



## 1.8/3KV Single Core Medium Wall Traction Cables

### Applications

Single core power and control cable designed for protected, fixed installation inside and outside railway vehicles for connecting fixed and moving parts in direct current and alternating voltage technology, especially converter technology.



### Standard

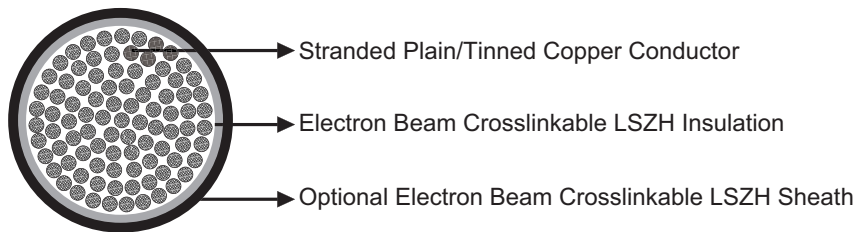
- BS 6853 -1a
- DIN 5510-1 1-4
- NFF 16-101 F0

### Construction

- Conductors: Circular Class 5 stranded plain or tinned copper to BS EN 60228: 2005 / BS 6360.

- Insulation: Electron beam crosslinkable medium wall LSZH compound.

- Outer Sheath: Electron beam crosslinkable LSZH compound (for sheathed cables).



### Optional

FRA-MW-3S-OS (Screened & Sheathed)

FRA-MW-3SU-FR(Fire resistant & Unsheathed)

### Electrical Characteristics at 20°C

Nominal Conductor Cross Section	mm <sup>2</sup>	1.5	2.5	4.0	6.0	10	16	25	35	50
Maximum Conductor Resistance	Ω/km	13.7	8.21	5.09	3.39	1.95	1.24	0.795	0.565	0.393
Voltage Rating	KV	1.8/3								

Nominal Conductor Cross Section	mm <sup>2</sup>	70	95	120	150	185	240	300	400
Maximum Conductor Resistance	Ω/km	0.277	0.21	0.164	0.132	0.108	0.0817	0.0654	0.0495
Voltage Rating	KV	1.8/3							

### Mechanical and Thermal Properties

- Minimum Bending Radius: 3×OD (OD<12mm); 4×OD (OD>12mm)
- Temperature Range: -40°C to +120°C

➤ **Dimensions and Weight**

**FRA-MW-3SU (Unsheathed)**

Cable Code	No. of cores & Nominal Conductor Cross Sectional Area No. × mm <sup>2</sup>	Nominal Diameter of Strands No/mm	Nominal Insulation Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
FRA-MW-3SU-1G1.5	1×1.5	30/0.25	2.0	5.8	50
FRA-MW-3SU-1G2.5	1×2.5	50/0.25	2.0	6.2	60
FRA-MW-3SU-1G4	1×4.0	56/0.30	2.0	6.8	80
FRA-MW-3SU-1G6	1×6.0	84/0.30	2.0	7.3	100
FRA-MW-3SU-1G10	1×10.0	80/0.40	2.0	8.2	150
FRA-MW-3SU-1G16	1×16.0	126/0.40	2.0	9.3	220
FRA-MW-3SU-1G25	1×25.0	196/0.40	2.0	10.8	290
FRA-MW-3SU-1G35	1×35.0	276/0.40	2.0	12.1	390
FRA-MW-3SU-1G50	1×50.0	396/0.40	2.0	13.6	530
FRA-MW-3SU-1G70	1×70.0	360/0.50	2.0	15.4	720
FRA-MW-3SU-1G95	1×95.0	475/0.50	2.2	17.4	940
FRA-MW-3SU-1G120	1×120.0	608/0.50	2.2	19.1	1160
FRA-MW-3SU-1G150	1×150.0	756/0.50	2.2	20.7	1440
FRA-MW-3SU-1G185	1×185.0	925/0.50	2.4	22.7	1760
FRA-MW-3SU-1G240	1×240.0	1221/0.50	2.4	25.6	2350
FRA-MW-3SU-1G300	1×300.0	1525/0.50	2.4	27.9	2820
FRA-MW-3SU-1G400	1×400.0	2013/0.50	2.6	31.7	3730

**FRA-MW-3S (Sheathed)**

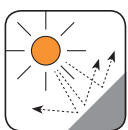
Cable Code	No. of cores & Nominal Conductor Cross Sectional Area No. × mm <sup>2</sup>	Nominal Diameter of Strands No/mm	Nominal Insulation Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
FRA-MW-3S-1G1.5	1×1.5	30/0.25	1.3	6.2	60
FRA-MW-3S-1G2.5	1×2.5	50/0.25	1.3	6.5	70
FRA-MW-3S-1G4	1×4.0	56/0.30	1.3	7.1	90
FRA-MW-3S-1G6	1×6.0	84/0.30	1.3	7.6	110
FRA-MW-3S-1G10	1×10.0	80/0.40	1.5	8.9	170
FRA-MW-3S-1G16	1×16.0	126/0.40	1.5	10	240
FRA-MW-3S-1G25	1×25.0	196/0.40	1.8	12.5	350
FRA-MW-3S-1G35	1×35.0	276/0.40	1.8	13.8	450
FRA-MW-3S-1G50	1×50.0	396/0.40	1.8	15.3	590
FRA-MW-3S-1G70	1×70.0	360/0.50	1.8	17.2	790
FRA-MW-3S-1G95	1×95.0	475/0.50	2.2	19.5	1050
FRA-MW-3S-1G120	1×120.0	608/0.50	2.2	21.3	1270
FRA-MW-3S-1G150	1×150.0	756/0.50	2.2	23.3	1590
FRA-MW-3S-1G185	1×185.0	925/0.50	2.4	25.4	1900
FRA-MW-3S-1G240	1×240.0	1221/0.50	2.4	28.1	2490
FRA-MW-3S-1G300	1×300.0	1525/0.50	2.4	30.5	3010
FRA-MW-3S-1G400	1×400.0	2013/0.50	2.6	34.7	3980



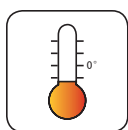
Impact Resistant



Highly Flexible



UV Resistant



Weather Resistant



Oil Resistant



Flame Retardant  
NF C32-070-2.1(C2)  
IEC 60332-1/EN 50265-2-1



Fire Retardant  
NF C32-070-2.2(C1)  
IEC 60332-3/EN50266



Zero Halogen  
IEC 60754-1/NF C20-454  
EN 50267-2-1



Low Smoke Emission  
IEC 61034/NFC20-902  
EN 50268/NF C32-073



Low Corrosivity  
EN 50267-2-2/NF C32-074  
IEC 60754-2/NF C20-453



Low Toxicity