



Caledonian

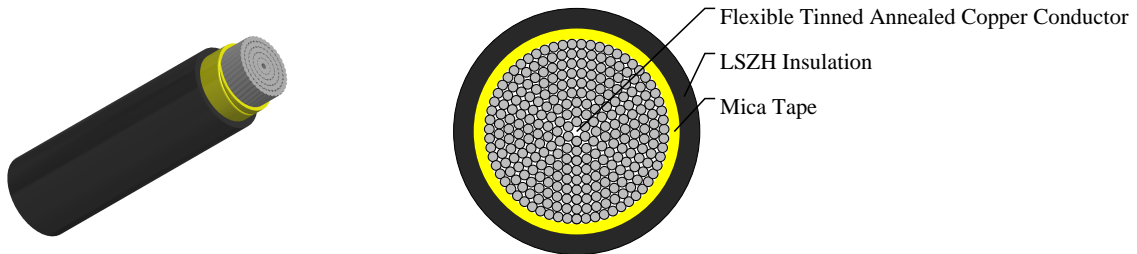
EN 50264 Rolling Stock Cables

www.caledonian-cables.com

marketing@caledonian-cables.com

FIREROL Medium Wall Single Core Unsheathed & Fire Resistant

EN 50264-3-1 (FRL-MW-1SU-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 109)

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 PROPERTIE

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

FIRE PERFORMANCE FOR ROLLING STOCK APPLICATION

| | |
|------------|-----------------------------|
| EN 50306-2 | Hazard levels HL1, HL2, HL3 |
|------------|-----------------------------|



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| | |
|----------------|--|
| 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 |
| EN 50200: 2006 | 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 |
| IEC60331-21 | The circuit integrity test under fire of cables rated 0.6/1.0kV and below |
| EN45545-2 | Requirement for fire behavior of materials & components R15/R16 |
| EN50200: 2006 | Resistance to fire of unprotected small cable for use in emergency circuits 5 classifications are defines: PH15, 30, 60, 90 or 120 mins. |

DIMENSION AND PARAMETERS

| Nominal Cross-sectional Area | Conductor Diameter | Min. Mean Thickness of Insulation | Overall Diameter (min.) | Overall Diameter (max.) | Approx. Weight | Max. Conductor Resistance at 20 °C | Min. Insulation Resistance at 20 °C | Min. Insulation Resistance at 90 °C |
|------------------------------|--------------------|-----------------------------------|-------------------------|-------------------------|----------------|------------------------------------|-------------------------------------|-------------------------------------|
| mm ² | mm | mm | mm | mm | kg/km | MΩ × km | MΩ × km | MΩ × km |
| 35 | 7.7 | 0.9 | 9.2 | 10.9 | 395 | 0.565 | 3.5 | 0.035 |



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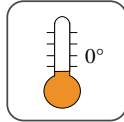
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Acid & Alkaline Resistant



Cold Resistant



Fire Retardant
NF C32-070-2,2(C1)
IEC60332-3-24/EN50266-2-4



Flame Resistant
EN50200



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



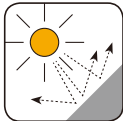
Low Corrosivity
IEC60754-2/EN50267-2-2/3
NF C32-074/NF C20-453



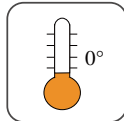
Low Smoke Emission
IEC 61034-2 / EN 50268-2
NF C32-073/NF C 20-902



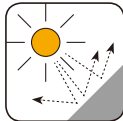
Low Toxicity
EN 50305; NF X70-100/NF
F63 808/TM1-04/BS 6853



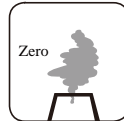
Ozone Resistant



Resistance To
Soldering Heat



UV Resistant



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