TENAX-TTS-LWL

Medium Voltage Flexible Reeling Cable with Fiber Optics

Complete Technical Specification
Type: (N)TSCGEWOEU | All 31 Configurations

AnHui Feichun
Special Cable Co., Ltd
Professional Manufacturer



TENAX-TTS-LWL - Advanced Medium Voltage Flexible Reeling Cable with Integrated Fiber Optics

PRODUCT OVERVIEW

TENAX-TTS-LWL is an advanced flexible medium voltage reeling cable combining superior mechanical performance with integrated fiber optic data transmission. Engineered for extreme mechanical stresses, high travel speeds, dynamic loads, complex directional changes, and simultaneous power & data communication - ideal for fast-moving container cranes, smart industrial equipment, and Industry 4.0 applications.

KEY APPLICATIONS

- Fast-moving container cranes (STS)
- Smart industrial equipment
- Real-time data transmission
- IoT/Industry 4.0 systems
- Mobile power & communication
- High-speed hoisting systems
- Extreme stress environments

QUALITY FEATURES

POWER + DATA **FIBER OPTIC** **HIGH FLEX** **DURABLE** **ROBUST** **INTEGRATED**

ELECTRICAL & TECHNICAL PARAMETERS

Parameter	Specification
Brand/Type	TENAX-TTS-LWL
Type Designation	(N)TSCGEWOEU
Standard	Based on DIN VDE 0250-813, FDDI, ISO/IEC 9314 Part 3
Rated Voltages	3.6/6 kV | 6/10 kV | 8.7/15 kV | 12/20 kV
Core Configuration	3 Power Cores + 2 Earth Conductors (split) + 1 Fiber Tube
Conductor Material	Plain copper, fine stranded, class 5 (DIN EN 60228)
Insulation Type	Rubber, EPR-SHS EI6 super-clean compound
Fiber Optics	Standard: 12 fibers G62.5/125µm (MMF) Optional: 6, 18, 24 fibers | G50/125µm or E9/125µm types
Max. Tensile Load	20 N/mm² (standard) | Up to 25 N/mm² (dynamic acceleration)

Torsional Stress	±50°/m (SUPERIOR - highest in TENAX range)
Min. Bending Radius	20 × D (D = cable diameter)
Travel Speed (Reeling)	Up to 180 m/min
Ambient Temp (Fixed)	-40°C to +80°C
Ambient Temp (Flexible)	-25°C to +80°C
Max. Conductor Temp	90°C (continuous)
Short Circuit Temp	250°C (max)
EMC Performance	Extremely low interference level (symmetrical 3-core design)
Data Transmission	High data rate capability via integrated fiber optics (12 fibers standard)

FIBER OPTIC SPECIFICATIONS

G62.5/125MM MULTIMODE (STANDARD)

- Attenuation@850nm: <3.3 dB/km
- Attenuation@1310nm: <0.9 dB/km
- Bandwidth@850nm: >400 MHz
- Bandwidth@1300nm: >600 MHz
- NA: 0.275 ± 0.02

OPTIONAL FIBER TYPES

- G50/125µm: Higher bandwidth
- E9/125µm: Singlemode option
- Fiber count: 6, 12, 18, 24 fibers
- All types fully integrated
- Complete environmental protection

TENAX-TTS-LWL 3.6/6 KV - 7 CONFIGURATIONS

3.6/6 kV + 12×(6G62.5) Fiber

Config	Part No.	Ø P(mm)	Ø min(mm)	Ø max(mm)	Wt(kg/km)	Tens(N)	R@20°C	Cap(µF/km)	I(A)	I²t(kA²)
3×25+2×25/2+1FO	20007613	7.1	35.5	38.5	2220	1500	0.78	0.37	131	3.58
3×35+2×25/2+1FO	20007426	8.4	39.3	42.3	2780	2100	0.554	0.43	162	5.01
3×50+2×25/2+1FO	20007893	10.1	42.8	45.8	3440	3000	0.386	0.49	202	7.15
3×70+2×35/2+1FO	20156763	11.8	46.6	49.6	4350	4200	0.272	0.55	250	10.01
3×95+2×50/2+1FO	-	13.8	53.1	56.1	5230	5700	0.21	0.62	301	13.59
3×150+2×70/2+1FO	-	16.5	63	67	7600	9000	0.13	0.73	404	21.45
3×185+2×95/2+1FO	-	18.5	67	72	9200	11100	0.11	0.79	461	26.46

TENAX-TTS-LWL 6/10 KV - 7 CONFIGURATIONS

6/10 kV + 12×(6G62.5) Fiber

Config	Part No.	Ø P(mm)	Ø min(mm)	Ø max(mm)	Wt(kg/km)	Tens(N)	R@20°C	Cap(µF/km)	I(A)	I²t(kA²)
3×25+2×25/2+1FO	20091982	6.2	40	43	2480	1500	0.78	0.35	131	3.58
3×35+2×25/2+1FO	20074719	7.7	42	45	2950	2100	0.55	0.39	162	5.01
3×50+2×25/2+1FO	20096115	9.3	45	48	3480	3000	0.39	0.45	202	7.15
3×70+2×35/2+1FO	20092017	11.5	51	55	4710	4200	0.27	0.51	250	10.01
3×95+2×50/2+1FO	20086347	12.8	55	59	5550	5700	0.21	0.58	301	13.59
3×150+2×70/2+1FO	-	16.5	63	67	7600	9000	0.13	0.69	404	21.45
3×185+2×95/2+1FO	-	18.5	68	73	9350	11100	0.11	0.75	461	26.46

TENAX-TTS-LWL 8.7/15 KV - 8 CONFIGURATIONS

8.7/15 kV + 12×(6G62.5) Fiber

Config	Part No.	Ø P(mm)	Ø min(mm)	Ø max(mm)	Wt(kg/km)	Tens(N)	R@20°C	Cap(μF/km)	I(A)	I²t(kA²)
3×25+2×25/2+1FO	20004664	7.1	43.5	46.5	2890	1500	0.8	0.28	139	3.58
3×35+2×25/2+1FO	20004667	8.3	46.1	49.1	3380	2100	0.57	0.33	172	5.01
3×50+2×25/2+1FO	20004668	9.9	50.5	54.5	4260	3000	0.39	0.39	215	7.15
3×70+2×35/2+1FO	-	11.8	58.2	62.2	5640	4200	0.28	0.44	265	10.01
3×95+2×50/2+1FO	-	13.8	64	68	7050	5700	0.21	0.51	319	13.59
3×150+2×70/2+1FO	20161633	17.2	73.3	77.3	9840	9000	0.13	0.62	428	21.45
3×185+2×95/2+1FO	-	19	77.2	81.2	11410	11100	0.11	0.68	488	26.46
3×240+2×120/2+1FO	-	21.8	85.1	90.1	14440	14400	0.08	0.76	574	34.32

TENAX-TTS-LWL 12/20 KV - 9 CONFIGURATIONS

12/20 kV + 12×(6G62.5) Fiber

Config	Part No.	Ø P(mm)	Ø min(mm)	Ø max(mm)	Wt(kg/km)	Tens(N)	R@20°C	Cap(μF/km)	I(A)	I²t(kA²)
3×25+2×25/2+1FO	20004698	7.1	44	47	2980	1500	0.8	0.26	139	3.58
3×35+2×25/2+1FO	20004699	8.3	47.3	50.3	3480	2100	0.57	0.30	172	5.01
3×50+2×25/2+1FO	-	9.9	51	54	4220	3000	0.39	0.36	215	7.15
3×70+2×35/2+1FO	20007667	11.8	55.5	59.5	5440	4200	0.28	0.41	265	10.01
3×95+2×50/2+1FO	-	13.8	61	65	6810	5700	0.21	0.48	319	13.59
3×120+2×70/2+1FO	-	15.4	65.2	69.2	8230	7200	0.16	0.53	371	17.16
3×150+2×70/2+1FO	20161632	17.2	70.2	74.2	9580	9000	0.13	0.59	428	21.45
3×185+2×95/2+1FO	-	19	74.7	78.7	11190	11100	0.11	0.65	488	26.46
3×240+2×120/2+1FO	-	21.8	82.9	86.9	14240	14400	0.08	0.73	574	34.32

MATERIAL & COMPOSITION DETAILS

Component	Specification
Conductor	Plain copper (non-tinned), fine stranded, class 5 per DIN EN 60228
Insulation	Rubber EPR-SHS EI6 - Super-clean compound for optimal electrical properties
Field Control Layers	Inner & outer semiconductive rubber for excellent field control
Core Arrangement	3 power cores + 2 split earth conductors + 1 integrated fiber tube with 12 fibers
Inner Sheath	Special rubber (5GM3) with conductive aramid rope center
Anti-Torsion Braid	Polyester reinforced for superior torsion resistance (±50°/m)
Outer Sheath	Abrasion-proof rubber (5GM5), oil, ozone & UV resistant
Fiber Integration	12 G62.5/125μm fibers in protected tube; optional types available

CONTACT & TECHNICAL SUPPORT

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Service: 24/7 Technical Support & Custom Solutions

TENAX-TTS-LWL Complete Portfolio: 31 configurations across 4 voltage levels (3.6/6 kV, 6/10 kV, 8.7/15 kV, 12/20 kV) | Integrated 12×G62.5 fiber optics | EPR-SHS EI6 super-clean insulation | Superior anti-torsion design (±50°/m) | High-speed capability (up to 180 m/min reeling) | Power + Data unified solution

Standards Compliance: DIN VDE 0250-813, DIN EN 60228, VDE 0295, DIN VDE 0298 Part 3-4, FDDI, ISO/IEC 9314 Part 3

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TENAX-TTS-LWL - Complete Edition with all 31 configurations. Integrated with standard 12 fibers G62.5/125μm multimode. Optional: 6/18/24 fibers, G50/125μm (MMF) or E9/125μm (SMF) types available. For extended specifications and custom configurations, consult technical support.