R-(N)TSCGEWÖU + FO Cable

Eland Product Group: F1C, F1D, F1E, F1G

APPLICATION

Specially designed flexible reeling cable with reduced dimensions for extremely high mechanical stresses occur in applications with monospiral reels and cylindrical reels, very high reeling speed, torsional stress. Also for connection of large material handling machines such as excavators, dumpers, crushers in open-cast mines. For use in wet or dry conditions, in industrial units, in underground and open-cast mining, in explosion-risk areas.

CHARACTERISTICS

Voltage Rating Uo/U
3.6/6 (7.2)kV, 6/10 (12)kV, 8.7/15 (18)kV, 12/20 (24)kV

Test Voltage
11kV, 17kV, 24kV, 29kV

Temperature Rating
Max. conductor operating temperature: +90°C
Max. conductor temperature during short circuit: +250°C
Minimum ambient temperature for fixed installation: -40°C
Minimum ambient temperature for mobile installation: -25°C

Minimum Bending Radius
6 x Outer diameter

CONSTRUCTION

Conductor
Annealed class 5 flexible stranded tinned or bare copper

Separator
Semi-conductive tape

Conductor Screen
Semi-conductive layer of special rubber

Insulation
Special EPDM rubber

Insulation Screen
Semi-conductive, special strippable layer

Earth Conductor
Class 5 tinned or bare copper with extruded special semi-conductive rubber compound

Fiber Optic Module
A-D(ZN)13Y 6, 12, 18 or 24 fibers G50/125, G62,5/125 or E9/125

Inner Sheath
A special synthetic thermosetting compound type 5GM3

Anti-Torsion Braid
Braid of polyamide threads

Outer Sheath
Special synthetic thermosetting compound 5GM5

Sheath Colour
● Red

STANDARDS

DIN VDE 0250-813, IEC 60228, DIN VDE 0207/21, DIN VDE 0298-4, DIN VDE 0298-3
Flame Propagation: PN-EN 60332-1-2, IEC 60332-1-2
Oil Resistant: PN-EN 60811-404, IEC 60811-404
UV Resistant: UL 2556, ISO 4892-2
Ozone Resistant: PN-ISO 1431-1
Tear, Impact and Abrasion Resistant

THE CABLE LAB®

AN ISO/IEC 17025 AND IECEE CBTL ACCREDITED FACILITY

Our world-class testing facility assures the quality and compliance of this cable through a continuous and rigorous testing regime.

SUSTAINABILITY COMMITMENT

We are on a journey to Net Zero.

We've committed to near-term emissions reductions and a net-zero target with the Science Based Targets initiative and we're a signatory to the United Nations Global Compact Sustainable Development Goals.

Learn more about embodied carbon and our carbon emissions reduction actions, our comprehensive recycling services, and wider ESG activities for sustainable operations at: www.elandcables.com/company/about-us/esg-sustainability

REGULATORY COMPLIANCE

This cable meets the requirements of the RoHS Directive 2015/65/EU and Reach Directive EC 1907/2006. RoHS compliance has been tested and confirmed by The Cable Lab®.

DIMENSIONS 3.6/6 (7.2)kV

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm²	NOMINAL CONDUCTOR DIAMETER mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km	MAXIMUM TENSILE LOAD N
F1C03025-******	3+2+FO	25+25/2	6.5	39.9	2479	1500
F1C03035-******	3+2+FO	35+25/2	7.5	42.0	2882	2100
F1C03050-******	3+2+FO	50+25/2	9.3	45.8	3534	3000
F1C03070-******	3+2+FO	70+35/2	11.1	51.5	4653	4200
F1C03095-******	3+2+FO	95+50/2	13	55.6	5689	5700
F1C03120-******	3+2+FO	120+70/2	14.5	58.8	6842	7200
F1C03150-******	3+2+FO	150+70/2	16.2	64.3	8259	9000
F1C03185-******	3+2+FO	185+95/2	18.3	68.8	9624	11100

DIMENSIONS 6/10 (12)kV

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm²	NOMINAL CONDUCTOR DIAMETER mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km	MAXIMUM TENSILE LOAD N
F1D03025-******	3+2+FO	25+25/2	6.5	41.6	2624	1500
F1D03035-******	3+2+FO	35+25/2	7.5	43.7	3035	2100
F1D03050-******	3+2+FO	50+25/2	9.3	47.5	3699	3000
F1D03070-******	3+2+FO	70+35/2	11.1	53.2	4840	4200
F1D03095-******	3+2+FO	95+50/2	13	57.3	5890	5700
F1D03120-******	3+2+FO	120+70/2	14.5	60.6	7054	7200
F1D03150-******	3+2+FO	150+70/2	16.2	66.0	8490	9000
F1D03185-******	3+2+FO	185+95/2	18.3	70.5	9871	11100

DIMENSIONS 8.7/15 (18)kV

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm²	NOMINAL CONDUCTOR DIAMETER mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km	MAXIMUM TENSILE LOAD N
F1E03025-******	3+2+FO	25+25/2	6.5	45.1	2933	1500
F1E03035-******	3+2+FO	35+25/2	7.5	47.1	3359	2100
F1E03050-******	3+2+FO	50+25/2	9.3	52.7	4270	3000
F1E03070-******	3+2+FO	70+35/2	11.1	56.7	5231	4200
F1E03095-******	3+2+FO	95+50/2	13	60.7	6309	5700
F1E03120-******	3+2+FO	120+70/2	14.5	65.8	7772	7200
F1E03150-******	3+2+FO	150+70/2	16.2	69.4	8971	9000
F1E03185-******	3+2+FO	185+95/2	18.3	75.8	10702	11100

DIMENSIONS 12/20 (24)kV

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm²	NOMINAL CONDUCTOR DIAMETER mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km	MAXIMUM TENSILE LOAD N
F1G03025-******	3+2+FO	25+25/2	6.5	48.1	3229	1500
F1G03035-******	3+2+FO	35+25/2	7.5	52	3885	2100
F1G03050-******	3+2+FO	50+25/2	9.3	55.7	4600	3000
F1G03070-******	3+2+FO	70+35/2	11.1	59.7	5584	4200
F1G03095-******	3+2+FO	95+50/2	13	65.6	6961	5700
F1G03120-******	3+2+FO	120+70/2	14.5	68.8	8181	7200
F1G03150-******	3+2+FO	150+70/2	16.2	72.5	9401	9000

First ** = Fibre Count (06, 12, 18, 24)
Remaining 4 **** = Fibre Type (SM09, MM62, MM50)
Example: F1A03035-06SM09

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FIBRE DATA

FIBRE TYPE	ATTENUATION dB/km			BANDWIDTH MHz*km		NUMERICAL APERTURE AT 850 nm	GROUP REFRACTIVE INDEX		
	850 nm	1300 nm	1550 nm	850 nm	1300 nm		850 nm	1300 nm	1550 nm
G50/125	≤2.5	≤0.6	-	700	500	0.200	1.483	1.479	-
G62.5/125	≤3.0	≤1.0	-	220	500	0.275	1.496	1.491	-
E9/125	-	-	≤0.21 / ≤0.19	-	-	-	-	-	1.468

ELECTRICAL CHARACTERISTICS

NOMINAL CROSS SECTIONAL AREA mm^2	MAXIMUM CONDUCTOR DC RESISTANCE AT 20°C Ω/Km		TWIST LIMITS °/m	TRAVEL SPEED UP TO m/min	TENSILE LOAD N/mm2
	Plain Wires	Tinned Wires			
25	0.78	0.795	100	180	20
35	0.554	0.565	100	180	20
50	0.386	0.393	100	180	20
70	0.272	0.277	100	180	20
95	0.206	0.21	100	180	20
120	0.161	0.164	100	180	20
150	0.129	0.132	100	180	20
185	0.106	0.108	100	180	20

MINIMUM BENDING RADIUS

FIXED INSTALLATION X Outer Diameter	ON DRUMS X Outer Diameter	ON DEFLECTION PULLEYS X Outer Diameter	MOVING FREELY X Outer Diameter
6	12	15	10

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