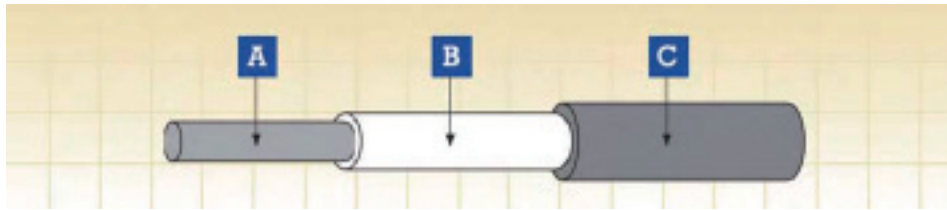


FIREROL Medium Wall Single Core Sheathed Cables 1.8/3 kV or 3.6/6 kV EN 50264-3-1 (FRL-MW-3S/FRL-MW-6S)



A. Conductor B. Insulation C. Sheath

Application

- Used as power and control cable for protected installations inside and outside of rail and transport vehicles, where handling and installation cost are an important factor.
- Used in control, auxillary and main circuit wiring such as cable harnesses, switchboards and control panels, driver desks etc.

Construction

Conductor

Flexible tinned annealed copper wires, stranded as per HD 383 (IEC 60228) class 5

Insulation

LSZH elastomeric compound as defined in EN 50264-1 (EI 106 to EI 109)

Sheath

LSZH elastomeric compound as defined in EN 50264-1 (EM 101 to EM 104)

Electrical & Mechanical Properties

Nominal Voltage

1.8/3 kV or 3.6/6 kV

Max. Conductor Temperature

90 °C (fixed installation)

Min. Permissible Ambient Temperature

-25 °C/-40 °C (fixed installation)

Bending Radius

Fixed installation:

5 x Overall Diameter (D<12mm);

6 x Overall Diameter (D>12mm)

Flexible installation:

10 x Overall Diameter (D<12mm);

12 x Overall Diameter (D>12mm)

Chemical & Environmental Properties

No fluorine

Resistance to mineral oil & fuel oil, acid & alkali

Resistance to ozone

EN 60684-2

EN 50305; EN 60811-2-1

EN 50305

Fire Performance for Rolling Stock Application

EN 50306-2

DIN 5510-2

BS 6853

NF F 16-101

Hazard levels HL1, HL2/HL3, HL4

Protection level 1/2/3/4

Interior use 1a, 1b, II; Exterior use 1a, 1b, II

F0

Fire Performance in General

EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)

EN 50266-2-4 + EN 50305; IEC 60332-3-24;

NF C 32-070 2.2 (C1); VDE 0472 Teil 804

EN 50268-2; IEC 61034-2; NF C 32-073 ;

NF C 20-902; NF F 16 101; VDE 0472 Teil 816

EN 50267-2-1; IEC 60754-1; NF C 32-074;

NF C 20-454; VDE 0472 Teil 815

EN 50267-2-2/3; IEC 60754-2; NF C 32-074;

NF C 20-453; VDE 0472 Teil 813

EN 50305; NF X 70-100; NF F 63 808; TM1-04; BS6853

NF F 63 808; BS6853; NF F 16 101

Vertical flame propagation for a single insulated wire or cable
Vertical flame spread of vertically mounted bunched wires or cables

Low Smoke Emission

Halogen Free

Low Corrosivity (Acidity & Conductivity)

Low Toxicity

Smoke Index

FRL-MW-3S 1.8/3 kV

Nominal Cross-Sectional Area	Conductor Diameter (a)	Min. Mean Thickness of Insulation	Min. Mean Thickness of Sheath	Overall Diameter		Weight	Max. Conductor Resistance	Min. Insulation Resistance	
				Min.	Max.			20 °C	20 °C
mm ²	mm	mm	mm	mm	mm	kg/km	Ω/km	MΩ x km	MΩ x km
1.5	1.5	1.3	0.8	5.7	6.7	60	13.7	21.8	0.218
2.5	1.95	1.3	0.8	6.0	7.0	70	8.21	18.8	0.188
4	2.5	1.3	0.8	6.5	7.6	90	5.09	16.2	0.162
6	3.0	1.3	0.8	7.0	8.1	110	3.39	14.4	0.144
10	3.9	1.5	0.8	8.2	9.6	170	1.95	12.8	0.128
16	5.0	1.5	0.8	9.2	10.8	240	1.24	10.7	0.107
25	6.4	1.8	1.0	11.5	13.4	350	0.795	10.3	0.103
35	7.7	1.8	1.0	12.7	14.9	450	0.565	8.9	0.089
50	9.2	1.8	1.0	14.1	16.5	590	0.393	7.8	0.078
70	11.0	1.8	1.0	15.8	18.5	790	0.277	6.7	0.067
95	12.5	2.2	1.0	18.0	21.0	1050	0.210	6.5	0.065
120	14.2	2.2	1.0	19.6	22.9	1270	0.164	6.1	0.061
150	15.8	2.2	1.2	21.4	25.1	1590	0.132	5.8	0.058
185	17.5	2.4	1.2	23.4	27.4	1900	0.108	5.6	0.056
240	20.1	2.4	1.2	25.9	30.3	2490	0.0817	5.0	0.050
300	22.5	2.4	1.2	28.1	32.9	3010	0.0654	4.5	0.045
400	25.8	2.6	1.4	32.0	37.4	3980	0.0495	4.4	0.044

FRL-MW-6S 3.6/6 kV

Nominal Cross-Sectional Area	Conductor Diameter (a)	Min. Mean Thickness of Insulation	Min. Mean Thickness of Sheath	Overall Diameter		Weight	Max. Conductor Resistance	Min. Insulation Resistance	
				Min.	Max.			20 °C	20 °C
mm ²	mm	mm	mm	mm	mm	kg/km	Ω/km	MΩ x km	MΩ x km
2.5	1.95	2.6	0.8	8.6	10.1	120	8.21	24.6	0.246
4	2.5	2.6	0.8	9.1	10.7	140	5.09	21.6	0.216
6	3.0	2.6	0.8	9.6	11.2	165	3.39	19.5	0.195
10	3.9	2.6	0.8	10.4	12.2	220	1.95	16.7	0.167
16	5.0	2.6	0.8	11.5	13.4	290	1.24	14.2	0.142
25	6.4	2.9	1.0	13.7	16.1	430	0.795	13.1	0.131
35	7.7	2.9	1.0	14.9	17.5	540	0.565	11.6	0.116
50	9.2	2.9	1.0	16.4	19.1	670	0.393	10.2	0.102
70	11.0	2.9	1.0	18.0	21.1	880	0.277	8.9	0.089
95	12.5	2.9	1.0	19.5	22.8	1100	0.210	8.0	0.080
120	14.2	2.9	1.2	21.4	25.1	1380	0.164	7.5	0.075
150	15.8	2.9	1.2	22.9	26.8	1660	0.132	6.9	0.069
185	17.5	3.2	1.2	25.1	29.4	2010	0.108	6.7	0.067
240	20.1	3.4	1.4	28.3	33.1	2670	0.0817	6.4	0.064
300	22.5	3.4	1.4	30.6	35.8	3170	0.0654	5.9	0.059
400	25.8	3.4	1.4	33.7	39.4	4150	0.0495	5.2	0.052

(a)= For information, indicative only

