

FEICHUN CABLE

Anhui Feichun Special Cable Co., Ltd.
安徽飞纯特种电缆有限公司

TENAX-SAS (N)TSCGEWOEU

3.6/6kV Medium Voltage Cable for Trailing Applications
Cold Flexible to -50°C



Product Overview

Application

As power supply cable to large mobile equipment in mines. Trailing cable for use with shovels and draglines in trailing and reeling applications. The outer sheath is extremely robust and tough against abrasion and tearing, fully flexible operation down to -50°C.

Standards & Certifications

Based on DIN VDE 0250-813

GOST-R/-K/-B Fire Certificate

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

Technical Specifications

Electrical Parameters

Rated Voltage U_0/U (Um):	3.6/6 (7.2) kV
Nominal Voltage U:	6000 V
Test Voltage:	11 kV
Max. Conductor Temperature:	90°C
Short Circuit Temperature:	250°C

Temperature Parameters

Fixed Installation (min):	-50°C
Fixed Installation (max):	+80°C
Flexible Installation (min):	-50°C
Flexible Installation (max):	+60°C

Mechanical Properties

Torsional Stress:	$\pm 100^\circ/\text{m}$
Permanent Tensile Strength:	25 N/mm ²
Bending Radius (Fixed):	6 × D
Bending Radius (Flexible):	10 × D
Min. Distance S-type Changes:	20 × D

Chemical Properties

Flame Retardant: EN/IEC 60332-1-2	
Oil Resistant:	Yes
Ozone Resistance:	Yes
UV Resistant:	Yes
Abrasion Resistant:	Extremely Robust

Construction Details

Conductor

Finely stranded copper, tinned, Class 5 according to DIN EN 60228/IEC 60228/VDE 0295

Core Arrangement

Cores laid up around conductive central support element with aramid rope in the centre

Inner Semi-conducting Layer

Semi-conductive EPR (Ethylene Propylene Rubber)

Core Insulation

EPR rubber - Special compound 3GI3

Outer Semi-conducting Layer

Semi-conductive NBR (Nitrile Butadiene Rubber), easy-strip

Pilot Conductor

Copper, tinned Class 5 with EPR insulation

Inner Sheath

EPR rubber - Special compound 5GM3

Outer Sheath

Rubber - Special compound > 5GM3, extremely robust and tough against abrasion and tearing

Complete Technical Data Table

Product Number	Basic Construction	Conductor Diameter	Cable Diameter (min)	Cable Diameter (max)	Cable Weight	Application
		mm	mm	mm	kg/km	
20095522	3×16+2×10+1×10	5	41	45	2270	Mining Equipment Power Supply
TENAX_SAS_6KV_004	3×16+2×16+1×16	5	40.5	44.5	2469	Trailing Applications
20092078	3×25+2×16+1×16	6.2	43.5	47.5	2790	Shovel & Dragline

Product Number	Basic Construction	Conductor Diameter	Cable Diameter (min)	Cable Diameter (max)	Cable Weight	Application
		mm	mm	mm	kg/km	
20076465	3×35+2×16+1×16	7.5	46.5	50	3280	Mobile Mining Equipment
20114035	3×50+2×16+1×16	9	49.5	54	3900	High Power Applications
20076466	3×70+2×25+1×16	10.6	55	59.5	5020	Heavy Duty Mining
20173155	3×95+2×25+1×16	12.6	58.5	63	5860	Large Mobile Equipment
20194515	3×95+3×50/3	12.6	58.5	63	5800	Alternative Configuration
20087396	3×120+2×35+1×16	14.8	65.5	70	7410	High Current Applications
20292483	3×150+2×35+1×16	16	69.8	73.4	8456	Maximum Power Transfer
TENAX_SAS_6KV_005	3×185+2×50+1×16	17.7	72.7	77.2	9955	Ultra High Power
TENAX_SAS_6KV_007	3×240+2×70+1×16	20.3	80.1	84.6	12618	Maximum Capacity
TENAX_SAS_6KV_010	3×300+2×95+1×16	22	84	89	15075	Ultimate Power Solution

Installation Guidelines

Bending Radii Requirements

Fixed Installation: Minimum bending radius = 6 × Cable diameter

Flexible Operation: Minimum bending radius = 10 × Cable diameter

S-type Directional Changes: Minimum distance = 20 × Cable diameter

Operating Environment

Temperature Range: -50°C to +80°C (fixed installation), -50°C to +60°C (flexible installation)

Special Features: Fully flexible operation down to -50°C, extreme abrasion and tear resistance

Handling Instructions

Torsional Stress: Maximum ±100°/m during installation and operation

Tensile Strength: Permanent rating of 25 N/mm² for conductor cross-section

Environmental Resistance: Suitable for harsh mining environments with oil, ozone, and UV exposure

Special Features

Arctic Performance

Cold Flexibility: **-50°C**

Material Technology: **Special Compound**

Flexibility Retention: **100% at -50°C**

Durability Features

Abrasion Resistance: **Extreme**

Tear Resistance: **Ultra High**

Sheath Robustness: **Mining Grade**

Construction Advantages

Central Support: **Conductive with Aramid**

Conductor Class: **Class 5 Stranding**

Easy
Stripping:

NBR Outer Semi-
con



FEICHUN SPECIAL CABLES

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