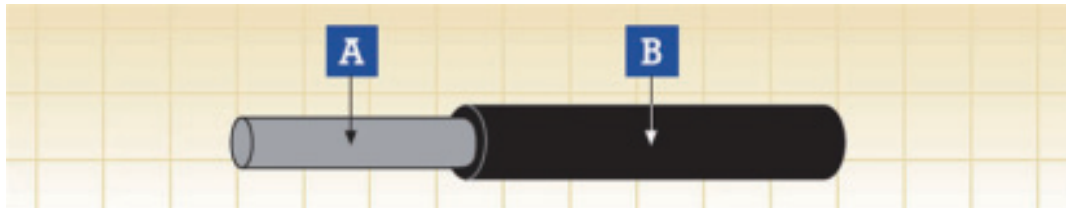


FIREROL Thin Wall Single Core Unsheathed Cables

300/500 V

EN 50306-2 (FRL-TW-05SU)



A. Conductor B. Insulation

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

Electrical & Mechanical Properties

Nominal Voltage	300/500 V
Max. Conductor Temperature	90 °C /105 °C (fixed installation)
Min. Permissible Ambient Temperature	-25/-40 °C (fixed installation)
Bending Radius	3 x Overall Diameter (fixed installation); 5 x Overall Diameter (flexible installation)

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)	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 NF F 63 808; BS6853; NF F 16 101	Low Toxicity Smoke Index



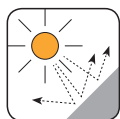
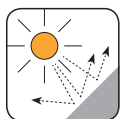











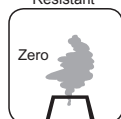
EN 50306 Rolling Stock Cables

FRL-TW-05SU 300/500 V

Nominal Cross-Sectional Area	Number X Nominal Diameter of Wire	Diameter		Min. Mean Thickness of Insulation	Overall Diameter		Weight	Max. Conductor Resistance
		Min.	Max.		Min.	Max.		20 °C
		mm	mm		mm	mm		mm
0.5	19 x 0.18	0.80	0.95	0.18	1.15	1.45	7	40.1
0.75	37 x 0.16(a)	1.00	1.15	0.18	1.35	1.65	8	26.7
1.0	37 x 0.18(a)	1.10	1.30	0.18	1.45	1.80	10	20.0
1.5	37 x 0.23(a)	1.45	1.65	0.22	1.95	2.30	20	13.7
2.5	37 x 0.30(a)	1.85	2.15	0.28	2.50	2.85	25	8.21

(a) =This cable may be supplied in 19 strand conductor providing all product performance requirements in the specification are met



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