TYPE · LV REELING · PUR · HALOGEN-FREE | 0.6/1 kV | 30 Variants

TROMMELFLEX PUR-HF Equivalent

FC-TPU-RL D12Y11YU11Y 0,6/1 kV

Halogen-free, flame-retardant PUR-sheathed low voltage reeling cable — for motor-driven reels, festoon systems and drag chains in materials handling.

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01 Application & Product Overview

FC-TPU-RL is a flexible, halogen-free low voltage reeling cable with polyurethane sheaths for severe conditions — frequent bending, high mechanical stress, abrasion and oil exposure.

Cores with halogen-free polyester-based insulation are twisted with a short lay around a central textile carrier. An open support braid between the inner and outer PUR sheaths provides torsion protection, while the tough, flame-retardant PUR sheath resists abrasion, notching, oil and hydrolysis.

Typical applications

- Motor-driven cable reels on cranes and materials-handling equipment
- Festoon systems on trolleys and spreaders
- Cable drag chains, machine tools and transport systems
- Indoor installations with halogen-free requirements — tunnels, warehouses, plants
- Outdoor use — resistant to UV, ozone, oil and abrasion

30 variants
control, power and combined

180 m/min
Travel speed, festoon (reeling higher on request)

25 N/mm²
Max. tensile load on conductor

Halogen-free
Flame retardant to IEC 60332-1-2

Cross-reference

REFERENCE TYPE

TROMMELFLEX PUR-HF D12Y11YU11Y 0,6/1 kV

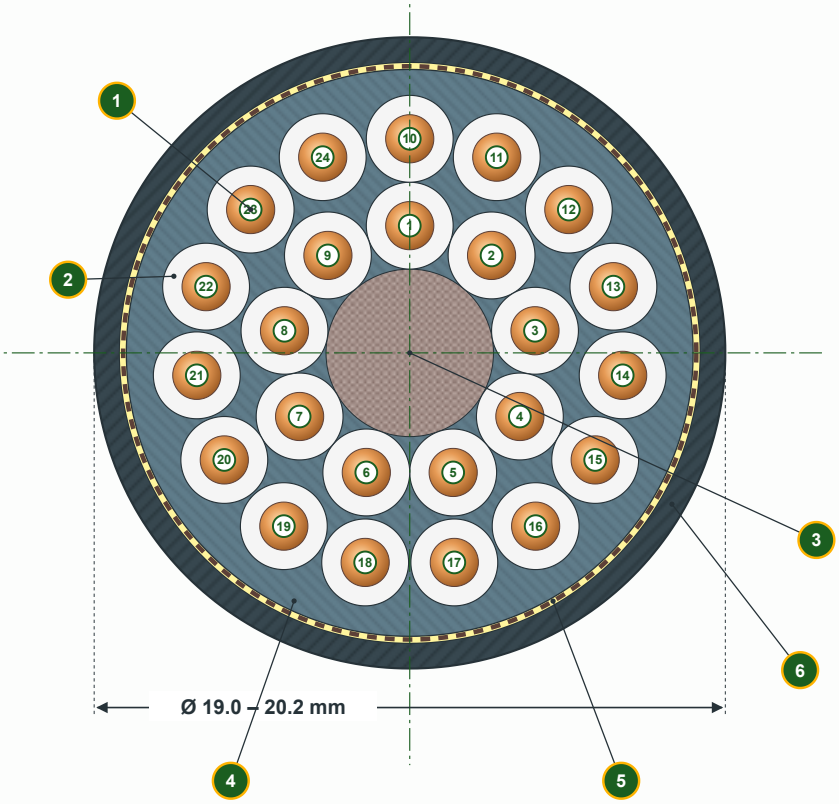
FEICHUN EQUIVALENT

FC-TPU-RL D12Y11YU11Y 0,6/1 kV

Equivalent to TROMMELFLEX PUR-HF D12Y11YU11Y-J/-O. Hybrid designs with fibre optics and further sizes are available on request.

FEICHUN CABLES

02 Construction



FEICHUN · SECTION A–A · 0.6/1 kV

FC-TPU-RL D12Y11YU11Y-J

Doc. No. FC-TDS-TPR-2026-44BF
Ref. 24G1.5
Rev. 0 · 2026-10-10 · 1st-angle · NTS

Drawing representative of the 24G1.5 size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Plain annealed Cu, flexible class 5 (IEC 60228 / DIN VDE 0295)
2	Insulation	Halogen-free polyester-based compound (TPE-E); colour-coded up to 5 cores, natural with black numbers from 6 cores
3	Central carrier	Textile carrier element; cores twisted around it with a short lay
4	Inner sheath	Halogen-free, flame-retardant polyurethane (PUR)
5	Torsion protection	Open support braid between inner and outer sheath
6	Outer sheath	Halogen-free, flame-retardant polyurethane (PUR), black

Design features

Item	Description
Core identification	Up to 5 cores coloured per DIN VDE 0293-308; 6 cores and more natural with black printed numbers; green-yellow earth (-J)
Core arrangement	Short-lay twisting around a central textile carrier
Sheath system	Double PUR sheath with open support braid — torsion protection and high abrasion resistance
Halogen-free	Insulation and sheaths free of halogens (IEC 60754-1)
Sheath colour	Black (standard)

FEICHUN CABLE

03 Electrical, Thermal & Mechanical Data

Electrical parameters

Parameter	Value
Rated voltage U_0/U	0.6/1 kV
Max. operating voltage AC	0.7/1.2 kV
Max. operating voltage DC	0.9/1.8 kV
AC test voltage	2.5 kV, 5 min (main cores)
Current rating basis	DIN VDE 0298-4; laid on a surface, 30 °C ambient — apply reeling factors (§05)

Thermal & mechanical parameters

Parameter	Value
Max. conductor temperature	+90 °C
Short-circuit temperature	+250 °C (max. 5 s)
Ambient — fixed installation	−50 °C to +80 °C
Ambient — fully flexible operation	−40 °C to +80 °C
Max. tensile load	25 N/mm² of total conductor cross-section
Torsional stress	± 50 °/m
Min. bending radius	6 × D (see type tables)
Travel speed	Festoon: up to 180 m/min; reeling: no restriction up to 180 m/min, higher on request
Fire performance	Flame retardant to IEC 60332-1-2; halogen-free to IEC 60754-1
Resistance	Oil, abrasion, notching, hydrolysis, ozone and UV

04 Dimensions, Weights & Ratings — 0.6/1 kV (30 variants)

Cores × cross-section mm²	FeiChun part no.	Conductor Ø max. mm	Outer diameter min. mm	Outer diameter max. mm	Min. bending radius mm	Weight approx. kg/km	Max. tensile force N	R_{20} max. Ω/km	Current rating A	Short-circuit current kA (1 s)
Control cables										
7G1.5	FC-TPU-RL-001	1.5	12.0	13.2	79	230	260	13.3	23	0.21
12G1.5	FC-TPU-RL-002	1.5	15.5	16.7	100	360	450	13.3	23	0.21
18G1.5	FC-TPU-RL-003	1.5	16.9	18.1	109	470	670	13.3	23	0.21
24G1.5	FC-TPU-RL-004	1.5	19.0	20.2	121	600	900	13.3	23	0.21
30G1.5	FC-TPU-RL-005	1.5	21.1	22.5	135	750	1,120	13.3	23	0.21
7G2.5	FC-TPU-RL-006	2.0	13.5	14.7	88	310	430	7.98	30	0.36
12G2.5	FC-TPU-RL-007	2.0	18.9	20.1	121	550	750	7.98	30	0.36
18G2.5	FC-TPU-RL-008	2.0	19.2	20.4	122	670	1,120	7.98	30	0.36
24G2.5	FC-TPU-RL-009	2.0	21.5	22.9	137	870	1,500	7.98	30	0.36
30G2.5	FC-TPU-RL-010	2.0	24.4	26.0	156	1,090	1,870	7.98	30	0.36
36G2.5	FC-TPU-RL-011	2.0	27.4	29.0	174	1,410	2,250	7.98	30	0.36
Power cables, 4-core										
4G1.5	FC-TPU-RL-012	1.5	10.0	11.2	67	150	150	13.3	23	0.21
4G2.5	FC-TPU-RL-013	2.0	11.1	12.2	74	200	250	7.98	30	0.36
4G4	FC-TPU-RL-014	2.5	12.3	13.5	81	280	400	4.95	41	0.57
4G6	FC-TPU-RL-015	3.1	14.1	15.2	92	370	600	3.3	53	0.86
4G10	FC-TPU-RL-016	4.1	17.4	18.6	112	600	1,000	1.91	74	1.43
4G16	FC-TPU-RL-017	5.1	20.0	21.4	128	850	1,600	1.21	99	2.29
4G25	FC-TPU-RL-018	6.2	23.5	24.9	149	1,230	2,500	0.78	131	3.58
4G35	FC-TPU-RL-019	7.8	28.5	30.2	181	1,760	3,500	0.554	162	5.01
Power cables, 5-core										
5G1.5	FC-TPU-RL-020	1.5	10.6	11.7	71	170	180	13.3	23	0.21
5G2.5	FC-TPU-RL-021	2.0	11.8	13.0	78	230	310	7.98	30	0.36
5G4	FC-TPU-RL-022	2.5	13.3	14.5	87	330	500	4.95	41	0.57
5G6	FC-TPU-RL-023	3.1	16.4	17.6	106	480	750	3.3	53	0.86
5G10	FC-TPU-RL-024	4.1	18.7	19.9	119	720	1,250	1.91	74	1.43
5G16	FC-TPU-RL-025	5.1	21.7	23.0	139	1,030	2,000	1.21	99	2.29
5G25	FC-TPU-RL-026	6.2	28.2	29.8	179	1,500	3,120	0.78	131	3.58
5G35	FC-TPU-RL-027	7.8	31.0	33.0	198	2,140	4,370	0.554	162	5.01
Combined power and control cables										
4G6+4×(2×1.5)C	FC-TPU-RL-028	3.1	23.1	24.5	147	870	600	3.3	53	0.86
4G16 +2×(4×1.5)C	FC-TPU-RL-029	5.1	24.7	26.3	158	1,140	1,600	1.21	99	2.29
4G35 +2×(4×1.5)C	FC-TPU-RL-030	7.5	31.5	33.5	201	1,950	3,500	0.554	162	5.01

Current rating: nominal value for rubber / PUR cables laid on a surface at 30 °C ambient (DIN VDE 0298-4) — multiply by the factors below for reeled operation and other ambient temperatures. Special designs are manufactured to order.

Reeling factors — cylindrical drum

Layers on drum	1	2	3	4	5
Factor	0.80	0.61	0.49	0.42	0.38

Ambient temperature factors (90 °C conductor)

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

05 Standards & Tests

Standard	Scope
DIN VDE 0295 / IEC 60228	Conductors, class 5
DIN VDE 0293-308	Core identification
DIN VDE 0298-3 / -4	Bending radii, current ratings
IEC 60332-1-2	Flame propagation, single cable
IEC 60754-1 / -2	Halogen-free, corrosivity of gases
DIN EN 60811-404	Oil resistance of sheath
EN 50525-1	General requirements, LV cables

Routine & type tests

- AC voltage test 2.5 kV on every drum
- Conductor resistance and dimensional checks
- Reeling, reversed bending and torsion tests (type test)
- Flame retardance and halogen-free verification

Test documentation: each delivery is accompanied by a FeiChun in-house laboratory inspection certificate. Third-party witnessed testing can be arranged at the buyer's cost.

06 Installation, Marking & Delivery

Installation notes

- Drum core diameter ≥ 2 × minimum bending radius (6 × D); use guide rollers sized to the same radius.
- Unwind tangentially from the delivery drum — never pull off over the flange; avoid loops and kinks.
- Keep torsion within ± 50 °/m and tensile force within the tabulated limit.

Sheath marking

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FEICHUN FC-TPU-RL D12Y11YU11Y-J [cores × cross-section] 0,6/1 kV [year] [serial no.] [metre mark]
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- For festoon systems, keep loop lengths uniform and secure the cable without crushing the sheath.
- Lay out and relax the cable before the first reeling.

Packing & delivery

Item	Standard
Drum	Steel or fumigated wooden drums, ends sealed with heat-shrink caps
Lengths	To order, single continuous length (no joints)
Production lead time	2–3 weeks after technical confirmation
Warranty	Min. 3 years against manufacturing defects
Drum label	Type, size, length, gross/net weight, batch no., drum no.

07 Certifications & Quality

CE — LVD 2014/35/EU
Attestation No. M.2025.206.C116598 · EN 50525-1:2011+A1:2022 · UDEM International Certification · valid to 01.04.2030

EAC — TR CU 004/2011
Certificate No. ЕАЭС KG417/052.CN.02.15390 · GOST 31996-2012, GOST 31565-2012 · valid 24.10.2025–23.10.2030

UKCA — Verification
No. ICR/VC/HS2508110 · BS EN 50525-1:2011+A1:2022 · ICR Polska · valid to 17.08.2030

FeiChun also holds ATEX (Directive 2014/34/EU) documentation verification and IECEx / VDE related approvals for designated product families. Certificate copies are available on request.

08 Trademark Notice & Intellectual Property

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