FEICHUN SPECIAL CABLES · 飞纯特种电缆

TDS · NSHTÖU | 0.6/1 kV | REELING CABLE | DIN VDE 0250-814

Reeling Cable NSHTÖU 0.6/1 kV 3×70+3×35/3 mm²

Technical data sheet for a heavy-duty rubber-sheathed reeling cable, 90 m in one continuous length, outside diameter approx. 42.2 mm, suitable for the customer's VAHLE cable reel

Doc. No.: **FC-TDS-NSHTOU-2026-IR90** Rev.: **00** Date: **20 Nov 2026** Product code: **FCH63000** Quantity: **90 m**

01 Application

FeiChun **NSHTÖU 0.6/1 kV 3×70+3×35/3** is a flexible power cable with EPR insulation and a heavy-duty chloroprene (PCP) rubber sheath. It is designed for motor-driven and spring-driven cable reels, crane and hoist power supply, festoon systems and other moving equipment, for AC systems up to 0.6/1 kV, 50/60 Hz.

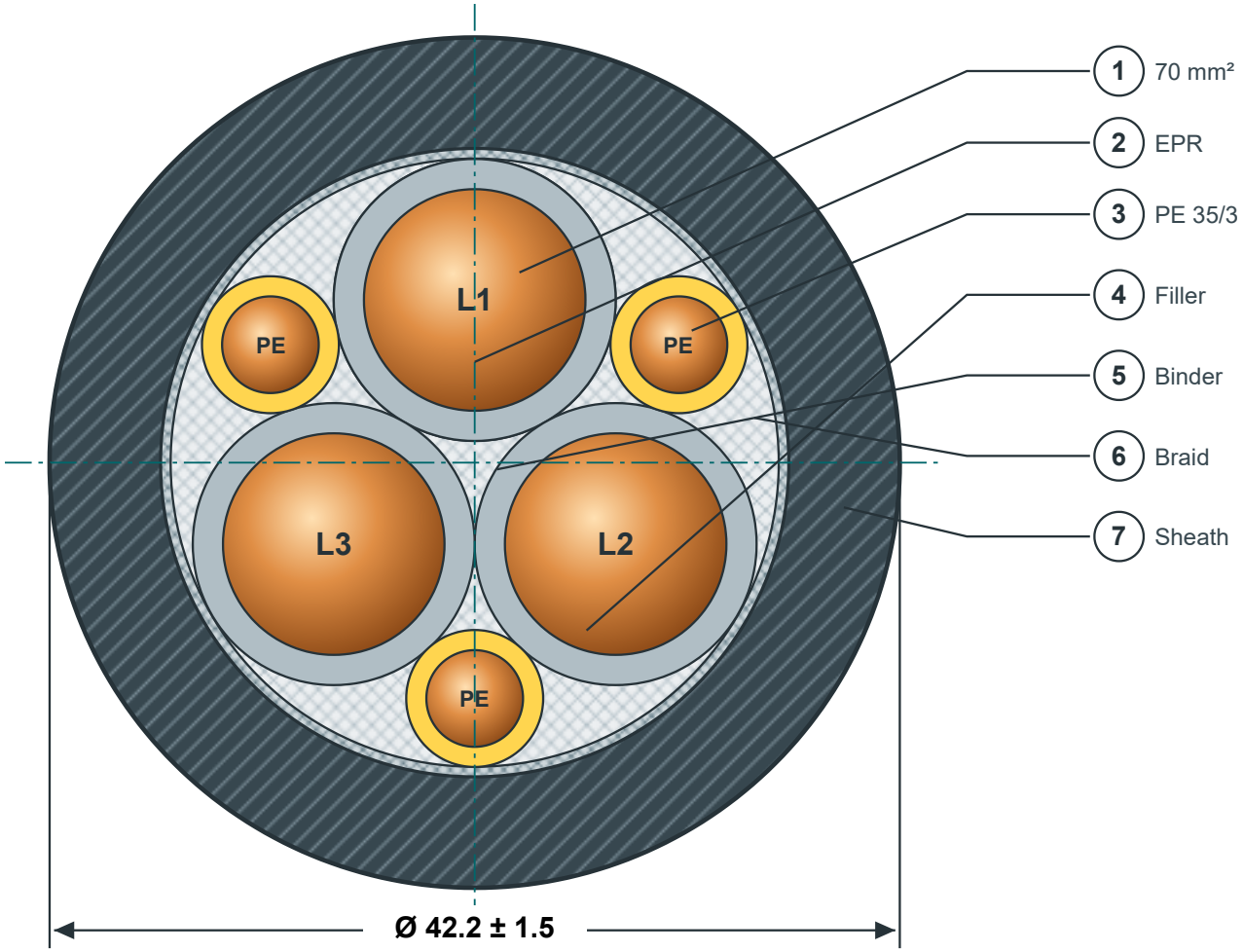
- Three power cores (3 × 70 mm²) and three earth cores (3 × 35/3 mm², i.e. 35 mm² in total, split into three) laid in the outer interstices.
- Fine-wire class 5 copper conductors for repeated winding and unwinding on reels.
- Textile reinforcement braid under the sheath, to take up tensile load during reeling.
- Oil-, abrasion- and weather-resistant sheath, flame retardant to IEC 60332-1-2, for indoor and outdoor use.
- Supplied as **one continuous length of 90 m**, intended to fit the attached VAHLE reel.

RATED VOLTAGE	CROSS-SECTION
0.6/1 kV	**3×70+3×35/3**

OUTER DIAMETER	WEIGHT
≈ 42.2 mm	**≈ 3,350 kg/km**

02 Cable Construction

Cross-section · NSHTÖU 0.6/1 kV 3×70+3×35/3 (approx. 9:1)



Pos.	Element	Material / design
1	Power conductor, 3 pcs	Bare fine-wire copper, class 5 (IEC 60228), 70 mm², approx. Ø 11.0 mm
2	Insulation	EPR (3GI3), nominal 1.4 mm; core Ø approx. 14.0 mm; cores colour-marked / numbered
3	Earth core, 3 pcs	Fine-wire copper class 5, 35/3 = 11.7 mm² each, approx. Ø 4.8 mm; EPR insulation, core Ø approx. 6.8 mm; laid in the outer interstices
4	Filler	Rubber / non-hygroscopic filler, round assembly Ø approx. 30.2 mm
5	Binder	Separating tape over the assembly
6	Reinforcement braid	Textile braid, nominal 0.5 mm, takes up tensile stress when reeling
7	Outer sheath	Heavy-duty chloroprene rubber (PCP, 5GM5), black, nominal 5.5 mm

Note. Layer thicknesses are design values chosen to give the stated outer diameter of approx. 42.2 mm; the drawing is schematic and not to exact scale.

03 Dimensions and Weight

Parameter	Unit	Value
Number and cross-section of cores	pcs × mm^2	**3 × 70 + 3 × 35/3**
Conductor class (IEC 60228)	—	**5 (fine wire)**
Nominal insulation thickness (power core)	mm	**1.4**
Nominal sheath thickness	mm	**5.5**
Outer diameter	mm	**≈ 42.2 (±1.5)**
Calculated copper content	kg/km	**≈ 2,200**
Calculated cable weight	kg/km	**≈ 3,350**
Sheath colour	—	**Black**
Supplied length	m	**90, one continuous length**
Net cable weight, 90 m	kg	**≈ 300**

04 Electrical Characteristics

Parameter	Value
Rated voltage U_0/U	0.6/1 kV
Frequency	50 / 60 Hz
Test voltage, AC, 5 min	3.5 kV
Conductor resistance 70 mm² at 20 °C, max.	0.286 Ω/km
Conductor resistance 35/3 mm² at 20 °C, max.	≈ 1.55 Ω/km
Insulation resistance at 20 °C, min.	20 MΩ·km

Current and temperature	Value
Current rating, fully unwound, in air at +25 °C (approx.)	≈ 230 A
Max. conductor temperature, continuous	+90 °C
Max. conductor temperature, short circuit (5 s)	+250 °C
Short-circuit current, power core, 1 s (approx.)	≈ 10 kA

Derating factors for current rating

Ambient temp., °C	≤ 20	25	30	40	50
Factor	1.05	1.00	0.96	0.87	0.76

Layers on reel	1	2	3	4
Factor	0.80	0.61	0.49	0.42

05 Mechanical and Operating Characteristics

Parameter	Value
Ambient temperature, fixed installation	**−40 °C … +80 °C**
Ambient temperature, flexing / reeling	**−25 °C … +80 °C**
Minimum bending radius, fixed	**6 × D ≈ 255 mm**
Minimum bending radius, reeling / guided	**12 × D ≈ 510 mm**
Max. tensile load (on copper cross-section)	**15 N/mm² → 3,150 N**
Resistance to oil, abrasion, weather and ozone	**Yes**
Flame propagation, single cable	**IEC 60332-1-2**

Reel compatibility. The VAHLE reel drum diameter and cable capacity should be checked against the 12 × D (≈ 510 mm) reeling bending radius and the 90 m length before installation. Please send the reel drawing if a check by our engineers is required.

06 Standards and Tests

Standards

- DIN VDE 0250-814 — Flexible cables with rubber insulation (NSHTÖU type)
- IEC 60228 — Conductors of insulated cables
- IEC 60332-1-2 — Flame propagation, single vertical cable
- Reference: IEC 60245-4, HD 22.4

Routine tests (each length)

- Construction and dimension check
- Conductor resistance
- Voltage test 3.5 kV, 5 min
- Insulation resistance
- Continuity of earth cores

The FeiChun factory test report is supplied with the shipment. Third-party testing is available on request at the buyer's cost.

07 Marking, Packing and Supply

Parameter	Value
Length	**90 m, one continuous length**
Cable marking	**FEICHUN NSHTÖU 0.6/1kV 3x70+3x35/3 2026 + length mark**
Packing	**Export packing, cable ends sealed with heat-shrink caps**
Package size (L × W × H)	**0.6 × 0.6 × 0.4 m (0.144 m³)**
Gross weight	**400 kg**
Lead time	**approx. 20 days**
Delivery basis	**EXW Hefei, China (Incoterms® 2020)**
Warranty	**12 months for failures not caused by misuse or handling**

Design values. Dimensions, weights and electrical values marked "≈" are calculated design values and may vary within the tolerances of the standard.

Prepared by: Engineer	Checked by: Quality Department	Approved by: Technical Director

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