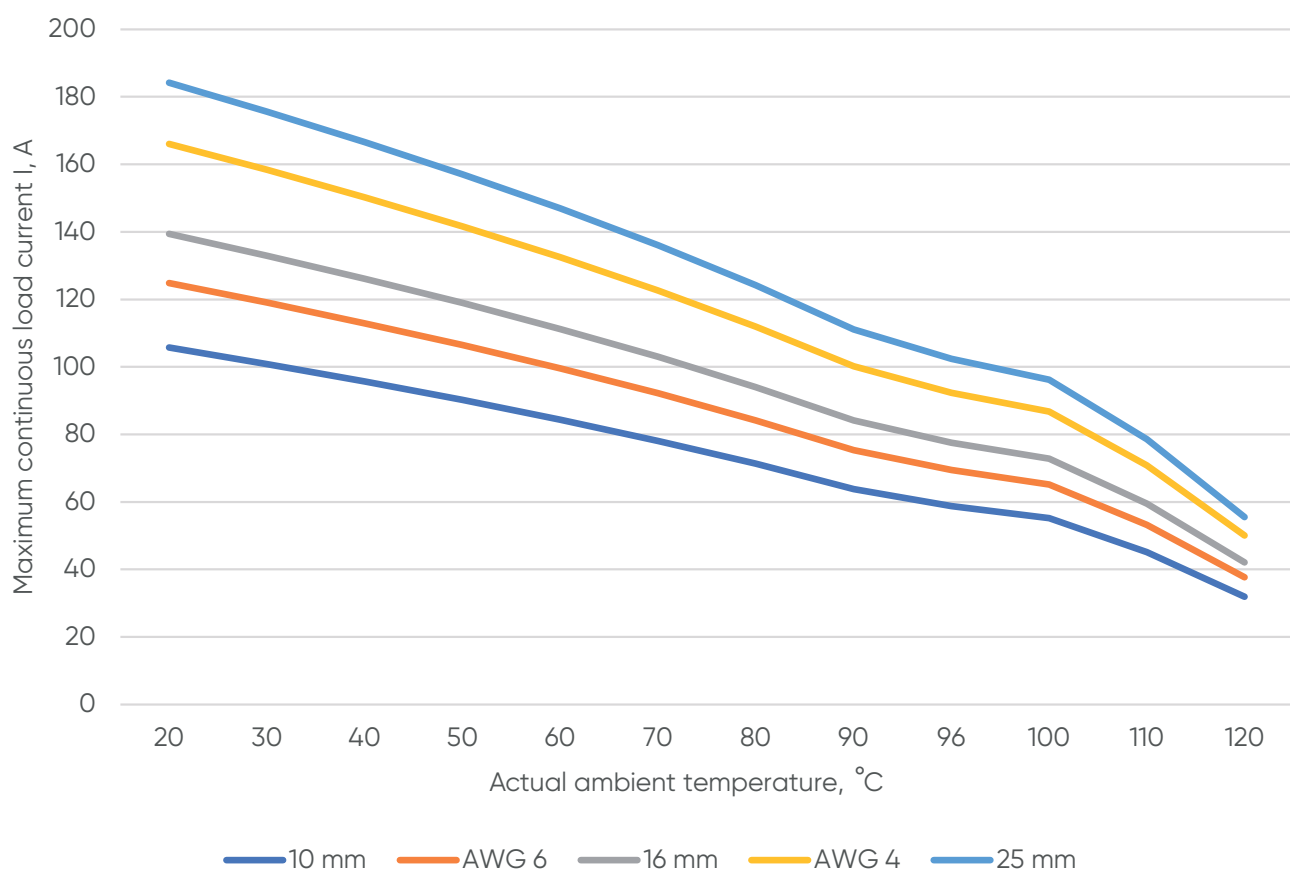
Technical characteristics	10 mm2	6 AWG	5 AWG	4 AWG	25 mm2
Conductor diameter: Nominal	10	13,3	16	21,15	25
Nominal ConductorSection, mm	3,56	4,09	4,48	5,16	5,61
Qty and Conductor diameter, mm2	3x10	3x13,3	3x16	3x21,15	3x25
Nominal voltage	4 kV	4 kV	4 kV	4 kV	4 kV
Thickness of insulation, nominal, mm	1,5	1,5	1,5	1,5	1,5
Insulation diameter, nominal (OD), mm	6,56	7,09	7,48	8,16	8,61
Thickness of jacket, nominal, mm	1,3	1,3	1,3	1,3	1,3
Jacket diameter nominal (OD), mm	9,16	9,69	10,08	10,76	11,21
Outer armor dimension, mm	11.98 x 30.37	12.51 x 31.95	12.90 x 33.12	13.58 x 35.16	14.03 x 36.51
Nominal weight of 1000 m, kg	841	961	1054	1238	1370
Current leakage: Hipot to 35 KV DC Max.	0,265	0,295	0,317	0,355	0,380
Insulation resistance (15,6 C) Min.	3770	3391	3156	2817	2631
Conductor D.C. Resistance at 20 C Max.	1,763	1,338	1,116	0,841	0,711
Adhesion	No limits				
GOR	No limits				

Technical characteristics ✓ (nominal voltage 5 kV)

Technical characteristics	10 mm2	6 AWG	16 mm2	4 AWG	25 mm2
Conductor diameter: Nominal	10	13,3	16	21,15	25
Nominal ConductorSection, mm	3,56	4,09	4,48	5,16	5,61
Qty and Conductor diameter, mm2	3x10	3x13,3	3x16	3x21,15	3x25
Nominal voltage	5 kV	5 kV	5 kV	5 kV	5 kV
Thickness of insulation, nominal, mm	1,83	1,83	1,83	1,83	1,83
Insulation diameter, nominal (OD), mm	7,23	7,76	8,15	8,83	9,28
Thickness of jacket, nominal, mm	1,3	1,3	1,3	1,3	1,3
Jacket diameter nominal (OD), mm	9,83	10,36	10,75	11,43	11,88
Outer armor dimension, mm	12.65 x 32.37	13.17 x 33.95	13.56 x 35.12	14.24 x 37.16	14.69 x 38.51
Nominal weight of 1000 m, kg	896	1017	1111	1297	1431
Current leakage: Hipot to 35 KV DC Max.	0,223	0,247	0,265	0,295	0,315
Insulation resistance (15,6 C) Min.	4476	4045	3777	3387	3171
Conductor D.C. Resistance at 20 C Max.	1,763	1,338	1,116	0,841	0,711
Adhesion	No limits				
GOR	No limits				

Max current vs temperature ✓

AWG #	Rated Voltage - 4kV												
	Maximum continuous load current I, A, at actual ambient temperature, °C												
	20	30	40	50	60	70	80	90	96	100	110	120	130
10 mm	106	101	96	90	84	78	71	64	59	55	45	32	0
AWG 6	125	119	113	106	100	92	84	75	69	65	53	38	0
16 mm	139	133	126	119	111	103	94	84	78	73	59	42	0
AWG 4	166	158	150	142	132	123	112	100	92	87	71	50	0
25 mm	184	176	167	157	147	136	124	111	102	96	79	56	0





CTHT CABLE ✓

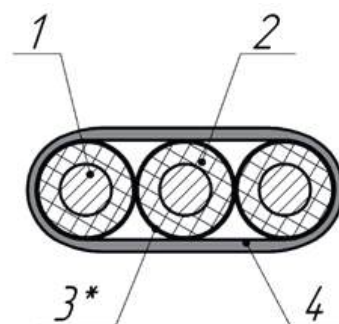
(Cuprum Thermoplastic High Temperature)

The CTHT cable is made from polypropylene copolymers. It is designed by the company's engineers to help operators ensure reliable ESP operation under standard downhole conditions. This type of material ensures that dielectric properties are maintained when the temperature rating is exceeded. Our power cable designs have become the industry standard for reliability and durability.

CTHT (Cuprum Thermoplastic High Temperature) cable manufactured by us is applicable in the temperature range from -40°F (-40°C) to 266°F (130°C). CTHT cable is economical and reliable. The insulation is made of especially selected thermoplastic with high dielectric parameters, resistant to copper ions. This type of cable can be used in wells whose fluid contains a large amount of carbon dioxide. CTHT cable is designed for operation in moderate well conditions. An armor made of galvanized or stainless steel or Monel alloy provides a high level of protection.

Features and Benefits ✓

- CTHT: high dielectric electrical grade thermoplastic insulation – CO₂ resistance
- Solid copper conductors – prevents gas migration in the cable and increases clearance in the well
- Armored steel galvanized, stainless steel or Monel alloy
- IEEE 1019, API RP 11S5, API RP 11S6
- 100% SURFACES of the cables are controlled by AI QUALITY INSPECTION Machines
- Manufactured according to international standards for plastic cable (according to API 11 S6)



1. Copper conductor
2. Polypropylene insulation
- 3*. Bedding tape (upon request)
4. Steel armor tape

Well parameters	Conventional design	Anti corrosion design
pH	5 - 8,5	
Maximum concentration of solids, % / ppm	0,1 / 1	
Maximum microhardness of particles, Mohs scale	7	
Maximum water cut %	No limits - 100%	
Maximum GOR	No limits	
Maximum hidrostatic pressure, PSI	5800	
Maximum concentration of H2S %/ppm	0,001 / 0,01	0,125 / 1,25
Maximum concentration of CO2 %/ppm	-	0,115 / 1,15
Maximum concentration of Cl- %/ppm	-	7,5 / 75
Maximum concentration of HCO3 %/ppm	-	0,1 / 1
Maximum concentration of Ca+2 %/ppm	-	0,9 / 9
Maximum concentration of (Na++K+) %/ppm	-	4,0 / 40

Technical characteristics ✓ (nominal voltage 4 kV)

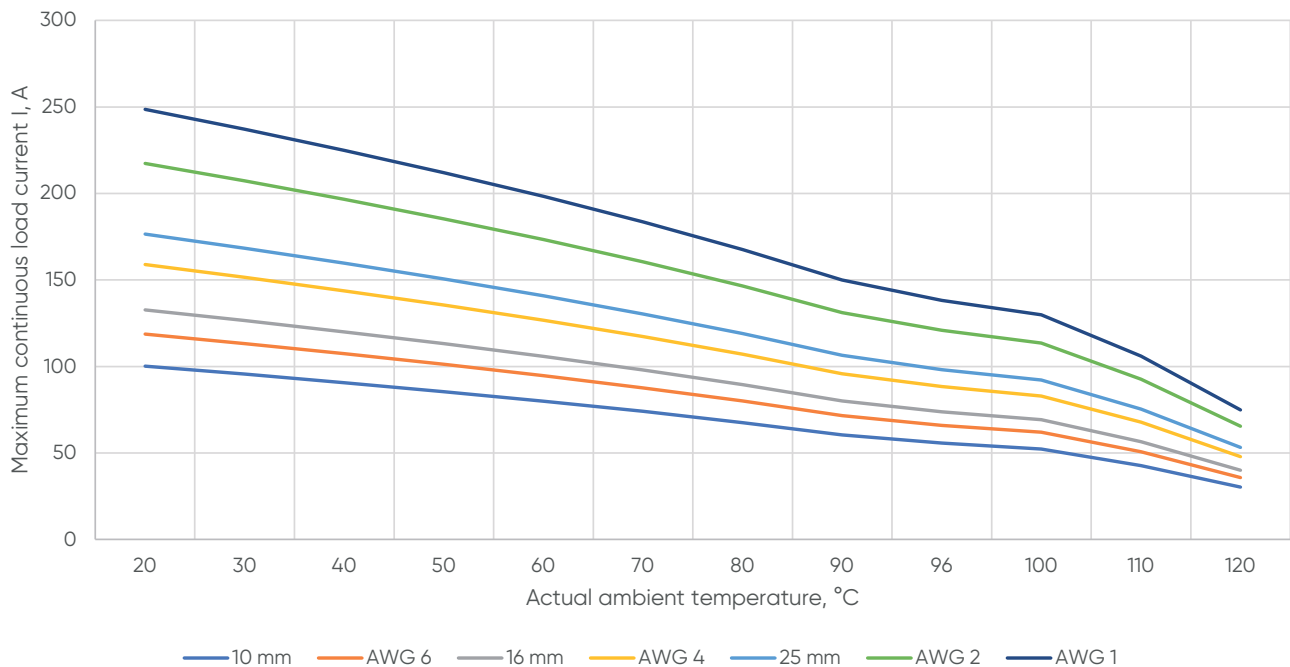
Technical characteristics	10 mm2	6 AWG	5 AWG	4 AWG	25 mm2
Conductor diameter: Nominal	10	13,3	16	21,15	25
Nominal ConductorSection, mm	3,56	4,09	4,48	5,16	5,61
Qty and Conductor diameter, mm2	3x10	3x13,3	3x16	3x21,15	3x25
Nominal voltage	4 kV	4 kV	4 kV	4 kV	4 kV
Thickness of insulation, nominal, mm	2,2	2,2	2,2	2,2	2,2
Insulation diameter, nominal (OD), mm	7,96	8,49	8,88	9,56	10,01
Thickness of jacket, nominal, mm	-	-	-	-	-
Jacket diameter nominal (OD), mm	-	-	-	-	-
Outer armor dimension, mm	26.71x10.76	28.29x11.28	29.46x11.67	31.50x12.35	32.85x12.80
Nominal weight of 1000 m, kg	712	826	918	1094	1222
Current leakage: Hipot to 35 KV DC Max.	0,208	0,230	0,246	0,274	0,292
Insulation resistance (15,6 C) Min.	4803	4349	4067	3654	3426
Conductor D.C. Resistance at 20 C Max.	1,763	1,338	1,116	0,841	0,711
Adhesion	No limits				
GOR	No limits				

Technical characteristics ✓ (nominal voltage 5 kV)

Technical characteristics	10 mm2	6 AWG	5 AWG	4 AWG	25 mm2
Conductor diameter: Nominal	10	13,3	16	21,15	25
Nominal ConductorSection, mm	3,56	4,09	4,48	5,16	5,61
Qty and Conductor diameter, mm2	3x10	3x13,3	3x16	3x21,15	3x25
Nominal voltage	5 kV	5 kV	5 kV	5 kV	5 kV
Thickness of insulation, nominal, mm	2,4	2,4	2,4	2,4	2,4
Insulation diameter, nominal (OD), mm	8,36	8,89	9,28	9,96	10,41
Thickness of jacket, nominal, mm	-	-	-	-	-
Jacket diameter nominal (OD), mm	-	-	-	-	-
Outer armor dimension, mm	27.78x11.11	29.36x11.64	30.53x12.03	32.57x12.71	33.92x13.16
Nominal weight of 1000 m, kg	738	854	946	1124	1251
Current leakage: Hipot to 35 KV DC Max.	0,197	0,217	0,232	0,258	0,275
Insulation resistance (15,6 C) Min.	5070	4600	4305	3875	3636
Conductor D.C. Resistance at 20 C Max.	1,763	1,338	1,116	0,841	0,711
Adhesion	No limits				
GOR	No limits				

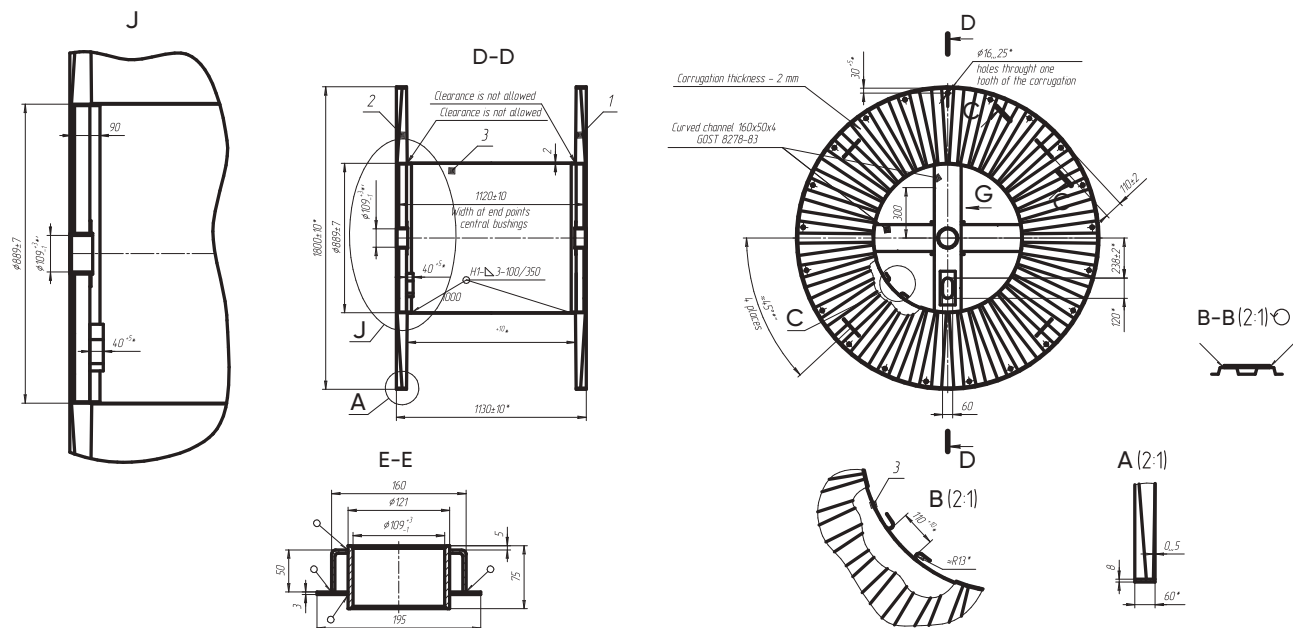
Max current vs temperature ✓

AWG #	Rated Voltage - 4kV												
	Maximum continuous load current I, A, at actual ambient temperature, °C												
	20	30	40	50	60	70	80	90	96	100	110	120	130
10 mm	100	96	91	85	80	74	68	60	56	52	43	30	0
AWG 6	119	113	107	101	95	88	80	72	66	62	51	36	0
16 mm	133	127	120	113	106	98	89	80	74	69	57	40	0
AWG 4	159	151	144	135	127	117	107	96	88	83	68	48	0
25 mm	177	168	160	151	141	130	119	106	98	92	75	53	0
AWG 2	217	207	197	185	173	161	147	131	121	114	93	66	0
AWG 1	249	237	225	212	198	184	168	150	138	130	106	75	0

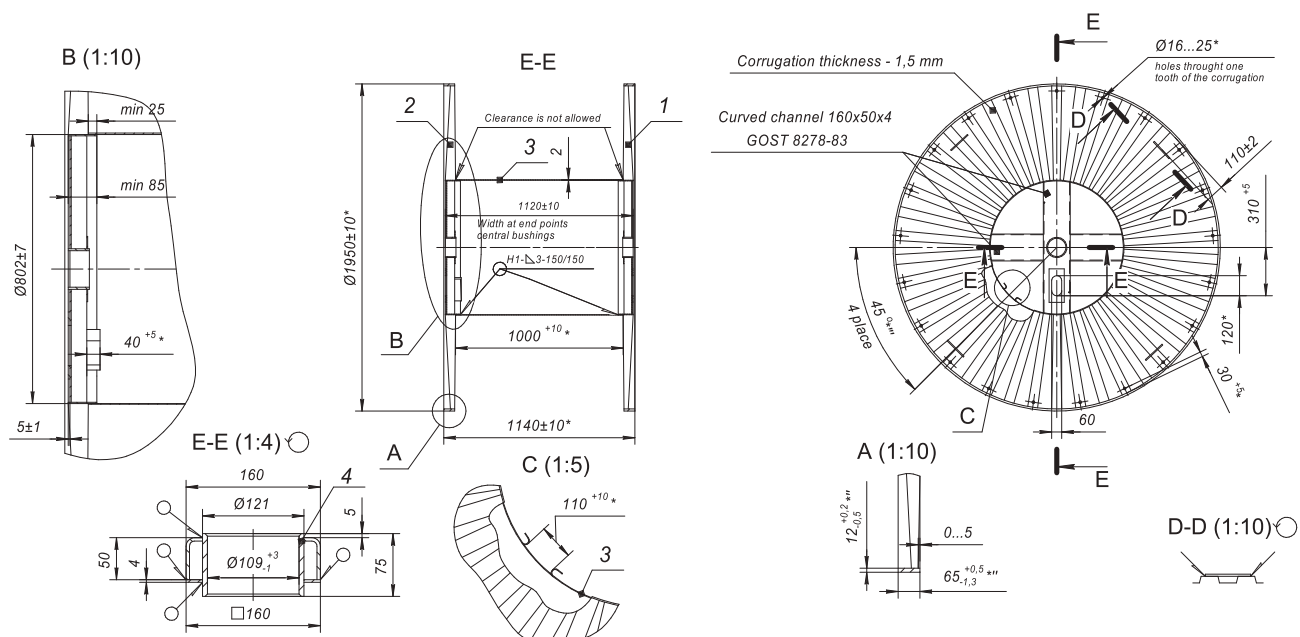




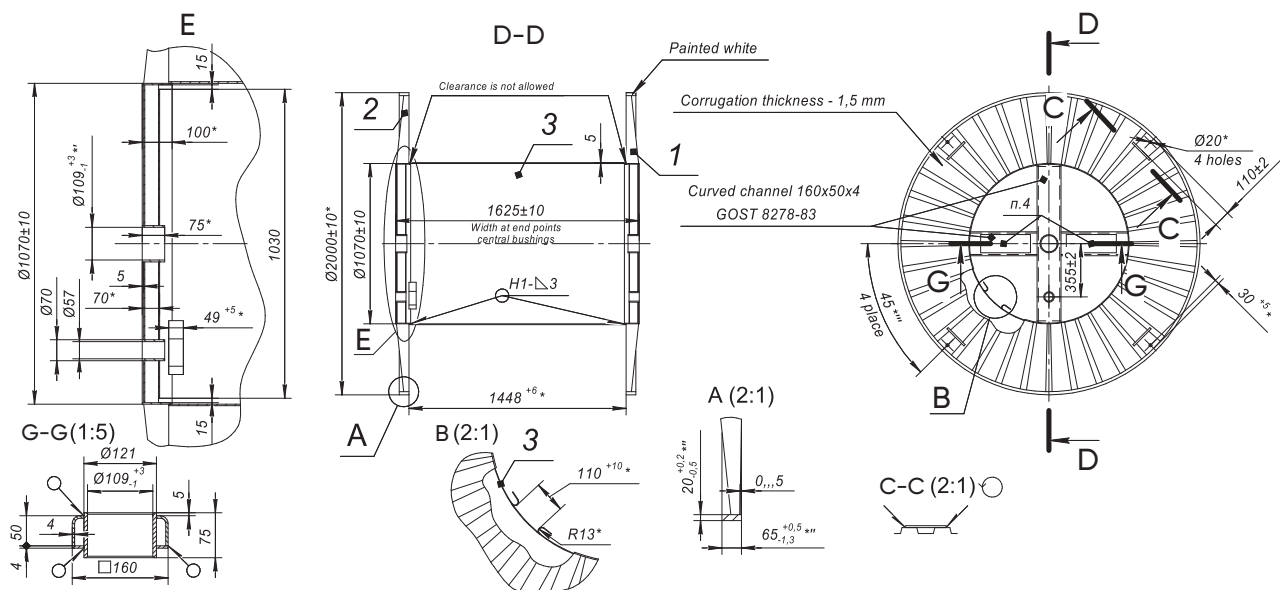
Reel metal for cable №18 ✓



Reel metal for cable №20 ✓



Reel metal for cable №78HD ✓



Reel metal for cable №86HD ✓

