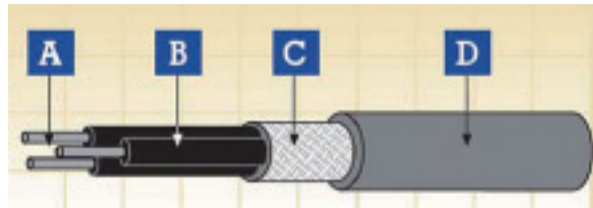


FIREROL Thin Wall Multicore Overall Screened Cables 300/500 V EN 50306-3 (FRL-TW-05M-OS)



A. Conductor B. Insulation C. Screen D. Sheath

Application

- 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.

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 (S1 & S2)

Electrical & Mechanical Properties

Nominal Voltage
Max. Conductor Temperature
Min. Permissible Ambient Temperature
Bending Radius

300/500 V
90 °C/105 °C (fixed installation)
-25 °C/-40 °C (fixed installation)
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 & Environmental Properties

EN 60684-2
EN 50305; EN 60811-2-1
EN 50305

No fluorine
Resistance to mineral oil & fuel oil, acid & alkali
Resistance to ozone

Fire Performance for Rolling Stock Application

EN 50306-2
DIN 5510-2
BS 6853
NF F 16-101

Hazard levels HL1, HL2/HL3, HL4
Protection level 1/2/3/4
Interior use 1a, 1b, II; Exterior use 1a, 1b, II
F0

Fire Performance in General

EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)
EN 50266-2-4 + EN 50305; IEC 60332-3-24;
NF C 32-070 2.2 (C1); VDE 0472 Teil 804
EN 50268-2; IEC 61034-2; NF C 32-073 ;
NF C 20-902; NF F 16 101; VDE 0472 Teil 816
EN 50267-2-1; IEC 60754-1; NF C 32-074;

Vertical flame propagation for a single insulated wire or cable
Vertical flame spread of vertically mounted bunched wires or cables

Low Smoke Emission

Halogen Free

EN 50306 Rolling Stock Cables

NF C 20-454; VDE 0472 Teil 815
 EN 50267-2-2/3; IEC 60754-2; NF C 32-074;
 NF C 20-453; VDE 0472 Teil 813
 EN 50305; NF X 70-100; NF F 63 808; TM1-04; BS6853
 NF F 63 808; BS6853; NF F 16 101
 FRL-TW-05M-OS 300/500 V

Low Corrosivity (Acidity & Conductivity)

Low Toxicity
 Smoke Index

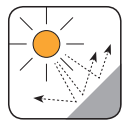
Number of Cores and Nominal Cross Section	Min. Thickness of Sheath at any Point	Overall Diameter		Weight
		Min.	Max.	
n x mm ²	mm	mm	mm	kg/km
2 x 0.5	0.20	3.5	4.3	28
3 x 0.5	0.20	3.7	4.5	35
4 x 0.5	0.20	4.0	5.0	40
2 x 0.75	0.20	3.9	4.7	35
3 x 0.75	0.20	4.0	5.0	40
4 x 0.75	0.20	4.5	5.5	60
2 x 1	0.20	4.2	5.2	40
3 x 1	0.20	4.5	5.5	55
4 x 1	0.20	5.0	6.0	70
2 x 1.5	0.20	5.1	6.1	60
3 x 1.5	0.20	5.4	6.4	80
4 x 1.5	0.20	6.0	7.0	100
2 x 2.5	0.20	6.4	7.4	90
3 x 2.5	0.20	6.8	7.8	120
4 x 2.5	0.20	7.5	8.5	140



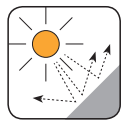
Corona Resistant



Highly Flexible



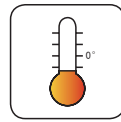
UV Resistant



Ozone Resistant



Abrasion Retardant



Cold Resistant



Resistance To Soldering Heat



Acid & Alkaline Resistant



IRM 903
Fuel Oil Resistant



IRM 902
Mineral Oil 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



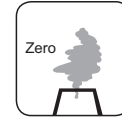
Low Toxicity
EN 50305; NF X70-100/NF
F63 808/TM1-04/BS 6853



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



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