FLAT FESTOON CABLE · PORT CRANES | 0.6/1 kV | PUR | Article FC-FS06-004

NGFLGÖU 8G6 0.6/1 kV

Flat Festoon Cable for Port Cranes 0.6/1 kV – 8-core flat festoon cable, halogen-free PUR sheath. Complete technical data sheet of this single model: cross-section drawing, dimensions, weight, current ratings, reel design data, standards and ordering information.

Document no. FC-TDS-FS06-004-2026-EN · Revision 0 · Issued 5 November 2026 · Language: English

01 Application and Product Overview

NGFLGÖU 8G6 is a PUR-sheathed flat festoon cable with 8 cores of 6 mm² rated 0.6/1 kV for festoon systems of port cranes and stackers. The cores lie parallel in one plane inside a flat sheath measuring 40.1 × 7.2 mm, weighing about 630 kg/km, with a current of 32 A per core at 30 °C and a minimum bending radius of 57 mm.

Design

8 cores of equal cross-section lie side by side in one plane inside a flat sheath. The green-yellow protective core is placed at the edge. The flat shape lets the cable hang in uniform loops from festoon trolleys and keeps twisting low. Bend the cable only flat-wise, about an axis parallel to the cable width; edge-wise bending is not permitted.

Typical applications

- Power and control supply of trolleys, hoists and travelling crane equipment suspended in festoon systems
- Port cranes, stackers and warehouse cranes with long travel distances
- Parallel cores in one plane reduce twisting and let the cable hang in regular loops on festoon trolleys
- Indoor and covered outdoor use; the sheath resists oil, abrasion and weather

40.1 × 7.2 mm	630 kg/km	32 A	57 mm
Flat cable, width × height	Approx. weight	Rated current per core, 30 °C	Min. bending radius

Key features

- Cores lie parallel in one plane for orderly hanging on festoon trolleys
- Fine-wire class 5 copper conductors for repeated bending
- Green-yellow protective core at the edge of the flat cable
- Halogen-free insulation and sheaths; no halogen acid gases when burned (IEC 60754-1/-2)
- Abrasion-, cut- and tear-resistant PUR sheath; flexible in motion down to −30 °C
- Flame retardant to IEC 60332-1-2

Type designation

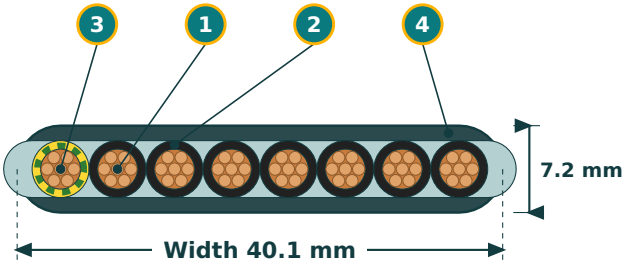
NGFLGÖU (also typed NGFLGOEU) is the German VDE-style type designation used in the trade for flat, oil-resistant, rubber-sheathed cables for festoon systems. The designation identifies the cable class and is used so that engineers can find and compare the product. Construction, dimensions and data in this datasheet are FeiChun’s own. This model is the PUR-sheathed version of the construction.

02 Construction

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

NGFLGÖU 8G6

Article FC-FS06-004 · Rev 0 · Illustrative, not to scale



No.	Component	Material
1	Conductor	Bare annealed fine-wire copper, class 5 to IEC 60228
2	Insulation	Halogen-free cross-linked polyethylene (XLPE)
3	Protective (PE) core	Class 5 copper, green-yellow insulation, same cross-section as the power cores
4	Outer sheath	Halogen-free polyurethane (PUR), flame-retardant, abrasion- and cut-resistant

Figure 1. Cross-section of NGFLGÖU 8G6 0.6/1 kV. The drawing is generated from the geometry of this exact size; elements are shown to scale relative to each other and do not overlap.

Construction details

Conductor	Bare annealed fine-wire copper, class 5 to DIN EN 60228 / IEC 60228 / VDE 0295
Insulation	Halogen-free cross-linked polyethylene (XLPE) to IEC 60502-1, maximum conductor temperature 90 °C
Core identification	Green-yellow core at the edge; remaining cores black with white numbers
Core arrangement	Cores lie parallel in one plane and are enclosed by a common flat outer sheath
Outer sheath	Halogen-free polyurethane (PUR), flame-retardant, abrasion- and cut-resistant

Sheath material

The halogen-free polyurethane (PUR) outer sheath combines high abrasion resistance with strong cut and tear resistance. These are the properties that limit cable life on equipment that is wound and unwound repeatedly, dragged over steel and concrete, and exposed to seawater spray. PUR stays flexible down to −30 °C in motion, resists mineral oil, UV radiation and ozone, and emits no halogen acid gases when burned (IEC 60754-1/-2), which matters in tunnels, enclosed machinery spaces and below-deck areas.

03 Electrical, Thermal and Mechanical Characteristics

Electrical data

Rated voltage U_0/U	0.6/1 kV AC
Test voltage	3.5 kV AC, 5 min
Maximum operating voltage, DC	0.9/1.8 kV
Current-carrying capacity	To DIN VDE 0298-4 at 30 °C ambient; the table gives rated design values
Conductor resistance	Maximum at 20 °C, class 5 to IEC 60228

Thermal and mechanical data

Maximum conductor temperature	+90 °C
Maximum temperature at short circuit	+250 °C
Ambient temperature, fixed installation	−40 °C to +80 °C
Ambient temperature, in motion	−30 °C to +80 °C
Minimum bending radius	5 × H fixed; 8 × H in festoon operation (H = cable thickness)
Maximum tensile load	15 N/mm² continuous, on the total copper cross-section of the power cores
Flame propagation	IEC 60332-1-2 / DIN EN 60332-1-2
Halogen-free	Yes (insulation, inner and outer sheath); IEC 60754-1/-2
UV and ozone resistance	Resistant
Mineral oil resistance	Resistant, IEC 60811-404

Sheath material comparison

Property	PUR	PUR low-temp	CSP rubber	CPE rubber
Abrasion resistance	**Excellent**	Excellent	Good	Good
Cut and tear resistance	**Excellent**	Excellent	Good	Good
Mineral oil resistance	**Very good**	Very good	Very good	Very good
Weather, UV and ozone resistance	**Very good**	Very good	Excellent	Very good
Cold flexibility (moving)	**−30 °C**	−40 °C	−30 °C	−30 °C
Halogen-free (IEC 60754-1/-2)	**Yes**	Yes	No	No

The column of the sheath used in this cable is highlighted. Ratings are qualitative; ask FeiChun for test data on a specific requirement.

04 Technical Data of NGFLGÖU 8G6 0.6/1 kV

Type designation	**NGFLGÖU 8G6**	**FeiChun article no.**	FC-FS06-004
Cores	8 × 6 mm² (incl. green-yellow PE core)	**Rated voltage U_0/U**	0.6/1 kV AC
Test voltage	3.5 kV AC, 5 min	**Conductor**	Class 5 fine-wire copper, Ø max 3.3 mm
Insulation	XLPE, 0.7 mm nominal	**Outer sheath**	PUR, ≈ 1.2 mm nominal
Width × height	40.1 × 7.2 mm	**Weight, approx.**	630 kg/km
Copper weight	430 kg/km	**R_{20} max**	3.30 Ω/km
R_{90} (calculated)	4.21 Ω/km	**Rated current per core**	32 A (free air, 30 °C)
I_k (1 s, 90 → 250 °C)	0.858 kA	**Min. bending radius, festoon**	57 mm (8 × H)
Max. pull force	720 N	**Flame propagation**	IEC 60332-1-2

Diameters, dimensions and weights are nominal design values and vary within manufacturing tolerances; confirm critical dimensions before dimensioning reels, guides or festoon systems. Current ratings are design values to DIN VDE 0298-4 for flexible cables in free air at 30 °C ambient; values per core include the derating factor for the number of cores. Pull force = 15 N/mm² × total copper cross-section of the power cores. Other sizes and configurations are produced to order.

Calculated electrical data

Quantity	Value	Basis
Conductor resistance at 90 °C	4.21 Ω/km	$R_{90} = R_{20} \times (1 + 0.00393 \times 70)$
Voltage drop per core at rated current	13.47 V per 100 m	Single conductor, conductor at 90 °C
Conductor loss at rated current	30.2 W/m	All 7 load-carrying cores at 90 °C
Length for 3 % drop, 24 V DC	2 m	Out-and-back loop of two cores at rated current
Length for 3 % drop, 230 V AC	25 m	Out-and-back loop of two cores at rated current

Current-carrying capacity by ambient temperature

Ambient °C	20	25	30	35	40	45	50
Current per core, A	35	33	32	31	29	28	26

Permissible current = table current × ambient temperature factor (conductor 90 °C). Factors: 20 °C: 1.08, 25 °C: 1.04, 30 °C: 1.00, 35 °C: 0.96, 40 °C: 0.91, 45 °C: 0.87, 50 °C: 0.82.

Short-circuit current rating of the power cores

Duration t (s)	0.1	0.2	0.5	1	2	3	5
I_k (kA)	2.71	1.92	1.21	0.858	0.607	0.495	0.384

I_k = 0.143 kA/mm² × 6 mm² for 1 s (conductor 90 °C → 250 °C); for another duration t: $I_{k,t} = I_{k,1s} / \sqrt{t}$ (0.1 s ≤ t ≤ 5 s).

05 Festoon Installation Data

The flat construction of NGFLGÖU 8G6 lets the cable hang in regular loops from festoon trolleys. The minimum festoon loop diameter is 114 mm (twice the minimum bending radius of 57 mm).

Cable length	Cable weight kg	Min. festoon loop Ø mm (2 × bending radius)
10 m	6	114
25 m	16	114
50 m	32	114
100 m	63	114

Installation guidance

- Hang the cable on festoon trolleys or rollers; the spacing between trolleys must not exceed half of the loop length.
- Keep the bending radius at or above 8 × H (cable thickness); bend only flat-wise and do not twist the cable about its axis.
- Do not pull the cable by its conductors; use cable clamps that grip the sheath.
- Connect the green-yellow protective core before connecting the other cores.

06 Sizes in this Series and Selection Aid

NGFLGÖU 0.6/1 kV PUR is offered in 6 sizes from 1.5 to 16 mm². Each size has its own datasheet; the size of this document is highlighted. The next smaller or larger size can be opened directly from the table.

Type designation	Article no.	Width × height mm	Weight kg/km	Current A	Bend radius mm
8G1.5	FC-FS06-001	26.7 × 5.4	229	14	43
8G2.5	FC-FS06-002	30.6 × 5.9	323	19	47
8G4	FC-FS06-003	35.2 × 6.5	460	25	52
8G6	**FC-FS06-004**	**40.1 × 7.2**	**630**	**32**	**57**
8G10	FC-FS06-005	46.4 × 8.0	960	44	64
8G16	FC-FS06-006	55.1 × 9.2	1,450	59	74

Example. At 40 °C ambient each core of NGFLGÖU 8G6 may carry 32 × 0.91 = 29 A. A 50 m cable weighs about 32 kg.

07 Standards and Testing

Standard	Scope
DIN EN 60228 / IEC 60228 / VDE 0295	Conductors, class 5
IEC 60502-1	Insulation compound, power cables up to 1 kV
DIN VDE 0298-3	Application of cables – bending radii and tensile loads
DIN VDE 0298-4	Application of cables – current-carrying capacity
DIN EN 60332-1-2 / IEC 60332-1-2	Flame propagation, single cable
DIN VDE 0298-300	Core identification
IEC 60754-1 / -2	Halogen acid gas emission when burned
IEC 60811-404	Mineral oil immersion test
DIN VDE 0292	Type designation of cables (designation practice)

Routine and type tests

- AC voltage test on every reel length (routine test): 3.5 kV AC, 5 min
- Conductor resistance and checks of dimensions, insulation thickness and sheath thickness
- Continuity of conductors and protective earth
- Bending, tensile tests (type test)
- Flame propagation (IEC 60332-1-2) and confirmation of halogen-free materials

Test documentation: every delivery is accompanied by a test certificate from FeiChun's own laboratory. Third-party witnessed tests can be arranged at the buyer's cost.

08 Installation, Marking, Delivery and Ordering

Installation guidance

- Hang the cable on festoon trolleys or rollers; the spacing between trolleys must not exceed half of the loop length.
- Keep the bending radius at or above 8 × H (cable thickness); bend only flat-wise and do not twist the cable about its axis.
- Do not pull the cable by its conductors; use cable clamps that grip the sheath.
- Connect the green-yellow protective core before connecting the other cores.

Sheath marking

FEICHUN NGFLGÖU 8G6 0.6/1 kV PUR [year] [serial no.] [metre mark]

Packing and delivery

Reel	Steel or fumigated wooden reels; cable ends sealed with heat-shrink caps
Delivery length	As ordered, in one continuous length without joints
Lead time	2–3 weeks after technical approval
Warranty	At least 3 years against manufacturing defects
Reel label	Type, cross-section, length, gross/net weight, batch no., reel no.

Ordering information

Field	Example	Meaning
Type designation	NGFLGÖU	Cable type as used in the trade
Core configuration	8G6	Number of cores with G (protective core included) and core cross-section in mm²
Rated voltage	0.6/1 kV	U_0/U, AC
Sheath	PUR	Halogen-free polyurethane (PUR), flame-retardant, abrasion- and cut-resistant
Length and packing	500 m, steel reel	Delivery length in one piece; reel type on request
FeiChun article no.	FC-FS06-004	Quote this number in enquiries and orders

Order example: NGFLGÖU 8G6 0.6/1 kV PUR – 500 m on one steel reel (FeiChun article FC-FS06-004). When requesting a quotation, state the cable type, configuration, cross-section, voltage, length per piece, required standards and installation conditions.

09 Certification and Quality

All cable is subject to FeiChun's quality control, with routine testing over 100 % of the delivered length. Certificates, type tests and third-party tests (for example partial discharge or compatibility with cable accessories) are provided per project requirement; copies of the records are available on request.

The CE, EAC and UKCA certificates issued for the D2X11Y base type (LVD 2014/35/EU, TR CU 004/2011, UKCA) apply to that product group. Confirm with FeiChun that the certificate scope covers this construction before quoting it in a tender.

10 Related Datasheets and FAQ

Cables of the same class with a different sheath, configuration or voltage and the closest cross-section. All datasheets are PDF files.

- NGFLGÖU 7G6 0.6/1 kV PUR – 7-core flat festoon cable
- NGFLGÖU 10G6 0.6/1 kV PUR – 10-core flat festoon cable
- NGFLGÖU 6G6 0.6/1 kV PUR – 6-core flat festoon cable
- NGFLGÖU 8G6 0.6/1 kV low-temp PUR – 8-core flat festoon cable
- NGFLGÖU 8G6 0.6/1 kV CSP rubber – 8-core flat festoon cable
- NGFLGÖU 8G6 0.6/1 kV CPE rubber – 8-core flat festoon cable

Overview of all datasheets in this family: Flat Festoon Cables 0.6/1 kV

Frequently asked questions

What is NGFLGÖU 8G6 used for?
NGFLGÖU 8G6 is intended for power and control supply of trolleys, hoists and travelling crane equipment suspended in festoon systems.

What are the dimensions and weight of NGFLGÖU 8G6 0.6/1 kV?
The overall size (width × height) is 40.1 × 7.2 mm and the weight is about 630 kg/km, of which copper is 430 kg/km. These are nominal design values and vary within manufacturing tolerances.

What is the minimum bending radius of NGFLGÖU 8G6?
The minimum bending radius in festoon operation is 57 mm (8 × H).

What current can each core of NGFLGÖU 8G6 carry?
32 A per core in free air at 30 °C ambient, already reduced for the number of loaded cores. Apply the ambient temperature factor from the table in section 04.

Is NGFLGÖU 8G6 halogen-free?
Yes. Insulation and sheaths are halogen-free (IEC 60754-1/-2) and the cable is flame retardant to IEC 60332-1-2.

Which other sizes of this type are available?
NGFLGÖU 0.6/1 kV PUR is offered in 1.5, 2.5, 4, 6, 10, 16 mm². Each size has its own datasheet, linked in section 06.

11 Notices and Intellectual Property

NGFLGÖU is a type designation used in the cable trade to name a class of cable; it is used here for identification and comparison only. The designation does not imply approval of the product by a third party unless a certificate is named in section 09.

© 2026 Anhui FeiChun Special Cable Co., Ltd. — All rights reserved. This document, including its drawings, tables and layout, is the intellectual property of FeiChun and is protected under the Copyright Law and the Anti-Unfair Competition Law of the People's Republic of China and the Copyright Act 1968 (Cth) of Australia. Reproduction, distribution or modification of the whole or any part without written consent is prohibited. Technical data may change without notice as part of continuous product improvement.

Technical and commercial contacts

Anhui FeiChun Special Cable Co., Ltd.
International Business Department
Park No. 1, Private Science and Technology Park, Hefei National Economic and Technological Development Zone, Hefei, Anhui, China
Technical support: Tech@feichuncables.com
Mining and heavy industry: mining@feichuncables.com
Zihao Yang, Global Sales Manager: zihao.yang@feichuncables.com
WhatsApp: +86 138 5512 3218
Web: www.feichuncables.com

Document control

Document no. FC-TDS-FS06-004-2026-EN
Revision 0 — first issue
Date 5 November 2026
Product NGFLGÖU 8G6 0.6/1 kV

Prepared — Engineering | Checked — QC | Approved — International Business