



Caledonian

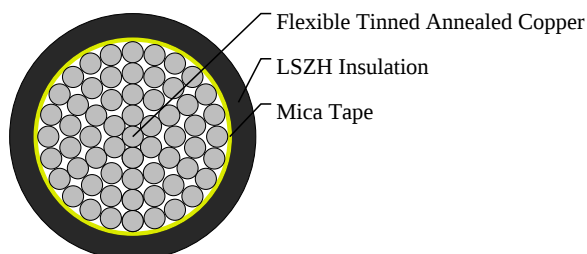
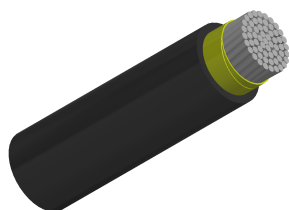
EN 50264 Rolling Stock Cables

www.caledonian-cables.com

marketing@caledonian-cables.com

FIREROL Standard Wall Single Core Unsheathed & Fire Resistant Cables

EN 50264-2-1 (FRL-SW-3SU-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

1.8/3 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 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: 3 x Overall Diameter (D<12mm); 4 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

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



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EN50200	PH15, PH30, PH60
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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
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 120 90 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	mohm×km	mohm×km	mohm×km
240	20.1	2.7	24.1	28.2	2360	0.0817	20	0.2



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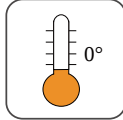
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Acid & Alkaline
Resistant



Cold Resistant



Fire Retardant
NF C32-070-2.2(C1)
IEC60332-3-2/EN50366-2-4



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



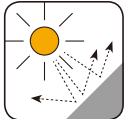
Low Corrosivity
IEC60754-2/EN50267-2-2/3
NF C32-074/NF C20-453



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



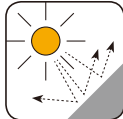
Low Toxicity
EN 50305; NF X70-100/NF
F63 808/TM1-64/BS 6853



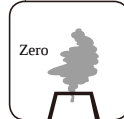
Ozone Resistant



Resistance To
Soldering Heat



UV Resistant



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