FEICHUN CABLE

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

TECHNICAL SPECIFICATION DATASHEET

NHXSGAFHXÖ 3.6/6KV (Non-Screened Version)

PRODUCT CLASSIFICATION

Halogen-Free Single Core Power Cables with Enhanced Fire Performance Characteristics

Designed for railway rolling stock applications requiring exceptional safety standards and operational reliability in fixed installations with limited operational flexing requirements.

APPLICABLE STANDARDS & COMPLIANCE

DIN EN 50264-3-1	IEC 60228
DIN EN 50264-1	DIN EN 50305
DIN EN 45545	DIN EN 61034-2
IEC 60332-3-24	IEC 60332-1-2
IEC 60811-404	

TECHNICAL SPECIFICATIONS OVERVIEW

Conductor Design

Material Composition	Tinned Copper, Class 5 Stranded
Stranding Classification	Fine Stranded per DIN EN 60228
Surface Treatment	Electrolytic Tin Plating
Flexibility Class	Class 5 (Flexible)
Corrosion Resistance	Enhanced ✓
Solderability	Optimized ✓

Insulation & Sheath System

Core Insulation	Cross-linked LS0H Compound
Outer Sheath Material	EVA Rubber (Ethylene Vinyl Acetate)
Screening Configuration	Non-Screened Design
Halogen Content	Halogen-Free ✓
Low Smoke Emission	IEC/EN 61034-2 Compliant
Flame Retardancy	IEC 60332-3-24 Certified

ELECTRICAL PERFORMANCE PARAMETERS

Rated Voltage U_0/U (Um)	3.6/6 (7.2) kV
Test Voltage (AC)	11 kV
Maximum Operating Temperature	120°C
Short Circuit Temperature (Max)	250°C
Installation Temperature (Min)	-40°C
Impulse Withstand	Per DIN EN 50264-1

MECHANICAL & ENVIRONMENTAL PROPERTIES

Tensile Strength (Minimum)	15 N/mm²
UV Resistance	Enhanced Protection

Oil Resistance	IEC/EN 60811-404 Certified	**Chemical Resistance**	Superior Grade
Ozone Resistance	Excellent Performance	**Moisture Absorption**	Minimal (< 0.5%)

Installation Guidelines:
• Fixed Installation: OD ≤ 12mm: 3× OD minimum bend radius | OD > 12mm: 4× OD minimum bend radius
• Mobile Applications: OD ≤ 12mm: 4× OD minimum bend radius | OD > 12mm: 5× OD minimum bend radius

PRODUCT RANGE SPECIFICATIONS

Cross-Section [mm²]	Product Code	Cable Diameter Min [mm]	Cable Diameter Max [mm]	Fire Load [MJ/km]	Cable Weight [kg/km]	Designation
1.5	203334291	7.8	8.4	145	95	FC7601
2.5	203008051	8.4	9.2	160	110	FC7602
4	200027791	9.2	10.1	175	135	FC7603
6	201524091	9.8	10.6	190	155	FC7604
10	202165121	10.7	11.8	220	205	FC7605
16	200027801	12.8	14.0	295	300	FC7606
25	200027811	14.9	16.1	390	435	FC7607
35	200027821	16.0	17.5	435	540	FC7608
50	200027831	17.5	19.0	485	705	FC7609
70	200027841	19.0	20.5	545	920	FC7610
95	200027851	20.7	22.2	615	1140	FC7611
120	200027861	22.8	24.9	785	1430	FC7612

Cross-Section [mm²]	Product Code	Cable Diameter Min [mm]	Cable Diameter Max [mm]	Fire Load [MJ/km]	Cable Weight [kg/km]	Designation
150	200027871	24.7	26.2	860	1720	FC7613
185	200027881	26.4	28.8	925	2080	FC7614
240	201602941	30.4	32.8	1135	2680	FC7615
300	203667881	32.7	35.1	1240	3290	FC7616
400	203188551	36.0	39.6	1395	4200	FC7617
500	203202371	39.4	43.0	1605	5170	FC7618

FIRE PERFORMANCE & SAFETY CHARACTERISTICS

Flame Propagation	IEC 60332-3-24 Compliant	**Toxic Gas Emission**	Halogen-Free (HF < 0.5%)
Single Cable Flame Test	IEC 60332-1-2 Certified	**Fire Resistance Rating**	Enhanced Performance Grade
Smoke Density	Low Emission per IEC/EN 61034-2	**Railway Safety Standard**	DIN EN 45545 Certified

APPLICATION GUIDELINES

Intended Applications

These cables are specifically engineered for deployment in railway rolling stock applications where fixed wiring installations are required, or where connection points experience limited operational flexing during service. The non-screened configuration makes them particularly suitable for power distribution circuits where electromagnetic interference is not a primary concern.

Installation Considerations

Installation must be conducted in accordance with applicable railway standards and local electrical codes. Particular attention should be paid to minimum bend radius requirements and temperature constraints during installation and operation. Cable routing should avoid sharp edges and provide adequate support to prevent mechanical stress.

QUALITY ASSURANCE & CERTIFICATIONS

Manufacturing Excellence: All products manufactured under ISO 9001:2015 quality management system with full traceability documentation. Each production lot undergoes comprehensive electrical, mechanical, and fire performance testing to ensure compliance with specified standards.

FEICHUN SPECIAL CABLES

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