TECHNICAL DATA SHEET | 0.6/1 kV | 44 cores + 12 fibres | Spreader / crane

RHEYCORD-RTS equivalent

FC-SPREADERFLEX™ FO

Spreader cable 44G2.5 mm² + 12 OFE 62.5/125 µm · 0.6/1 kV

PUR-sheathed spreader and reeling cable with integrated multimode optical unit, equivalent to RHEYCORD-RTS type.

Doc. no. FC-TDS-SPR-2026-815A Rev. 00 Issued 22 September 2026

Rated voltage	Cores	Optical fibres	Overall Ø	Weight approx.
0.6/1 kV	44 × 2.5 mm²	12 × OM1	38.5 mm	2,150 kg/km

1 Product description

FC-SPREADERFLEX™ FO is a heavy-duty spreader cable that carries 44 control and power cores together with a 12-fibre multimode optical unit in one PUR-sheathed cable. It is engineered as a direct replacement for RHEYCORD-RTS type spreader cables with integrated OFE.

The optical unit runs on the neutral axis at the cable centre, so the fibres see the least strain during high-speed reeling. An aramid anti-torsion braid keeps the cable stable under the rapid direction changes and torsion found on container spreaders.

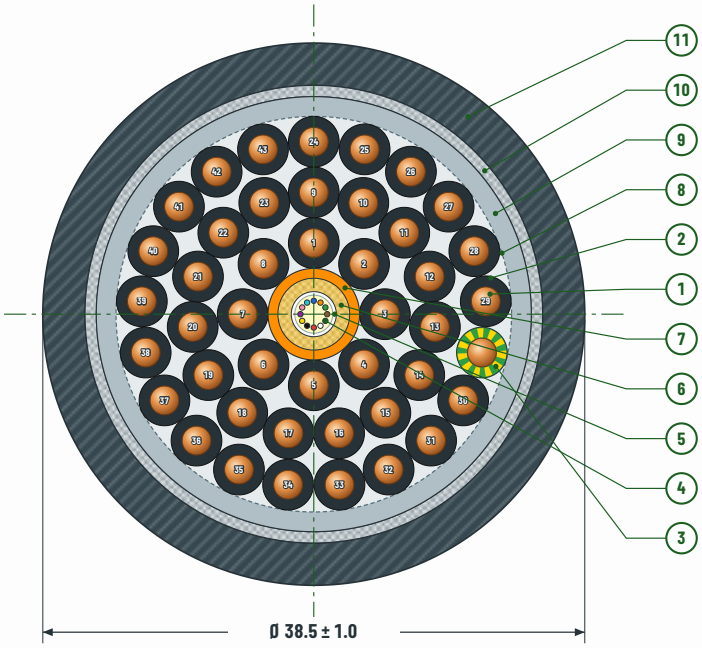
Typical applications

- Container spreader supply and control on STS, RTG and RMG cranes
- Spreader reels, cable baskets and vertical free-hanging systems
- Combined control signals and Ethernet/fieldbus data via fibre in one cable
- Heavy mechanical stress with high travel speed and acceleration
- Outdoor port and coastal installations with UV, ozone and salt exposure

2 Construction

Pos.	Element	Material	Specification
1	Conductor	Tinned annealed copper, extra-fine stranded, Class 6 to IEC 60228	2.5 mm²; max. single wire Ø 0.21 mm; Ø approx. 2.05 mm
2	Core insulation	EPR rubber compound type 3GI3 (HD 22.1 / DIN VDE 0207-20)	Nominal thickness 0.8 mm; core Ø approx. 3.6 mm
3	Protective earth core	As Pos. 1–2, insulation green/yellow	1 × 2.5 mm² (included in the 44 cores)
4	Optical fibres	12 × multimode 62.5/125 µm OM1	See Section 6
5	Loose tube	PBT tube with water-blocking gel	Ø 3.2 mm
6	FO strength member	Aramid yarn, helically applied	Relieves tensile strain on the fibres
7	FO unit sheath	Thermoplastic polyurethane (TPU), orange	Unit Ø 6.5 mm; placed in the cable centre (neutral axis)
–	Stranding	3 layers around the central FO unit: 8 + 15 + 21 cores	Short lay lengths, alternating lay direction for torsional balance
8	Separator	Polyester non-woven tape, overlapped	–
9	Inner sheath	Elastomer compound, pressure-extruded into the interstices	Nominal 1.4 mm
10	Anti-torsion braid	High-tenacity aramid braid	Tensile reinforcement and torsion control
11	Outer sheath	Polyether-based polyurethane (PUR, 11Y), black	Nominal 3.0 mm; hydrolysis, microbe, abrasion and notch resistant
–	Marking	Inkjet: FEICHUN FC-SPREADERFLEX FO 44G2.5+12×OM1 0.6/1kV + year + metre mark	Metre marking every 1 m

3 Cross-section drawing



FEICHUN SPECIAL CABLES		FC®
Cross-section · FC-SPREADERFLEX™ FO		
Drawing no. FC-DWG-SPR-815A	Rev. 00	Projection
Doc. no. FC-TDS-SPR-2026-815A	Scale / units NTS / mm	Date 2026-09-22

Pos.	Element	Material
1	Conductor	Tinned Cu, Class 6
2	Core insulation	EPR 3GI3, black
3	Protective earth core	EPR 3GI3, green/yellow
4	Optical fibres (12)	62.5/125 µm OM1
5	Loose tube	PBT, gel-filled
6	FO strength yarn	Aramid
7	FO unit sheath	TPU, orange
8	Separator	Polyester non-woven tape
9	Inner sheath	Elastomer (EM2 type)
10	Anti-torsion braid	High-tenacity aramid
11	Outer sheath	PUR (polyether), black

Cores numbered 1–43 in white on black insulation, plus one green/yellow protective earth core. Engineering drawing, not to scale.

4 Core identification

- Cores 1–43: black, white printed numbers
- 1 core green/yellow (protective earth)
- Central FO unit: orange TPU sheath

Layer 1: 8 cores · Layer 2: 15 cores · Layer 3: 21 cores (including G/Y).

5 Electrical data

Parameter	Value
Rated voltage U_0/U	**0.6/1 kV**

Parameter	Value
Max. permissible AC operating voltage	0.7/1.2 kV
Test voltage (routine)	3.5 kV AC, 5 min
Max. DC conductor resistance at 20 °C	8.21 Ω/km (tinned Cu, Class 6)
Current rating, 1 core, free air 30 °C	30 A
Current rating, all 44 cores loaded, free air 30 °C	approx. 10.5 A per core (factor 0.35)
Max. conductor temperature, operation	+90 °C
Max. conductor temperature, short circuit (≤ 5 s)	+250 °C
Permissible short-circuit current, 1 s	0.36 kA per core

Ambient temperature correction (conductor 90 °C)

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

Cylindrical drum correction (DIN VDE 0298-4)

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

Monospiral drums: apply 0.85 for normal ventilation. For basket or free-hanging systems use the free-air value.

6 Optical fibre data

Parameter	Value
Fibre type	Multimode graded-index 62.5/125 µm, category OM1 (IEC 60793-2-10, A1b)
Number of fibres	12
Core / cladding diameter	62.5 ± 2.5 µm / 125.0 ± 1.0 µm
Primary coating diameter	245 ± 10 µm (UV-cured acrylate)
Numerical aperture	0.275 ± 0.015
Max. attenuation, cabled	≤ 3.5 dB/km at 850 nm · ≤ 1.5 dB/km at 1300 nm
Min. modal bandwidth (OFL)	≥ 200 MHz·km at 850 nm · ≥ 500 MHz·km at 1300 nm

Parameter	Value
Fibre colour code	IEC 60304 / TIA-598 sequence (see below)
Loose tube	PBT, filled with thixotropic water-blocking gel
Optical routine test	OTDR trace at 850 / 1300 nm on every fibre, every drum

Fibre colour sequence

1 Blue · 2 Orange · 3 Green · 4 Brown · 5 Slate · 6 White · 7 Red · 8 Black · 9 Yellow · 10 Violet · 11 Rose · 12 Aqua

7 Mechanical and thermal data

Parameter	Value
Application	Spreader reels, basket systems and vertical reeling on STS/RTG/RMG cranes
Max. travel speed	180 m/min
Max. acceleration	1.0 m/s^2
Max. tensile load in operation	1,650 N (15 N/mm^2 of total Cu cross-section)
Torsional stress	± 25 °/m
Min. bending radius, fixed installation	6 × D = 231 mm
Min. bending radius, reeling / flexing	10 × D = 385 mm
Ambient temperature, flexing	–35 °C to +80 °C
Ambient temperature, fixed	–40 °C to +80 °C
Flame propagation	Flame retardant to IEC 60332-1-2
Oil resistance	Mineral oil, EN 60811-404
Weather resistance	UV and ozone resistant (EN 50396), suitable for coastal port environments

8 Dimensions and weight

Type	Cores × mm²	Fibres	Overall Ø (mm)	Weight approx. (kg/km)	Copper content (kg/km)
FC-SPR-FO	44G2.5	12 × OM1	38.5 ± 1.0	2,150	979

Weights and diameters are nominal values subject to manufacturing tolerance.

9 Standards and testing

Standard	Scope
IEC 60228	Conductors of insulated cables – Class 6
HD 22.1 / DIN VDE 0207-20	Rubber insulating compound 3GI3
DIN VDE 0250-814	Construction guideline for flexible reeling / trailing cables
DIN VDE 0293-308 / EN 50334	Core identification – numbered black cores with green/yellow
EN 50395 / EN 50396	Electrical and non-electrical test methods
IEC 60332-1-2	Flame propagation, single vertical cable
IEC 60793-2-10 (A1b)	Multimode fibre 62.5/125 µm
IEC 60794-1-21 / -22	Optical cable mechanical and environmental tests
DIN VDE 0298-4	Current-carrying capacity and correction factors
ISO 9001:2015	Quality management system

Routine tests on every drum: conductor resistance, 3.5 kV AC voltage test, core continuity and identification check, dimensional check and OTDR attenuation of all 12 fibres. Test certificate and OTDR traces are supplied with each delivery.

10 Packing and ordering

Supplied on steel-reinforced wooden drums or steel drums sized for the ordered length, in single continuous lengths without joints. Both cable ends are sealed with heat-shrink caps; the fibre ends are protected and accessible at both ends for acceptance testing.

Ordering designation

FC-SPREADERFLEX™ FO 44G2.5 + 12 OFE 62.5/125 · 0.6/1 kV · black · length in metres

Options: yellow or orange outer sheath; OM2/OM3/OM4 or single-mode G.652.D/G.657.A1 fibres; other core counts on request.

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