



# Caledonian

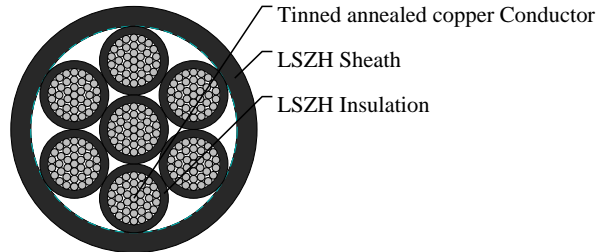
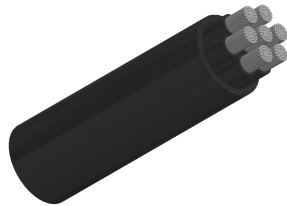
EN 50306 Rolling Stock Cables

www.caledonian-cables.com

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## FIREROL Thin Wall Multicore Cables with Standard Wall Sheath

EN 50306-4 (FRL-TW-05M-SW)



### APPLICATIONS

- Used as signal and control cable for protected installations inside and outside of rail and transport vehicles, where space and weight are an important factor.
- Used in cable harnesses, switchboards and control panels, driver desks etc.

### VOLTAGE RATING

300/500 V

### CABLE CONSTRUCTION

Conductor:Tinned annealed copper wires as defined in EN 50306-2

Insulation:LSZH special compound

Outer Sheath:LSZH special compound (S2. EM101- EM104)

### MECHANICAL PROPERTIES

Max. Conductor Temperature: 90 °C /105 °C (fixed installation)

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

Bending Radius

Fixed installation:

3 x Overall Diameter (D<12mm);

4 x Overall Diameter (D>12mm)

Flexible installation:

5 x Overall Diameter (D<12mm);

6 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         |

## 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     |

## DIMENSION AND PARAMETERS

| No. of Cores ×<br>Cross-sectional Area | Min. Mean<br>Thickness of Sheath | Overall<br>Diameter (min.) | Overall<br>Diameter (max.) | Approx. Weight |
|--|----------------------------------|----------------------------|----------------------------|----------------|
| No.×mm <sup>2</sup>                    | mm                               | mm                         | mm                         | kg/km          |
| 7x1.5                                  | 0.56                             | 7.7                        | 9.8                        | 140            |

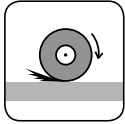


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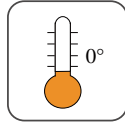
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Abrasion Retardant



Acid & Alkaline Resistant



Cold Resistant



Corona Resistant



Fire Retardant  
NF C32-070-2,2(C1)  
IEC60332-3-24/EN50366-2-4



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



Highly Flexible



IRM 902  
Mineral Oil Resistant



IRM 903  
Fuel Oil Resistant



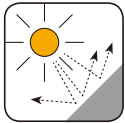
Low Corrosivity  
IEC60754-2/EN50267-2-2/3  
NF C32-074/NF C20-453



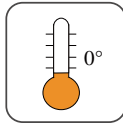
Low Smoke Emission  
IEC 61034-2 / EN 50268-2  
NF C32-073/NF C 20-902



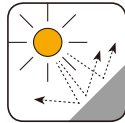
Low Toxicity  
EN 50305; NF X70-100/NF  
F63 808/TM1-04/BS 6853



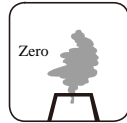
Ozone Resistant



Resistance To Soldering Heat



UV Resistant



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