



# Caledonian

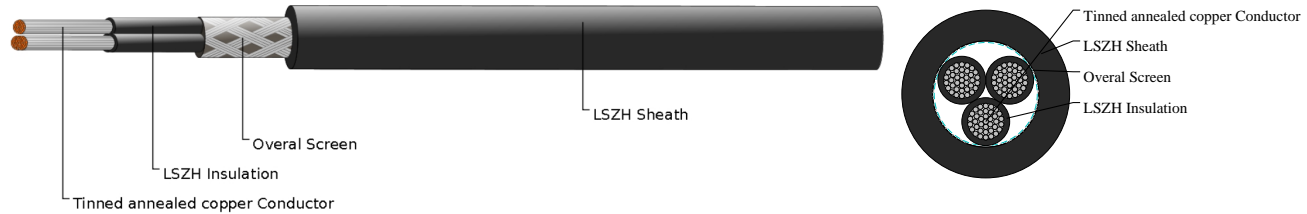
EN 50306 Rolling Stock Cables

www.caledonian-cables.com

marketing@caledonian-cables.com

## FIREROL Thin Wall Multicore Overall Screened Cables with Exposed

EN 50306-4 (FRL-TW-05M-ESW-OS)



### 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

Overall Screen:Tinned annealed copper wires

Outer Sheath:LSZH special compound as defined in EN 50264-1 (S2. EM 101 - EM 104)

### MECHANICAL PROPERTIES

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

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

Bending Radius: 10 x Overall Diameter

### 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

### FIRE PERFORMANCE IN GENERAL



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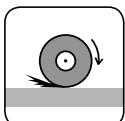
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EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)	Vertical flame propagation for a single insulated wire or cable
EN 50266-2-4 + EN 50305; IEC 60332-3-24;NF C 32-070 2.2 (C1); VDE 0472 Teil 804	Vertical flame spread of vertically mounted bunched wires 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

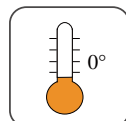
No. of Cores × Cross-sectional Area	Min. Mean Thickness of Sheath	Overall Diameter (min.)	Overall Diameter (max.)	Approx. Weight
No. ×mm <sup>2</sup>	mm	mm	mm	kg/km
3x1.0	1.0	6.5	7.5	80



Abrasion Retardant



Acid & Alkaline Resistant



Cold Resistant



Corona Resistant



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



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



Highly Flexible



IRM 902  
Mineral Oil Resistant



IRM 903  
Fuel Oil Resistant



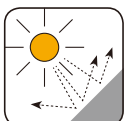
Low Corrosivity  
IEC60754-2/EN50267-2-2/3  
NF C32-074/NF C20-453



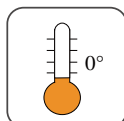
Low Smoke Emission  
IEC 61034-2 / EN 50268-2  
NF C32-073/NF C 20-902



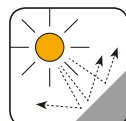
Low Toxicity  
EN 50305; NF X70-100/NF  
F63 808/TM1-04/BS 6853



Ozone Resistant



Resistance To  
Soldering Heat



UV Resistant



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