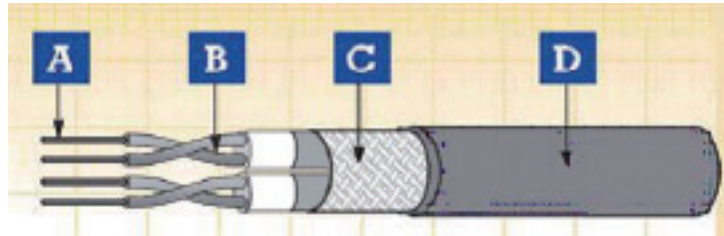


FIREROL Thin Wall Multipair Individually Screened Cables, with Overall Screen & Standard Wall Sheath

300/500 V

EN 50306-4 (FRL-TW-05MP-SW-IOS)



A. Conductor B. Insulation+Pair Screen & Sheath C. Overall Screen D. Outer 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

Pair Screen

Individual screened and sheathed; Screened according to EN 50306-3; Sheathed according to EN 50306-3 (S1. S2)

Pair Identification

Pairs numbered according to EN 50306-4

Overall Screen

Tinned annealed copper wires

Outer Sheath

LSZH special compound (S2. EM 101 - EM 104)

Electrical & Mechanical Properties

Nominal Voltage	300/500 V
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 & 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, HL4
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

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;
 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-05MP-SW-IOS 300/500 V

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

Low Corrosivity (Acidity & Conductivity)

Low Toxicity
 Smoke Index

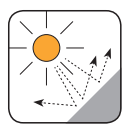
Number of Pairs and Nominal Cross Section	Min. Thickness of Sheath at any Point	Overall Diameter		Weight
		Min.	Max.	
N x n x mm ²	mm	mm	mm	kg/km
2 x 2 x 0.5	0.56	9.0	10.2	90
3 x 2 x 0.5	0.56	9.6	10.8	120
4 x 2 x 0.5	0.56	10.7	11.9	160
7 x 2 x 0.5	0.56	13.0	14.2	240
2 x 2 x 0.75	0.56	9.8	11.0	90
3 x 2 x 0.75	0.56	10.5	11.7	150
4 x 2 x 0.75	0.56	11.6	12.8	180
7 x 2 x 0.75	0.56	14.0	15.6	290
2 x 2 x 1.0	0.56	10.2	11.6	110
3 x 2 x 1.0	0.56	10.9	12.1	160
4 x 2 x 1.0	0.56	12.1	13.3	200
7 x 2 x 1.0	0.56	14.6	16.2	330
2 x 2 x 1.5	0.56	12.2	13.4	150
3 x 2 x 1.5	0.56	13.1	14.3	230
4 x 2 x 1.5	0.56	14.3	15.9	290
7 x 2 x 1.5	0.56	17.6	19.2	490



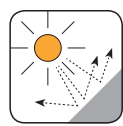
Corona Resistant



Highly Flexible



UV Resistant



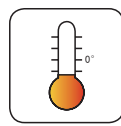
Ozone Resistant



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



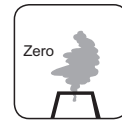
Low Toxicity
EN 50305; NF X70-100/NF
F63 808/TM1-04/BS 6853



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