



Caledonian

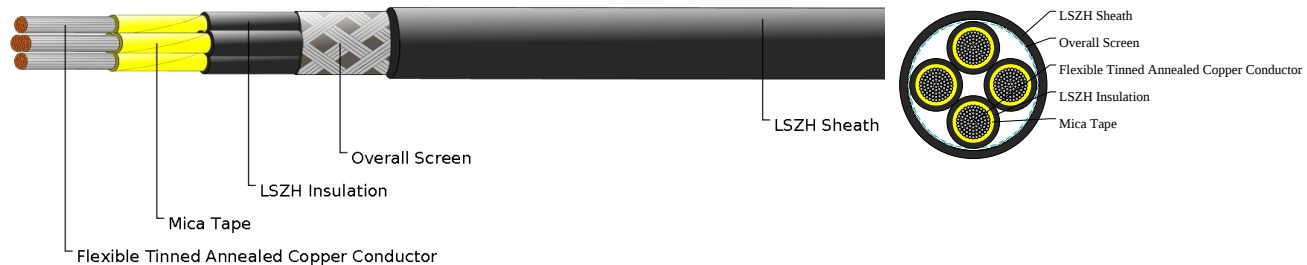
EN 50264 Rolling Stock Cables

www.caledonian-cables.com

marketing@caledonian-cables.com

FIREROL Medium Wall Multicore Overall Screened & Fire Resistant Cables

EN 50264-3-2 (FRL-MW-1M-OS-AS+-PH15/30/60)



APPLICATIONS

- 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.

VOLTAGE RATING

0.6/1 kV

CABLE CONSTRUCTION

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

Insulation:Mica tape+LSZH elastomeric compound as defined in EN 50264-1 (EI 106 to EI 110)

Overall Screen:Tinned annealed copper wires

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

MECHANICAL PROPERTIES

Max. Conductor Temperature: 90 °C (fixed installation)

Min. Permissible Ambient Temperature: -25 °C/-40 °C (fixed installation)

Bending Radius

Fixed installation:

10 x Overall Diameter (D<12mm);

12 x Overall Diameter (D>12mm)

Flexible installation:

20 x Overall Diameter (D<12mm);

25 x Overall Diameter (D>12mm)

CHEMICAL AND ENVIRONMENTAL PROPERTIES

EN 60684-2	No fluorine
EN 50305; EN 60811-2-1	Resistance to mineral oil & fuel oil, acid & alkali
EN 50305	Resistance to ozone



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FIRE PERFORMANCE FOR ROLLING STOCK APPLICATION

EN 50306-2	Hazard levels HL1, HL2, HL3
DIN 5510-2	Protection level 1/2/3/4
BS 6853	Interior use 1a, 1b, II; Exterior use 1a, 1b, II
NF F 16-101	F0
EN45545-2	R15 Interior/ R16 Exterior HL1, HL2, HL3
EN50200	PH15, PH30, PH60

FIRE PERFORMANCE IN GENERAL

EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)	Vertical flame propagation for a single insulated wire or cable
EN 50266-2-4 + EN 50305; IEC 60332-3-24; NF C 32-070 2.2 (C1); VDE 0472 Teil 804	Vertical flame spread of vertically mounted bunched wires or cables
EN 50268-2; IEC 61034-2; NF C 32-073 ;NF C 20-902; NF F 16 101; VDE 0472 Teil 816	Low Smoke Emission
EN 50267-2-1; IEC 60754-1; NF C 32-074;NF C 20-454; VDE 0472 Teil 815	Halogen Free
EN 50267-2-2/3; IEC 60754-2; NF C 32-074;NF C 20-453; VDE 0472 Teil 813	Low Corrosivity (Acidity & Conductivity)
EN 50305; NF X 70-100; NF F 63 808; TM1-04; BS6853	Low Toxicity
NF F 63 808; BS6853; NF F 16 101	Smoke Index
EN45545-2	Requirement for fire behavior of materials & components R15/R16
IEC60331-21	The circuit integrity test under fire of cables rated 0.6/1.0kV and below
EN 50200: 2006	Resistance to fire of unprotected small cable for use in emergency circuits 5 classifications are defined: PH 15,30,60, 90 or 120mins

DIMENSION AND PARAMETERS

No. of Conductors × Cross-sectional Area	Min. Diameter	Min. Mean Thickness of Insulation	Min. Average Sheath Thickness	Diameter Of Core (min.)	Diameter Of Core (max.)	Overall Diameter (min.)	Overall Diameter (max.)	Min. Wire Diameter of Screen	Approx. Weight	Max. Conductor Resistance at 20 °C	Min. Insulation Resistance (EI 110) 20°C	Min. Insulation Resistance (EI 106- EI 109) 20°C
No. × mm ²	mm	mm	mm	mm	mm	mm	mm	mm	kg/km	MΩ × km	MΩ × km	MΩ × km



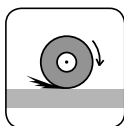
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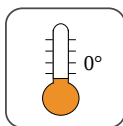
4×10	3.9	0.7	1.0	5.34	6.14	16.14	19.74	0.26	752	1.95	9.8	4.9
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Abrasion Retardant



Acid & Alkaline Resistant



Cold Resistant



Fire Retardant
NF C32-070-2.3(C1)
IEC60332-3-2-4/EN50266-2-4



Flame Retardant
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1



Highly Flexible



Impact Resistant



IRM 902
Mineral Oil Resistant



IRM 903
Fuel Oil Resistant



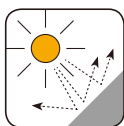
Low Corrosivity
IEC60754-2/EN50267-2-2/3
NF C32-074/NF C20-453



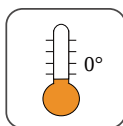
Low Smoke Emission
IEC 61034-2 / EN 50268-2
NF C32-073/NF C 20-902



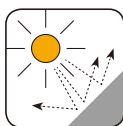
Low Toxicity
EN 50305; NF X70-100/NF
F63 808/TM1-04/BS 6853



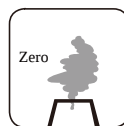
Ozone Resistant



Resistance To
Soldering Heat



UV Resistant



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