FEICHUN (RTS) (N)TSCGEWTOEUS Cable

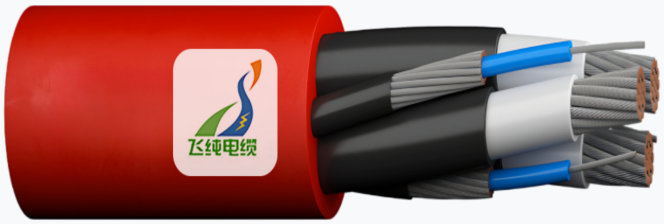
Technical Specification Document

Reeling Cables 1.8/3 (3.6) kV up to 18/30 (36) kV

Document Type: Technical Specification

Product Category: Industrial Reeling Cables

Voltage Range: 1.8/3 kV - 18/30 kV



Product Overview

The FEICHUN (RTS) (N)TSCGEWTOEUS cable is a high-performance flexible reeling cable engineered for the most demanding industrial applications. This cable combines exceptional mechanical durability with superior electrical reliability, making it the ideal choice for heavy-duty mobile equipment and extreme operating conditions.

Key Features: Advanced EPDM-based insulation system, six-core design for optimal EMC performance, high-tensile synthetic reinforcement, and specialized sandwich outer sheath construction for maximum flexibility and durability.

Applications

Primary Applications

- Flexible reeling cable for energy supply systems

- High and extreme mechanical stress environments
- Torsional stress and high-speed reeling operations
- Multi-plane deflection applications
- Festoon systems
- Open-cast and underground mining operations

Specific Equipment Applications

- Ship to Shore Cranes (STS)
- Rail Mounted Gantry Cranes (RMG)
- Ship Unloaders
- Stacker Reclaimers
- Heavy mobile equipment systems
- Port and terminal equipment

Cable Design and Construction

1

Conductor

Material: Flexible, plain copper
Construction: "FSC" grade - superior to IEC 60228 class 5 requirements
Type: High-flexibility stranded design for optimal performance

2

Insulation System

Inner Semi-conductive Layer: Advanced compound formulation
Main Insulation: Proprietary "FEICHUN" compound based on EPDM rubber

Performance: Exceeds DIN VDE 207 part 20 specifications
Outer Semi-conductive Layer: "RHEYSTRIP" easy-strip design

3

Protective Earth Conductor

Material: Flexible, plain copper
Construction: "FSC" grade - superior to IEC 60228 class 5 requirements

4

Semi-conductive Layer

Function: High-performance screening system for electrical integrity

5

Inner Sheath

Material: Special synthetic rubber compound
Performance: Superior to GM1b specifications

6

Reinforcement

Material: High-tensile strength synthetic threads
Function: Protection against twist stress and pressure loads

7

Outer Sheath

Construction: Advanced sandwich design
Properties: Optimized flexibility, superior abrasion resistance
Material: Special rubber compound
Color: Red (standard)

Core Configuration: Six-core design with three phase conductors and three protective earth conductors positioned in interstices. Lay length optimized for specific applications.

Standards Compliance

All FEICHUN cables are manufactured in strict accordance with the following international and European standards:

- DIN VDE 0250 part 813
- DIN VDE 0295
- DIN VDE 0298
- DIN VDE 0472
- prEN 50363

Technical Properties

Mechanical Properties

Conductor Tensile Stress (Static):	15 N/mm²
Conductor Tensile Stress (Dynamic):	30 N/mm²
Bending Radii:	Per DIN VDE 298
Maximum Reeling Speed:	Up to 190 m/min
Testing:	Alternating/reversed bending, torsional resistance

Chemical Properties

✓ Oil resistant
✓ Indoor and outdoor applications
✓ Moisture resistant
✓ UV resistant
✓ Ozone resistant
✓ Flame-retardant (IEC 60332 part 1)

Electrical Properties

EMC Compatibility:	Excellent (6-core design)
Nominal Voltage (Uo/U):	1.8/3 kV to 18/30 kV
Max Operating Voltage (AC):	Um = 1.2 × U
Max Operating Voltage (DC):	Vm = 1.8 × U
Test Voltage (AC):	11 to 45 kV
Test Voltage (DC):	27.5 to 107.5 kV

Thermal Properties

Max Conductor Temp (Service):	+90°C
Max Conductor Temp (Short-circuit):	+250°C
Surface Temp (Fixed Installation):	-50°C to +80°C
Surface Temp (Mobile Operation):	-35°C to +80°C

Cable Specifications

1.8/3 (3.6) kV

Cores & Cross-section (mm^2)	Outer Diameter (mm)	Weight (kg/km)	Tensile Strength (N)
3 × 25 + 3 × 25/3	31-34	1,850	3,000
3 × 35 + 3 × 25/3	34-37	2,320	3,000
3 × 50 + 3 × 25/3	38-41	2,900	3,000
3 × 70 + 3 × 35/3	43-46	3,900	4,200
3 × 95 + 3 × 50/3	49-51	4,900	5,700
3 × 120 + 3 × 70/3	54-57	6,120	7,200
3 × 150 + 3 × 70/3	57-60	7,180	9,000
3 × 185 + 3 × 95/3	62-65	8,600	11,100
3 × 240 + 3 × 120/3	69-72	10,800	14,400
3 × 300 + 3 × 150/3	76-79	13,250	18,000

3.6/6 (7.2) kV

Cores & Cross-section (mm²)	Outer Diameter (mm)	Weight (kg/km)	Tensile Strength (N)
3 × 25 + 3 × 25/3	39-42	2,350	3,000
3 × 35 + 3 × 25/3	42-45	2,900	3,000
3 × 50 + 3 × 25/3	46-49	3,550	3,000
3 × 70 + 3 × 35/3	49-52	4,460	4,200
3 × 95 + 3 × 50/3	55-58	5,500	5,700
3 × 120 + 3 × 70/3	58-61	6,600	7,200
3 × 150 + 3 × 70/3	64-67	8,000	9,000
3 × 185 + 3 × 95/3	68-71	9,300	11,100
3 × 240 + 3 × 120/3	73-76	11,350	14,400
3 × 300 + 3 × 150/3	80-84	13,750	18,000

6/10 (12) kV & 8.7/15 (18) kV

Cores & Cross-section (mm²)	Outer Diameter (mm)	Weight (kg/km)	Tensile Strength (N)
3 × 25 + 3 × 25/3	39-42	2,350	3,000
3 × 35 + 3 × 25/3	42-45	2,900	3,000
3 × 50 + 3 × 25/3	46-49	3,550	3,000
3 × 70 + 3 × 35/3	49-52	4,460	4,200
3 × 95 + 3 × 50/3	55-58	5,500	5,700
3 × 120 + 3 × 70/3	58-61	6,600	7,200
3 × 150 + 3 × 70/3	64-67	8,000	9,000
3 × 185 + 3 × 95/3	68-71	9,300	11,100
3 × 240 + 3 × 120/3	73-76	11,350	14,400
3 × 300 + 3 × 150/3	80-84	13,750	18,000

12/20 (24) kV

Cores & Cross-section (mm²)	Outer Diameter (mm)	Weight (kg/km)	Tensile Strength (N)
3 × 25 + 3 × 25/3	46-49	3,000	3,000
3 × 35 + 3 × 25/3	48-51	3,400	3,000
3 × 50 + 3 × 25/3	50-53	3,900	3,000
3 × 70 + 3 × 35/3	55-58	5,050	4,200
3 × 95 + 3 × 50/3	58-61	5,900	5,700
3 × 120 + 3 × 70/3	61-64	6,950	7,200
3 × 150 + 3 × 70/3	66-69	8,210	9,000
3 × 185 + 3 × 95/3	70-73	9,550	11,100
3 × 240 + 3 × 120/3	77-80	12,200	14,400
3 × 300 + 3 × 150/3	82-85	14,100	18,000

14/25 (30) kV

Cores & Cross-section (mm²)	Outer Diameter (mm)	Weight (kg/km)	Tensile Strength (N)
3 × 35 + 3 × 25/3	53-56	3,950	3,000
3 × 50 + 3 × 25/3	55-58	4,480	3,000
3 × 70 + 3 × 35/3	58-61	5,460	4,200
3 × 95 + 3 × 50/3	62-65	6,400	5,700
3 × 120 + 3 × 70/3	64-67	7,300	7,200
3 × 150 + 3 × 70/3	69-72	8,710	9,000
3 × 185 + 3 × 95/3	73-76	10,200	11,100
3 × 240 + 3 × 120/3	79-82	12,400	14,400
3 × 300 + 3 × 150/3	84-87	14,600	18,000

18/30 (36) kV

Cores & Cross-section (mm^2)	Outer Diameter (mm)	Weight (kg/km)	Tensile Strength (N)
3 × 35 + 3 × 25/3	60-63	4,830	3,000
3 × 50 + 3 × 25/3	62-65	5,310	3,000
3 × 70 + 3 × 35/3	64-67	6,150	4,200
3 × 95 + 3 × 50/3	66-69	7,000	5,700
3 × 120 + 3 × 70/3	69-72	8,050	7,200
3 × 150 + 3 × 70/3	75-78	9,510	9,000
3 × 185 + 3 × 95/3	77-80	10,800	11,100
3 × 240 + 3 × 120/3	85-88	13,300	14,400
3 × 300 + 3 × 150/3	89-93	15,500	18,000

Available Options

Sheath Customization

Alternative sheath qualities and colors available upon request to meet specific application requirements.

Monitoring Conductors

Available as concentric or individual core configuration for advanced system monitoring capabilities.

Additional Cores

Signal cores and telecommunication cores can be incorporated for integrated communication systems.

Pre-assembly Services

Cables can be supplied pre-assembled with sealing ends and connectors upon request for plug-and-play installation.

Quality Assurance

All FEICHUN cables undergo comprehensive quality control testing to ensure optimal performance in demanding applications. Our manufacturing process includes rigorous testing protocols for electrical integrity, mechanical durability, and environmental resistance. Each cable is designed to exceed standard requirements for flexibility, durability, and electrical performance, ensuring reliable operation in the most challenging industrial environments.

> **Testing Protocol:** Every cable batch undergoes alternating/reversed bending tests, torsional resistance testing, voltage withstand tests, and flame retardancy verification according to applicable international standards.

FEICHUN SPECIAL CABLES

Website Address www.reelingcable.com www.feichuncables.com
Whatsapp Account + 86 13855123218
Email Address Zihao.yang@feichuncables.com & Ziyu.huang@feichuncables.com