ANHUI FEICHUN SPECIAL CABLE CO., LTD.

安徽飞纯特种电缆有限公司

TECHNICAL SPECIFICATION SHEET

Product Designation

Model: (N)TSCGEWTOEUS

Configuration: **3x300mm²+2x185/2mm²+1x(2x10ST+12G62.5LWL)**

Voltage Rating: 6/10kV

Application: Medium Voltage Trailing Cable for Mining Operations



GENERAL DESCRIPTION

The (N)TSCGEWTOEUS medium voltage trailing cable is engineered for demanding mining and heavy industrial applications. This cable provides reliable power transmission to large-scale mobile equipment including excavators, draglines, and mining shovels. Designed for exceptional performance in extreme conditions, this cable maintains full operational flexibility at temperatures as low as -50°C while offering superior resistance to mechanical stress, abrasion, and environmental hazards.

CABLE CONSTRUCTION

► **(1) Power Conductors: 3 × 300 mm²**

Extra finely stranded bare copper conductors conforming to Class FS

Extruded semiconductive conductor screening layer

EPR (Ethylene Propylene Rubber) insulation system

Extruded semiconductive insulation screening

► **(2) Earth Conductors: 2 × 185/2 mm²**

Extra finely stranded bare copper conductors, Class FS

Extruded semiconductive compound over conductors

► **(3) Pilot Conductors: 2 × 10 mm²**

Extra finely stranded bare copper conductors, Class FS

EPR insulation system

► **(4) Fiber Optic Element: 12G62.5μm**

6 loose buffer tubes configuration

2 multimode fibers per tube

► **(5) Common Rubber Sheath**

Protective layer encompassing FO element and pilot cores

► **(6) EPR Inner Sheath**

High-grade EPR compound for enhanced flexibility

► **(7) Reinforcement Layer**

Polyester yarn braid for mechanical strength

► **(8) CR Outer Sheath**

Chloroprene rubber outer sheath in red color

TECHNICAL SPECIFICATIONS

Physical Characteristics

Overall Cable Diameter	81.8 – 85.8 mm
Cable Weight	Approximately 14,700 kg/km
Conductor Material	Copper, extra finely stranded (Class FS)
Insulation Type	EPR (Ethylene Propylene Rubber)

Electrical Parameters

Parameter	Value	Unit
Rated Voltage U_0/U (Um)	6/10 (12)	kV
Test Voltage	17	kV
Nominal Operating Voltage	10,000	V
Conductor Resistance at 20°C	0.0642	Ω/km
Operating Capacitance	695	nF/km
Operating Self-Inductance	0.25	mH/km
Current Carrying Capacity	635	A

Thermal Characteristics

Parameter	Value	Unit
Maximum Conductor Temperature (Continuous)	90	°C
Maximum Conductor Temperature (Short Circuit)	250	°C
Operating Temperature Range (Fixed Installation)	-50 to +80	°C
Operating Temperature Range (Flexible Operation)	-50 to +60	°C

Mechanical Properties

Parameter	Value	Unit/Description
Torsional Stress Capacity	±100	°/m

Parameter	Value	Unit/Description
Maximum Tensile Strength	23,000	N
Permanent Tensile Strength	25	N/mm²
Minimum Bending Radius (Fixed Installation)	6 × D	Times cable diameter
Minimum Bending Radius (Flexible Operation)	10 × D	Times cable diameter
Minimum Bending Radius (S-type Direction Changes)	20 × D	Times cable diameter

Chemical Resistance Properties

Flame Retardancy	Compliant with IEC 60332-1-2 / EN 60332-1-2
Oil Resistance	Excellent resistance to mineral oils and hydrocarbons
Ozone Resistance	Outstanding ozone resistance per IEC 60811-403
UV Resistance	Superior UV stability for outdoor applications
Chemical Resistance	Resistant to acids, alkalis, and industrial chemicals

APPLICABLE STANDARDS & CERTIFICATIONS

Standard/Specification	Description
DIN VDE 0250-813	General cable construction requirements
DIN VDE 0207-21	Compound specifications
DIN VDE 0298-4	Electrical parameter requirements
DIN EN 60228 / IEC 60228 / VDE 0295	Conductor specifications
DIN EN 60811-404 / IEC 60811-404	Chemical behavior requirements
DIN EN 60332-1-2 / IEC 60332-1-2	Fire performance standards
GOST-R / GOST-K / GOST-B	Russian Federation Fire Certificate

DIMENSIONAL DATA TABLE

Construction	Conductor Ø (mm)	Cable Ø Min (mm)	Cable Ø Max (mm)	Weight (kg/km)	Max. Tensile (N)	Current Rating (A)
3x16+2x16+1x16	5.0	42.8	46.8	2,645	1,200	102
3x25+2x16+1x16	6.2	46.3	49.9	3,078	1,875	134
3x35+2x16+1x16	7.5	52.8	56.8	3,512	2,625	165
3x50+2x16+1x16	9.0	52.3	56.8	4,125	3,750	206

Construction	Conductor Ø (mm)	Cable Ø Min (mm)	Cable Ø Max (mm)	Weight (kg/km)	Max. Tensile (N)	Current Rating (A)
3x70+2x25+1x16	10.6	57.3	61.8	5,285	5,250	255
3x95+2x25+1x16	12.6	61.9	66.4	6,568	7,125	307
3x120+2x35+1x16	14.8	64.5	69.0	7,705	9,000	358
3x150+2x35+1x16	16.0	70.9	75.4	8,782	11,250	412
3x185+2x50+1x16	17.7	74.7	79.2	10,572	13,875	470
3x240+2x70+1x16	20.3	82.1	86.6	13,025	18,000	550
3x300+2x185/2+1x(2x10+12G62.5)	31.3	81.8	85.8	14,700	23,000	635

FEICHUN SPECIAL CABLES

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