TENAX-SAS (N)TSCGEWOEU

Medium Voltage Cable for Trailing Applications, Cold Flexible to -50°C | 6 - 35 kV

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Extreme Cold Flexible MV Trailing Cable

TENAX-SAS (N)TSCGEWOEU is a power supply cable for large mobile mining equipment such as shovels and draglines. Designed as a trailing cable for use in trailing and reeling applications. The outer sheath is extremely robust and tough against abrasion and tearing, with fully flexible operation down to -50°C.

Total Configurations: 77 — covering 7 voltage classes from 3.6/6 kV to 20/35 kV, with conductor sizes from 3×16 mm² up to 3×300 mm², each including an integrated pilot/signal core.

Key Advantages: Fully flexible operation to -50°C • Extremely robust, abrasion & tear resistant sheath • Aramid central strength element • Oil, ozone & UV resistant

Technical Summary & Specifications

ELECTRICAL

Voltage: 3.6/6 (7.2) – 20/35 (42) kV
Test Voltage: 11 – 50 kV
Conductor: Finely stranded tinned copper, class 5

THERMAL

Max conductor temp: 90°C
Short circuit temp: 250°C
Fixed install: -50 to +80°C
Flexible install: -50 to +60°C

MECHANICAL

Torsional stress: ±100°/m
Tensile strength: 20 N/mm² static
Bend radius: 6×D fixed / 10×D flexible / 20×D S-type

CHEMICAL

Flame Retardant: ✓ EN/IEC 60332-1-2
Oil / Ozone / UV: ✓ Resistant

Standards: DIN VDE 0250-813 • GOST-R/-K/-B Fire Certificate (Russian Federation) • DIN EN 60228 / IEC 60228 / VDE 0295 • DIN VDE 0207-21 • DIN EN 60332-1-2 / IEC 60332-1-2 • DIN VDE 0298-4 • DIN EN 60811-404 / IEC 60811-404

Cable Construction

Conductor & Insulation

1. Conductor — finely stranded copper, tinned, class 5
2. Aramid central element
3. Inner semi-conducting layer

Core Arrangement

4. Core arrangement
5. Core insulation
6. Outer semi-conducting layer
7. Pilot element

Sheath

8. Inner sheath
9. Outer sheath — extremely robust, abrasion and tear resistant

Complete Specifications — 3.6/6 kV (13 Configurations)

TENAX-SAS (N)TSCGEWOEU 3.6/6kV — 13 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×16+2×10+1×10	5	41	45	2,270	1,200	200	0.39	1.24	99
3×16+2×16+1×16	5	40.5	44.5	2,469	1,200	200	0.39	1.24	99
3×25+2×16+1×16	6.2	43.5	47.5	2,790	1,875	230	0.36	0.795	131
3×35+2×16+1×16	7.5	46.5	50	3,280	2,625	260	0.34	0.565	162
3×50+2×16+1×16	9	49.5	54	3,900	3,750	290	0.32	0.393	202
3×70+2×25+1×16	10.6	55	59.5	5,020	5,250	340	0.30	0.277	250
3×95+2×25+1×16	12.6	58.5	63	5,860	7,125	370	0.29	0.21	301
3×95+3×50/3	12.6	58.5	63	5,800	7,125	370	0.29	0.21	301
3×120+2×35+1×16	14.8	65.5	70	7,410	9,000	410	0.28	0.164	352
3×150+2×35+1×16	16	69.8	73.4	8,456	11,250	440	0.27	0.132	404
3×185+2×50+1×16	17.7	72.7	77.2	9,955	13,875	480	0.27	0.108	461
3×240+2×70+1×16	20.3	80.1	84.6	12,618	18,000	540	0.26	0.0817	540
3×300+2×95+1×16	31.3	84	89	15,075	22,500	780	0.24	0.0654	620

Complete Specifications — 6/10 kV & 8.7/15 kV (22 Configurations)

TENAX-SAS (N)TSCGEWOEU 6/10kV — 11 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×16+2×16+1×16	5	42.5	46.5	2,613	1,200	190	0.40	1.24	99
3×25+2×16+1×16	6.2	46.1	49.6	3,041	1,875	210	0.37	0.0795	131
3×35+2×16+1×16	7.5	52.5	56.5	3,470	2,625	240	0.35	0.565	162
3×50+2×16+1×16	9	52	56.5	4,080	3,750	270	0.33	0.393	202
3×70+2×25+1×16	10.6	57	61.5	5,240	5,250	310	0.31	0.277	250
3×95+2×25+1×16	12.6	61.6	66.1	6,503	7,125	340	0.30	0.21	301
3×120+2×35+1×16	14.8	64.2	68.7	7,630	9,000	380	0.29	0.164	352
3×150+2×35+1×16	16	70.6	75.1	8,694	11,250	410	0.28	0.132	404
3×185+2×50+1×16	17.7	74.4	78.9	10,467	13,875	440	0.27	0.108	461
3×240+2×70+1×16	20.3	81.8	86.3	12,895	18,000	490	0.26	0.0817	540
3×300+2×95+1×16	31.3	87.5	92.5	15,693	22,500	710	0.24	0.0654	620

TENAX-SAS (N)TSCGEWOEU 8.7/15kV — 11 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×16+2×16+1×16	5	47	51	3,041	1,200	160	0.43	1.24	105
3×25+2×16+1×16	6.2	52	56	3,677	1,875	180	0.40	0.0795	139
3×35+2×16+1×16	7.5	55.4	59.9	4,138	2,625	200	0.37	0.565	172
3×50+2×16+1×16	9	57.5	61.5	4,813	3,750	220	0.35	0.393	215
3×70+2×25+1×16	10.6	64	68	6,159	5,250	260	0.33	0.277	265
3×95+2×25+1×16	12.6	68.2	72.7	7,123	7,125	280	0.32	0.21	319
3×120+2×35+1×16	14.8	72.9	77.4	8,322	9,000	310	0.31	0.164	371
3×150+2×35+1×16	16	75.4	79.9	9,645	11,250	330	0.30	0.132	428
3×185+2×50+1×16	17.7	80.9	85.4	11,208	13,875	360	0.29	0.108	488
3×240+2×70+1×16	20.3	86.5	91	13,991	18,000	400	0.28	0.0817	574
3×300+2×95+1×16	31.3	92	97	16,533	22,500	570	0.25	0.0654	660

Complete Specifications — 12/20 kV & 14/25 kV (21 Configurations)

TENAX-SAS (N)TSCGEWOEU 12/20kV — 10 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×16+2×16+1×16	5	53.5	57.5	3,655	1,200	140	0.45	1.24	105
3×25+2×16+1×16	6.2	56.9	61.4	4,145	1,875	160	0.42	0.0795	139
3×35+2×16+1×16	7.5	59.7	64.2	4,628	2,625	180	0.39	0.565	172
3×50+2×16+1×16	9	62.8	67.3	5,552	3,750	200	0.37	0.393	215
3×95+2×25+1×16	12.6	72.5	77	7,727	7,125	250	0.33	0.21	319
3×120+2×35+1×16	14.8	79	83.5	9,224	9,000	270	0.32	0.164	371
3×150+2×35+1×16	16	81.5	86	10,324	11,250	290	0.31	0.132	428
3×185+2×50+1×16	17.7	85.5	90.5	12,218	13,875	310	0.30	0.108	488
3×240+2×70+1×16	20.3	92.6	97.1	14,768	18,000	350	0.29	0.0817	574
3×300+2×95+1×16	31.3	98.5	103.5	17,694	22,500	490	0.26	0.0654	660

Note: source data for this voltage class does not include a 3×70 mm² construction; the range steps from 50 mm² directly to 95 mm².

TENAX-SAS (N)TSCGEWOEU 14/25kV — 11 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×16+2×16+1×16	5	59	63	4,288	1,200	130	0.48	1.24	105
3×25+2×16+1×16	6.2	62.5	67	5,030	1,875	140	0.44	0.795	139
3×35+2×16+1×16	7.5	67.1	71.6	5,631	2,625	160	0.42	0.565	172
3×50+2×16+1×16	9	70.2	74.7	6,301	3,750	170	0.39	0.393	215
3×70+2×25+1×16	10.6	73.8	78.3	7,794	5,250	200	0.37	0.277	265
3×95+2×25+1×16	12.6	79.9	84.4	8,843	7,125	210	0.35	0.21	319
3×120+2×35+1×16	14.8	84.6	89.1	10,125	9,000	230	0.34	0.164	371
3×150+2×35+1×16	16	87.1	91.6	11,568	11,250	250	0.33	0.132	428
3×185+2×70+1×35	17.7	92.1	97.1	13,220	13,875	270	0.32	0.108	488
3×240+2×70+1×16	20.3	98.5	102.7	16,175	18,000	300	0.30	0.0817	574
3×300+2×95+1×16	31.3	104	109	18,837	22,500	420	0.27	0.0654	660

Complete Specifications — 18/30 kV & 20/35 kV (21 Configurations)

TENAX-SAS (N)TSCGEWOEU 18/30kV — 10 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×16+2×16+1×16	5	66	70	5,157	1,200	120	0.50	1.24	105
3×25+2×16+1×16	6.2	69.5	74	5,719	1,875	130	0.46	0.0795	139
3×35+2×16+1×16	7.5	72.3	76.8	6,264	2,625	140	0.44	0.565	172
3×70+2×25+1×16	10.6	80.7	85.2	8,607	5,250	180	0.38	0.277	265
3×95+2×25+1×16	12.6	85	89.5	9,992	7,125	190	0.37	0.21	319
3×120+2×35+1×16	14.8	91.6	96.1	11,324	9,000	210	0.35	0.164	371
3×150+2×35+1×16	16	94	98.5	12,509	11,250	220	0.34	0.132	428
3×185+2×50+1×16	17.7	97.8	102.3	14,542	13,875	240	0.33	0.108	488
3×240+2×70+1×16	20.3	103.4	107.9	17,234	18,000	270	0.32	0.0817	574
3×300+2×95+1×16	31.3	108	114	19,949	22,500	370	0.28	0.0654	660

Note: source data for this voltage class does not include a 3×50 mm² construction; the range steps from 35 mm² directly to 70 mm².

TENAX-SAS (N)TSCGEWOEU 20/35kV — 11 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×16+2×16+1×16	5	71	77	6,057	1,200	110	0.52	1.24	105
3×25+2×16+1×16	6.2	76	82	6,922	1,875	120	0.48	0.0795	139
3×35+2×16+1×16	7.5	78	84	7,508	2,625	130	0.46	0.565	172
3×50+2×16+1×16	9	82	88	8,346	3,750	140	0.43	0.393	215
3×70+2×25+1×16	10.6	88	94	10,008	5,250	160	0.40	0.277	265
3×95+2×25+1×16	12.6	92	98	11,155	7,125	170	0.39	0.21	319
3×120+2×35+1×16	14.8	96	104	12,872	9,000	190	0.37	0.164	371
3×150+2×35+1×16	16	99	107	14,112	11,250	200	0.36	0.132	428
3×185+2×50+1×16	17.7	103	111	15,331	13,875	210	0.35	0.108	488
3×240+2×70+1×16	20.3	109	117	18,633	18,000	240	0.33	0.0817	574
3×300+2×95+1×16	31.3	114	122	21,416	22,500	320	0.29	0.0654	660

Complete Configuration Summary — All 77 Specifications

Voltage Class	Test Voltage	Configurations	Conductor Range	Cable Ø Range	Current Range (A)
3.6/6 (7.2) kV	11 kV	13	3×16 – 3×300 mm²	40.5 – 89.0 mm	99 – 620
6/10 (12) kV	17 kV	11	3×16 – 3×300 mm²	42.5 – 92.5 mm	99 – 620
8.7/15 (17.5) kV	24 kV	11	3×16 – 3×300 mm²	47.0 – 97.0 mm	105 – 660
12/20 (24) kV	29 kV	10	3×16 – 3×300 mm²	53.5 – 103.5 mm	105 – 660
14/25 (29) kV	36 kV	11	3×16 – 3×300 mm²	59.0 – 109.0 mm	105 – 660
18/30 (36) kV	43 kV	10	3×16 – 3×300 mm²	66.0 – 114.0 mm	105 – 660
20/35 (42) kV	50 kV	11	3×16 – 3×300 mm²	71.0 – 122.0 mm	105 – 660
TOTAL: 77 Complete Specifications Across 7 Voltage Classes					

Applications

Application	Benefit
Shovels & Draglines	Fully flexible operation to -50°C for extreme cold-climate mining
Large Mobile Mining Equipment	Robust sheath resists abrasion and tearing in continuous trailing/reeling
Opencast Mine Power Distribution	7 voltage classes from 3.6/6 kV to 20/35 kV cover a wide range of installations
Aramid-Reinforced Trailing Systems	Central aramid element adds mechanical strength for demanding trailing duty

Ordering Information

For custom lengths, drum packaging, special conductor sizes, or technical consultation, please contact us directly via WhatsApp or visit our websites below. All 77 standard configurations are available ex-works with standard lead times.

Contact AnHui Feichun Special Cable Co., Ltd
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