



Caledonian

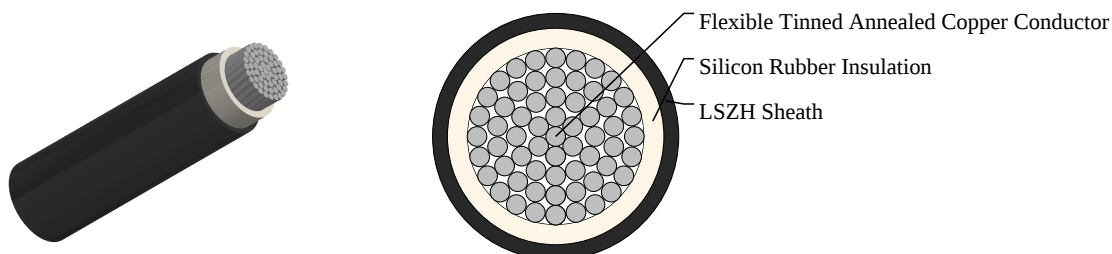
EN 50382 High Temperature Rolling Stock Cables

www.caledonian-cables.com

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FIREROL High Temperature Single Core Sheathed Cables

EN 50382-2 (FRL-HT-3S)



VOLTAGE RATING

1.8/3 kV

CABLE CONSTRUCTION

Conductor: Flexible tinned annealed copper wires (red copper only for 150 °C core temperature) class 5 according to HD 383

Insulation: Silicon rubber according to EN 50382-1 (EI 112)

Outer Sheath: LSZH elastomeric compound according to EN 50382-1 (EM 105, EM 106 or EM 107)

MECHANICAL PROPERTIES

Max. Conductor Temperature: 120 °C/150 °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
EN 45545-2	R15 Interior/ R16 Exterior HL1, HL2, HL3

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
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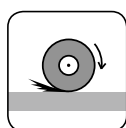
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EN 50266-2-4 + EN 50305; IEC 60332-3-24; NF C 32-070 2.2 (C1); VDE 0472 Teil 804	Vertical flame spread of vertically mounted bunched wires or cables
EN 50268-2; IEC 61034-2; NF C 32-073 ;NF C 20-902; NF F 16 101; VDE 0472 Teil 816	Low Smoke Emission
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

DIMENSION AND PARAMETERS

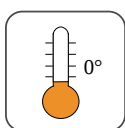
Nominal Cross-sectional Area	Conductor Diameter	Min. Mean Thickness of Insulation	Min. Average Sheath Thickness	Overall Diameter (min.)	Overall Diameter (max.)	Approx. Weight	Max. Conductor Resistance (Tinned Conductor) at 20 °C	Max. Conductor Resistance (Plain Conductor) at 20 °C	Min. Insulation Resistance at 20 °C	Min. Insulation Resistance at 150 °C
mm ²	mm	mm	mm	mm	mm	kg/km	Ω/km	Ω/km	MΩ × km	MΩ × km
240	20.1	2.4	1.8	27.1	31.7	2480	0.0817	0.0801	140	0.20



Abrasion Retardant



Acid & Alkaline Resistant



Cold Resistant



Fire Retardant
NF C32-070-2.2(C1)
IEC60332-3-24/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



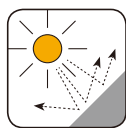
Low Corrosivity
IEC60754-2/EN50267-2/3
NF C32-074/NF C20-453



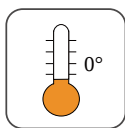
Low Smoke Emission
IEC 61034-2 / EN 50268-2
NF C32-073/NF C 20-902



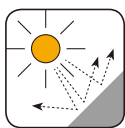
Low Toxicity
EN 50305; NF X70-100/NF
F63 808/TM1-04/BS 6853



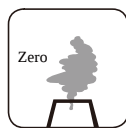
Ozone Resistant



Resistance To
Soldering Heat



UV Resistant



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