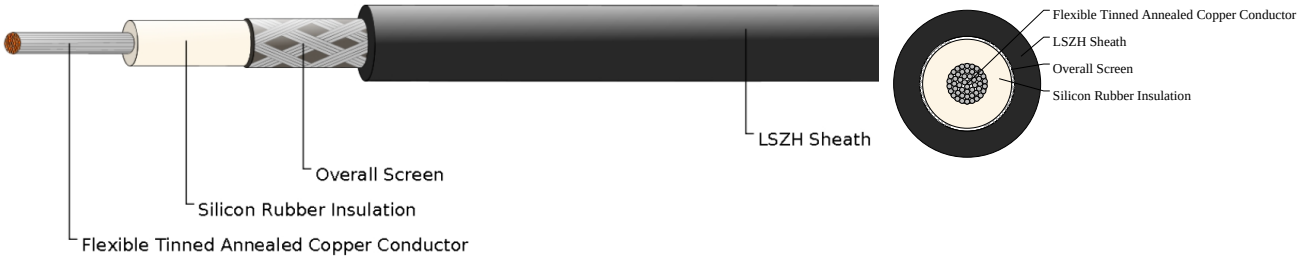
# Caledonian

EN 50382 High Temperature Rolling Stock Cables

www.caledonian-cables.com marketing@caledonian-cables.com

## FIREROL High Temperature Single Core Screened & Sheathed Cables

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




## 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)

Overal Screen:Tinned annealed copper wires

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 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 |
| 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 |

## 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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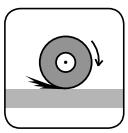
| | |
|---|---|
| EN 50266-2-4 + EN 50305; IEC 60332-3-24;NF C 32-070 2.2 (C1); VDE 0472 Teil 804 | Vertical flame spread of vertically mounted bunched wires or cables |
| EN 50268-2; IEC 61034-2; NF C 32-073 ;NF C 20-902; NF F 16 101; VDE 0472 Teil 816 | Low Smoke Emission |
| EN 50267-2-1; IEC 60754-1; 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.) | Min. Wire Diameter of Screen | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| mm² | mm | mm | mm | mm | mm | mm | kg/km | Ω/km | Ω/km | MΩ × km | MΩ × km |
| 2.5 | 1.95 | 1.3 | 1.4 | 7.2 | 8.4 | 0.16 | 134 | 8.21 | 7.98 | 570 | 1.10 |


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

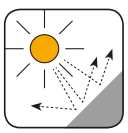
IRM 902
Mineral Oil Resistant

IRM 903
Fuel Oil Resistant

Low Corrosivity
IEC60754-2/EN50267-2-2/3
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