REPLACEMENT FOR TF KABLE NTSKCGWÖU | 0.6/1 kV | NTSKCGWÖU loader cable | PCP rubber | article datasheet

FC-NTSKCGWÖU 3×16+1×10+2×6

0.6/1 kV

Loader and Shuttle-Car Trailing Cable – polychloroprene (PCP/CR) rubber compound 5GM5 to DIN VDE 0207-21, black. FeiChun replacement for TF Kable NTSKCGWÖU: construction, dimensions, weight, current rating, standards and installation guidance.

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01 Application and Product Overview

FC-NTSKCGWÖU 3×16+1×10+2×6 is a loader and Shuttle-Car Trailing Cable rated 0.6/1 kV and the FeiChun replacement for TF Kable NTSKCGWÖU 3×16+1×10+2×6. It has an outer diameter of 25.5 – 27.0 mm, weighs about 1,140 kg/km and carries 99 A in free air at 30 °C. The series covers 16 – 50 mm².

Typical applications

- Loaders, shuttle cars and continuous miners in underground mines
- Trailing operation with frequent bending and pulling
- Earth-continuity monitoring through pilot conductors
- Wet, abrasive environments

Design

Three power cores with one protective conductor and two pilot cores in the interstices, under an anti-twist braid. The pilots carry the earth-continuity monitoring loop of the loader.

3×16+1×10+2×6	0.6/1 kV	99 A	Ø 27.0 mm
Cross-section	Rated voltage U_0/U	Current at 30 °C	Outer dimension, max

Key features

- Fine-wire class 5 tinned or bare copper conductors to IEC 60228
- EPR rubber compound 3GI3 to DIN VDE 0207-20 insulation
- Flame-retardant to IEC 60332-1-2; oil, ozone and UV resistant

Replacement reference

REFERENCE PRODUCT	⇄	FEICHUN REPLACEMENT
TF Kable NTSKCGWÖU 3×16+1×10+2×6 NTSKCGWÖU loader cable		**FC-NTSKCGWÖU 3×16+1×10+2×6 0.6/1 kV** Loader and Shuttle-Car Trailing Cable

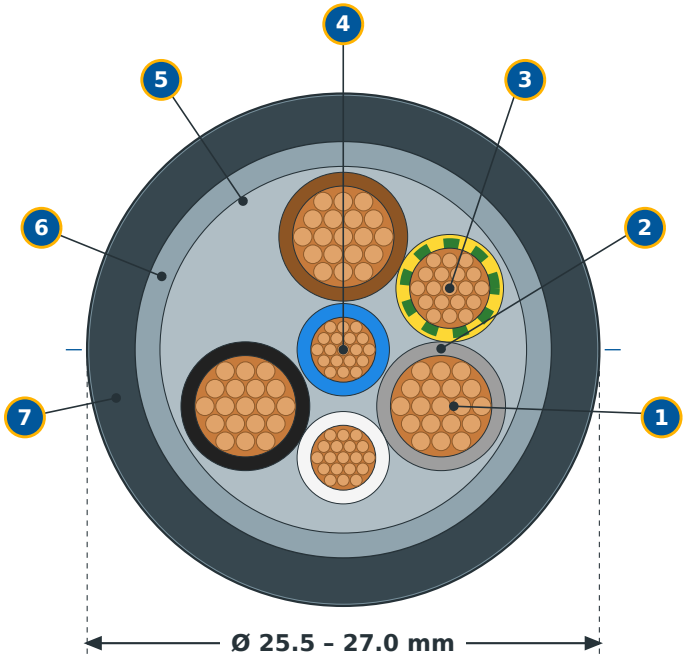
The FeiChun cable has the same core configuration, voltage rating and field of application as the reference product. Dimensions and weights are FeiChun design values; compare them with reels, guides and glands before direct replacement.

02 Construction

FEICHUN · CROSS-SECTION A-A · 0.6/1 kV

FC-NTSKCGWÖU

Sample size 3×16+1×10+2×6 · Rev 0 · Illustrative, not to scale



No.	Component	Material
1	Conductor	Fine-wire copper, class 5 to IEC 60228
2	Insulation	EPR rubber compound 3GI3 to DIN VDE 0207-20
3	Protective conductor	Green-yellow insulated copper
4	Pilot cores	Insulated copper, blue/white
5	Filler and anti-twist braid	Rubber compound, polyester braid
6	Inner sheath	Rubber or elastomer compound
7	Outer sheath	Polychloroprene (PCP/CR) rubber compound 5GM5 to DIN VDE 0207-21, black

The drawing shows 3×16+1×10+2×6. Other sizes have the same construction with scaled dimensions.

Construction details

Conductor	Fine-wire tinned or bare copper, class 5 to IEC 60228 / DIN VDE 0295
Insulation	EPR rubber compound 3GI3 to DIN VDE 0207-20
Pilot / ground-check	2 × 6 mm², blue/white insulation
Core identification	Colour coded to HD 308 / DIN VDE 0293
Inner sheath	Rubber or elastomer compound
Outer sheath	Polychloroprene (PCP/CR) rubber compound 5GM5 to DIN VDE 0207-21, black

Sheath material

Polychloroprene (PCP/CR) rubber 5GM5 is the classic heavy-duty sheath of DIN VDE 0250 cables: flame-retardant, resistant to oil, weather, ozone and UV radiation, and elastic under repeated bending.

03 Electrical, Thermal and Mechanical Data

Electrical data

Rated voltage U_0/U	0.6/1 kV AC
Test voltage	3.5 kV AC, 5 min
Current-carrying capacity	DIN VDE 0298-4, 30 °C ambient; see table
Conductor resistance	Maximum at 20 °C, class 5 to IEC 60228

Thermal and mechanical data

Maximum conductor temperature	+90 °C
Short-circuit temperature	+250 °C
Ambient temperature, fixed	-40 … +80 °C
Ambient temperature, moving	-25 … +80 °C
Minimum bending radius, moving	See table (6 × D)
Maximum tensile load	20 N/mm² of copper cross-section of the power cores
Flame propagation	IEC 60332-1-2
Halogen-free sheath	No
Oil, ozone and UV resistance	Resistant

04 Dimensions, Weights and Ratings

The highlighted row is 3×16+1×10+2×6; the adjacent sizes of the series are shown for comparison.

Type designation	Article no.	Conductor Ø max mm	Outer Ø min mm	Outer Ø max mm	Min. bend radius mm	Weight approx. kg/km	Max. pull N	R_{20} max Ω/km	Rated current A	I_k (1 s) kA
3×16+1×10+2×6	**FC-TF0998-31611026**	**5.2**	**25.5**	**27.0**	**162**	**1,140**	**960**	**1.21**	**99**	**2.29**
3×25+1×16+2×6	FC-TF0998-32511626	6.5	30.0	31.5	188	1,620	1,500	0.780	131	3.58

Current-carrying capacity: design values to DIN VDE 0298-4, free air, 30 °C ambient. Pull force = 20 N/mm² × copper cross-section of the power cores. Dimensions and weights are nominal design values within manufacturing tolerances.

Ambient temperature factors

°C	20	25	30	35	40	45	50
Factor	1.08	1.04	1.00	0.96	0.91	0.87	0.82

Short-circuit rating

I_k = 0.143 kA/mm² × conductor cross-section for 1 s; for duration t: $I_{k,t} = I_{k,1s} / \sqrt{t}$.

05 Selection Guide

Typical use: At 3×16+1×10+2×6 this size is common for gantry and trolley travel drives, medium pumps and sub-distribution feeders up to about 54 kW.

At 400 V and cos φ 0.85, 3×16+1×10+2×6 supplies a three-phase load of about 54 kW at 30 °C in free air.

At 690 V and cos φ 0.85, 3×16+1×10+2×6 supplies a three-phase load of about 93 kW at 30 °C in free air.

For comparison: 3×16+1×10+2×6 has 27.0 mm, 1,140 kg/km and 99 A; 3×25+1×16+2×6 has 31.5 mm, 1,620 kg/km and 131 A. Choose the smallest size whose current, after the temperature factors, covers the load.

Example. A circuit carries 79 A at 40 °C ambient. Required table current = 79 / 0.91 = 87 A, so 3×16+1×10+2×6 (99 A) is suitable.

06 Standards and Testing

Standard	Scope
IEC 60228 / DIN VDE 0295	Conductors, class 5
DIN VDE 0298-3	Bending radii and tensile loads
DIN VDE 0298-4	Current-carrying capacity
IEC 60332-1-2	Flame propagation, single cable
DIN VDE 0250-814	Design reference for the construction
IEC 60811-404	Mineral oil resistance

Routine and type tests

- AC voltage test on every delivery length: 3.5 kV, 5 min
- Conductor resistance, dimensions and insulation thickness
- Continuity of all conductors
- Flame propagation, IEC 60332-1-2 (type test)

Test documentation: every delivery comes with a test certificate from FeiChun’s own laboratory; third-party witnessed tests can be arranged at the buyer’s cost.

07 Installation, Marking and Delivery

Installation guidance

- Unwind the cable tangentially from the drum; avoid loops, kinks and pulling over the drum flange.
- Keep the bending radius and tensile load within the values in this datasheet.
- Protect trailing cables from being run over; use cable bridges or hangers where vehicles cross.
- Connect the protective conductor at both ends before the other cores.

Sheath marking

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FEICHUN FC-NTSKCGWÖU 3×16+1×10+2×6 0.6/1 kV [year] [metre mark]
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Packing and delivery

Packing	Steel or fumigated wooden drums; cable ends sealed
Delivery length	As ordered, in one continuous length
Lead time	2–3 weeks after technical approval
Warranty	1 year, covering failures not caused by human factors
Terms	FCA buyer's nominated forwarder's warehouse in China (Incoterms 2020); prices subject to LME copper

Order example: FC-NTSKCGWÖU 3×16+1×10+2×6 0.6/1 kV – replacement for TF Kable NTSKCGWÖU 3×16+1×10+2×6, 500 m on one drum. State type, cross-section, voltage, length per piece and installation conditions when requesting a quotation.

08 Certification and Quality

FeiChun holds CE (Low Voltage Directive), EAC and UKCA certificates and an ATEX documentation verification for defined product groups. Whether a certificate scope covers this construction is confirmed per project. All cable is routine-tested over 100 % of the delivered length.

09 Related Datasheets

This datasheet in Russian: FC-NTSKCGWÖU 3×16+1×10+2×6 0.6/1 kV

- FC-NTSKCGWÖU 3×25+1×16+2×6 0.6/1 kV – replacement for TF Kable NTSKCGWÖU
- FC-NTSKCGWÖU 3×35+1×25+2×10 0.6/1 kV – replacement for TF Kable NTSKCGWÖU
- FC-NTSKCGWÖU 3×50+1×25+2×10 0.6/1 kV – replacement for TF Kable NTSKCGWÖU
- FC-NTSKCGWÖU-K 3×16+3×16/3E 0.6/1 kV – replacement for TF Kable NTSKCGWÖU KON

Library overview: FeiChun replacements for TF Kable

Frequently asked questions

Can FC-NTSKCGWÖU replace TF Kable NTSKCGWÖU 3×16+1×10+2×6?
Yes. It is designed with the same core configuration, voltage rating and field of application. Compare the outer diameter, bending radius and weight with your reel, guides or glands before ordering; FeiChun confirms suitability on request.

What are the outer diameter and minimum bending radius of 3×16+1×10+2×6?
Outer diameter 25.5 – 27.0 mm; minimum bending radius in moving operation 162 mm (6 × D).

What current can 3×16+1×10+2×6 carry?
99 A in free air at 30 °C ambient. Apply the temperature factors in section 04.

Is the cable halogen-free?
No. The PCP rubber sheath contains halogen; a halogen-free PUR version can be offered.

10 Trademark Notice and Intellectual Property

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Document control

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