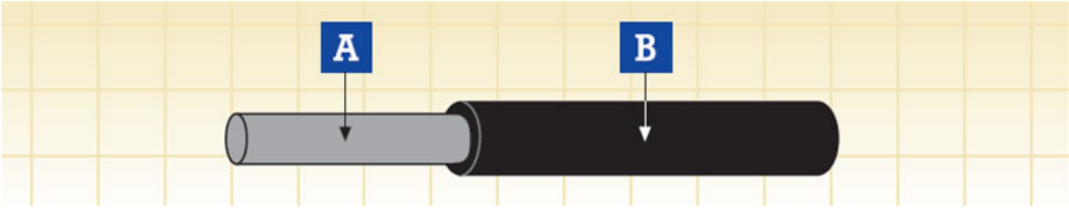
FIREROL Standard Wall Single Core Unsheathed Cables 500V, 1000V, 1500V, 3000V NF F 63-826 (FRF-SW-05SU,FRF-SW-1SU,FRF-SW-1.5SU,FRF-SW-3SU)



A. Conductor B. Insulation

Application

These cables are used as power and control cable for protected installations inside and outside of rail and transport vehicles, where handling and installation cost are an important factor, suitable for use in control, auxiliary and main circuit wiring such as cable harnesses, switchboards and control panels, driver desks etc.

Construction

Conductor

Stranded tinned copper wires to IEC 60228 Class 5

Insulation

Special halogen free compound

Electrical & Mechanical Properties

Nominal Voltage	500V, 1000V, 1500V, 3000V
Maximum Conductor Temperature	90°C/105°C
Temperature Range	-25°C~90°C
Bending Radius	4 × Overall Diameter

Standards

NF F 63-826
NF F 16-101
BS 6853

Fire Performance in general

EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)	Vertical flame propogation 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

NF F 63-826 Rolling Stock Cables

FRF-SW-05SU 500V

Nominal Cross Sectional Area	Number & Nominal Diameter of Strands	Nominal Insulation Thickness	Overall Diameter		Weight
			Min.	Max.	
mm²	No/mm	mm	mm	mm	kg/km
1.0	32/0.20	1.3	3.8	4.5	26
1.5	30/0.25	1.3	4.1	4.8	33
2.5	50/0.25	1.3	4.5	5.2	43
4.0	56/0.30	1.3	5.0	5.8	59
6.0	84/0.30	1.4	5.7	6.5	82
10.0	80/0.40	1.5	6.9	8.1	135
16.0	126/0.40	1.5	8.2	9.2	210

FRF-SW-1SU 1000V

Nominal Cross Sectional Area	Number & Nominal Diameter of Strands	Nominal Insulation Thickness	Overall Diameter		Weight
			Min.	Max.	
mm²	No/mm	mm	mm	mm	kg/km
1.5	30/0.25	1.5	4.4	5.2	42
2.5	50/0.25	1.5	4.8.	5.6	55
4.0	56/0.30	1.5	5.4	6.2	72
6.0	84/0.30	1.6	6.1	6.9	96
10.0	80/0.40	1.6	7.0	8.3	154
16.0	126/0.40	1.6	8.3	9.4	218
25.0	196/0.40	1.7	9.8	11.0	316
35.0	276/0.40	1.8	11.2	12.5	440
50.0	396/0.40	1.9	13.0	14.3	580
70.0	360/0.50	2.0	14.7	16.3	830
95.0	475/0.50	2.0	16.6	18.4	1040
120.0	608/0.50	2.1	18.6	20.5	1310

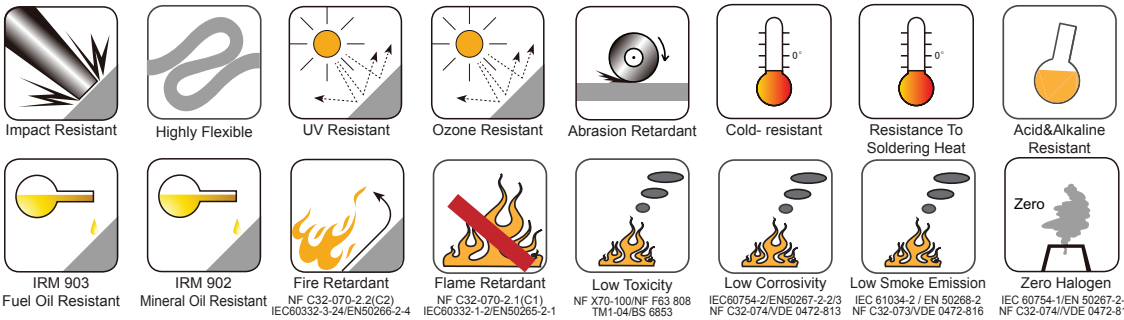
FRF-SW-1.5SU 1500V

Nominal Cross Sectional Area	Number & Nominal Diameter of Strands	Nominal Insulation Thickness	Overall Diameter		Weight
			Min.	Max.	
mm²	No/mm	mm	mm	mm	kg/km
1.5	30/0.25	2.3	6.0	6.8	59
2.5	50/0.25	2.3	6.4	7.2	73
4.0	56/0.30	2.3	7.0	7.8	91
6.0	84/0.30	2.3	7.5	8.3	120
10.0	80/0.40	2.3	8.4	9.7	160
16.0	126/0.40	2.3	9.7	10.8	235
25.0	196/0.40	2.3	11.0	12.2	330
35.0	276/0.40	2.4	12.4	13.7	480
50.0	396/0.40	2.5	14.2	15.5	610
70.0	360/0.50	2.7	16.1	17.7	860
95.0	475/0.50	2.7	18.0	19.8	1070
120.0	608/0.50	2.8	20.0	21.9	1340
150.0	756/0.50	2.8	21.8	23.8	1620
185.0	925/0.50	2.9	23.7	25.9	1940
240.0	1221/0.50	3.1	26.6	29.1	2550
300.0	1525/0.50	3.45	29.4	31.9	2950

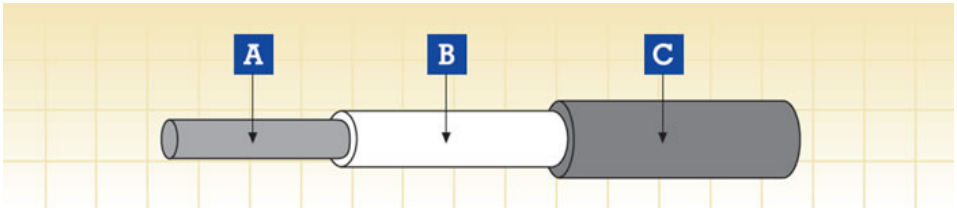
NF F 63-826 Rolling Stock Cables

FRF-SW-3SU 3000V

Nominal Cross Sectional Area	Number & Nominal Diameter of Strands	Nominal Insulation Thickness	Overall Diameter		Weight
			Min.	Max.	
mm²	No/mm	mm	mm	mm	kg/km
2.5	50/0.25	3.1	8.0	8.8	94
4.0	56/0.30	3.1	8.5	9.5	124
6.0	84/0.30	3.1	8.8	9.9	135
10.0	80/0.40	3.1	10.0	11.3	200
16.0	126/0.40	3.1	11.2	12.4	265
25.0	196/0.40	3.1	12.5	13.8	375
35.0	276/0.40	3.2	13.9	15.3	493
50.0	396/0.40	3.3	15.7	17.2	680
70.0	360/0.50	3.4	17.5	19.1	930
95.0	475/0.50	3.5	19.5	21.4	1066
120.0	608/0.50	3.6	21.6	23.5	1530
150.0	756/0.50	3.6	23.3	25.5	1740
185.0	925/0.50	3.7	25.2	27.6	2100
240.0	1221/0.50	3.9	28.1	31.7	2460
300.0	1525/0.50	4.45	31.4	35.0	3050



FIREROL Standard Wall Single Core Sheathed Cables 1500V, 3000V NF F 63-826 (FRF-SW-1.5S, FRF-SW-3S)



A. Conductor B. Insulation C. Sheath

Application

These cables are used as power and control cable for protected installations inside and outside of rail and transport vehicles, where handling and installation cost are an important factor, suitable for use in control, auxiliary and main circuit wiring such as cable harnesses, switchboards and control panels, driver desks etc.

Construction

Conductor

Stranded tinned copper wires to IEC 60228 Class 5

Insulation

Halogen free compound

Sheath

Halogen free compound

Electrical & Mechanical Properties

Nominal Voltage	1500V, 3000V
Maximum Conductor Temperature	90°C/105°C
Temperature Range	-25°C~90°C
Bending Radius	4 × Overall Diameter

Standards

NF F 63-826
NF F 16-101
BS 6853

Fire Performance in general

EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)	Vertical flame propogation 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

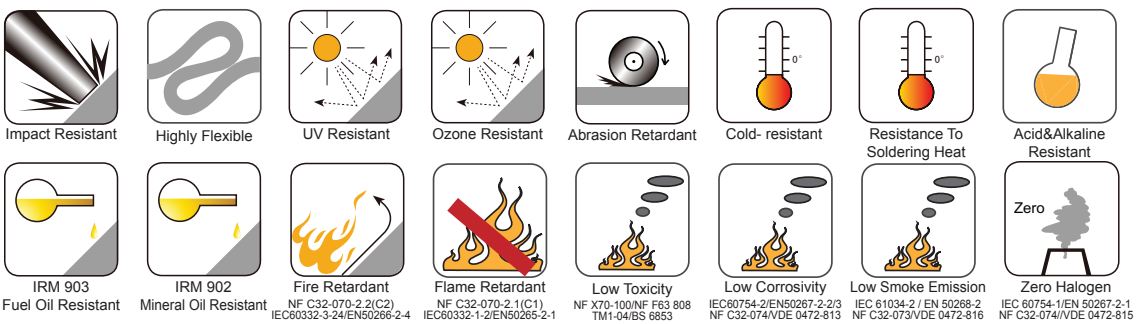
NF F 63-826 Rolling Stock Cables

FRF-SW-1.5S 1500V

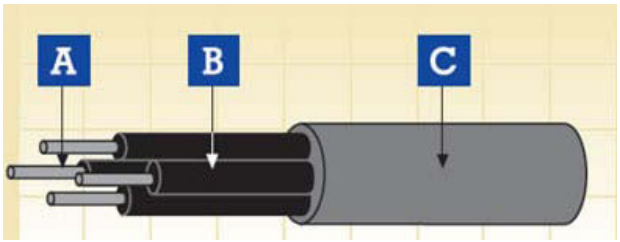
Nominal Cross Sectional Area	Number & Nominal Diameter of Strands	Nominal Insulation Thickness	Nominal Sheath Thickness	Overall Diameter		Weight
				Min.	Max.	
mm²	No/mm	mm	mm	mm	mm	kg/km
1.5	30/0.25	2.3	1.5	8.9	9.9	130
2.5	50/0.25	2.3	1.5	9.3	10.3	145
10.0	80/0.40	2.3	1.8	11.9	13.3	290
50.0	396/0.40	2.5	2.2	18.3	20.3	850
120.0	608/0.50	2.8	2.6	25.0	27.5	1770
150.0	756/0.50	2.8	2.6	26.7	29.3	2150
185.0	925/0.50	2.9	2.8	29.0	31.8	2530

FRF-SW-3S 3000V

Nominal Cross Sectional Area	Number & Nominal Diameter of Strands	Nominal Insulation Thickness	Nominal Sheath Thickness	Overall Diameter		Weight
				Min.	Max.	
mm²	No/mm	mm	mm	mm	mm	kg/km
150.0	756/0.50	3.6	2.6	28.2	30.9	2270
185.0	925/0.50	3.7	2.8	30.5	33.4	2660



FIREROL Standard Wall Multicore Unscreened Cables
500V
NF F 63-826 (FRF-SW-05M)



A. Conductor B. Insulation C. Sheath

Application

These cables are used as power and control cable for protected installations inside and outside of rail and transport vehicles, where handling and installation cost are an important factor, suitable for use in control, auxiliary and main circuit wiring such as cable harnesses, switchboards and control panels, driver desks etc.

Construction

Conductor

Stranded tinned copper wires to IEC 60228 Class 5

Insulation

Halogen free compound

Sheath

Halogen free compound

Electrical & Mechanical Properties

Nominal Voltage	500V
Maximum Conductor Temperature	90°C/105°C
Temperature Range	-25°C~+90°C
Bending Radius	4 × Overall Diameter

Standards

NF F 63-826
NF F 16-101
BS 6853

Fire Performance in general

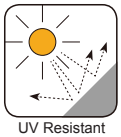
EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)	Vertical flame propogation for a single insulated wire or cable
EN 50266-2-4 + EN 50305; IEC 60332-3-24; NF C 32-070 2.2 (C1); VDE 0472 Teil 804	Vertical flame spread of vertically mounted bunched wires or cables
EN 50268-2; IEC 61034-2; NF C 32-073 ; 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

FRF-SW-05M 500V

Number of Cores	Nominal Cross Sectional Area	Number & Nominal Diameter of Strands	Nominal Sheath Thickness	Overall Diameter		Weight
				Min.	Max.	
-	mm²	No/mm	mm	mm	mm	kg/km
2	1.5	30/0.25	1.0	8.6	9.9	115
4	1.5	30/0.25	1.1	10.1	11.4	160
7	1.5	30/0.25	1.1	11.9	13.3	245
13	1.5	30/0.25	1.2	16.5	18.0	425
19	1.5	30/0.25	1.2	18.3	19.9	675
37	1.5	30/0.25	1.5	25.1	27.1	1170
2	2.5	50/0.25	1.1	10.0	11.3	185
4	2.5	50/0.25	1.2	11.7	13.1	275
13	2.5	50/0.25	1.4	19.5	21.1	750
19	2.5	50/0.25	1.4	21.6	23.4	980

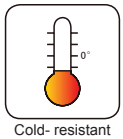

Corona Resistant


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(C2)
IEC60332-3-24/EN50266-2-4


Flame Retardant
NF C32-070-2.1(C1)
IEC60332-1-2/EN50265-2-1

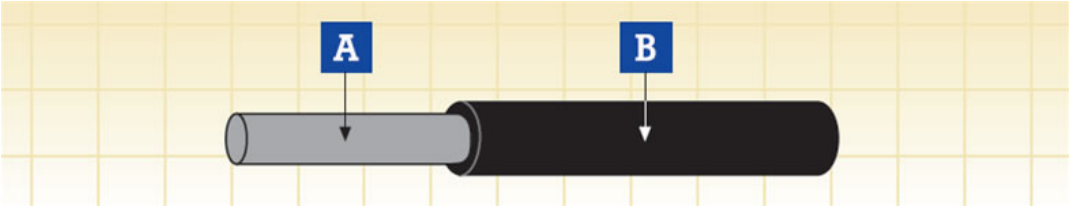

Low Toxicity
NF X70-100/NF F63 808
TM1-04/BS 6853


Low Corrosivity
IEC60754-2/EN50267-2-2/3
NF C32-074/VDE 0472-813


Low Smoke Emission
IEC 61034-2 / EN 50268-2
NF C32-073/VDE 0472-816

Zero Halogen
IEC 60754-1/EN 50267-2-1
NF C32-074//VDE 0472-815

FIREROL Extra-Flexible Standard Wall Single Core Unsheathed Cable 1500V NF F 63-826 (FRF-SW-1.5SU-EF)



A. Conductor B. Insulation

Application

These cables are used as power and control cable for protected installations inside and outside of rail and transport vehicles, where handling and installation cost are an important factor, suitable for use in control, auxiliary and main circuit wiring such as cable harnesses, switchboards and control panels, driver desks etc.

Construction

Conductor

Stranded tinned copper wires to IEC 60228 Class 6

Insulation

Special halogen free compound

Electrical & Mechanical Properties

Nominal Voltage	1500V
Maximum Conductor Temperature	90°C/105°C
Temperature Range	-25°C~+90°C
Bending Radius	3 × Overall Diameter

Standards

NF F 63-826
NF F 16-101
BS 6853

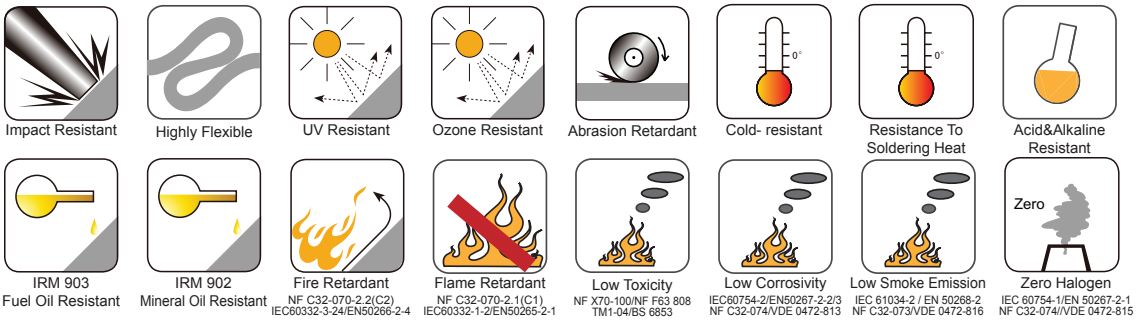
Fire Performance in general

EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)	Vertical flame propogation 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

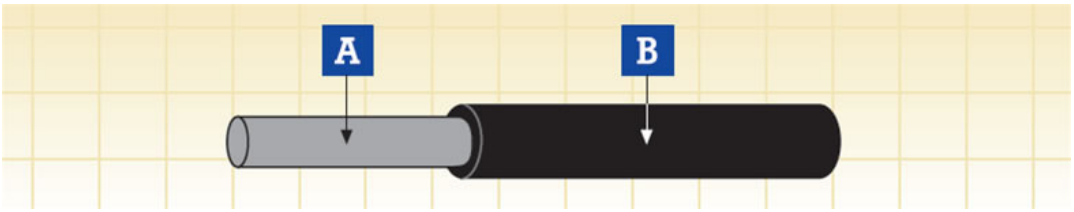
NF F 63-808 Rolling Stock Cables

FRF-SW-1.5SU-EF 1500V

Nominal Cross Sectional Area	Number & Nominal Diameter of Strands	Nominal Insulation Thickness	Overall Diameter		Weight
			Min.	Max.	
mm²	No/mm	mm	mm	mm	kg/km
10.0	320/0.20	2.3	8.4	9.5	187
16.0	512/0.20	2.3	9.7	10.8	266
25.0	800/0.20	2.3	11.0	12.2	354
35.0	1120/0.20	2.4	12.4	13.7	440
50.0	705/0.30	2.5	14.2	15.5	613
70.0	990/0.30	2.7	16.1	17.7	875
95.0	1340/0.30	2.7	18.0	19.8	1045
120.0	1690/0.30	2.8	20.0	21.9	1350
150.0	2123/0.30	2.8	21.8	23.8	1650
185.0	1470/0.40	2.9	23.7	25.9	2130



FIREROL Thin Wall Single Core Unsheathed Cables 250 V NF F 63-808 (FRF-TW-025SU)



A. Conductor B. Insulation

Application

These cables are 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, suitable for use in cable harnesses, switchboards and control panels, driver desks etc

Construction

Conductor

Stranded tinned copper wires

Insulation

Radiation crosslinkable LSZH compound

Electrical & Mechanical Properties

Nominal Voltage	250V
Maximum Conductor Temperature	105°C/125°C
Temperature Range	-40°C~+105°C
Bending Radius	5 × Overall Diameter

Standards

NF F 63-808
NF F 16-101
BS 6853
DIN 5510

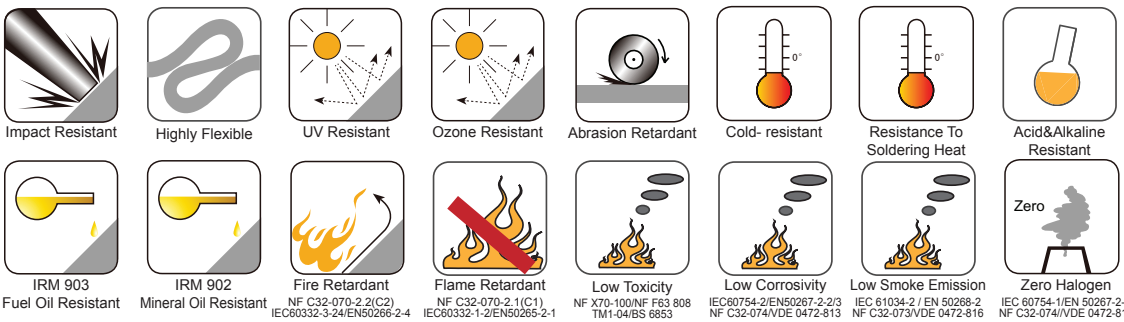
Fire Performance in general

EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)	Vertical flame propogation 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

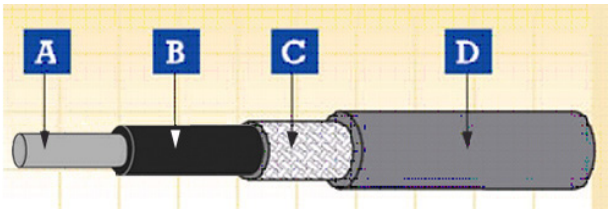
NF F 63-808 Rolling Stock Cables

FRF-TW-025SU 250V

Nominal Cross Sectional Area	Number & Nominal Diameter of Strands	Overall Diameter		Weight
		Min.	Max.	
mm²	No/mm	mm	mm	kg/km
0.38	19/0.16	1.15	1.35	4.7
0.60	19/0.20	1.30	1.55	6.5
0.93	19/0.25	1.55	1.80	9.9
1.34	19/0.30	1.80	2.00	14.0
1.82	37/0.25	2.10	2.40	18.4
2.61	37/0.30	2.50	2.80	27.8
4.32	61/0.30	3.00	3.30	44.2



FIREROL Thin Wall Screened Single Core Cables With Standard Wall Sheath 250 V
NF F 63-808 (FRF-TW-025S-OS)



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

Application

These cables are 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, suitable for use in cable harnesses, switchboards and control panels, driver desks etc

Construction

Conductor
Stranded tinned copper wires

Insulation
Radiation crosslinkable LSZH compound

Screen
Tinned copper braid

Sheath
Radiation crosslinkable LSZH compound

Electrical & Mechanical Properties

Nominal Voltage	250 V
Maximum Conductor Temperature	105°C/125°C
Temperature Range	-40°C~+105°C
Bending Radius	5 × Overall Diameter

Standards

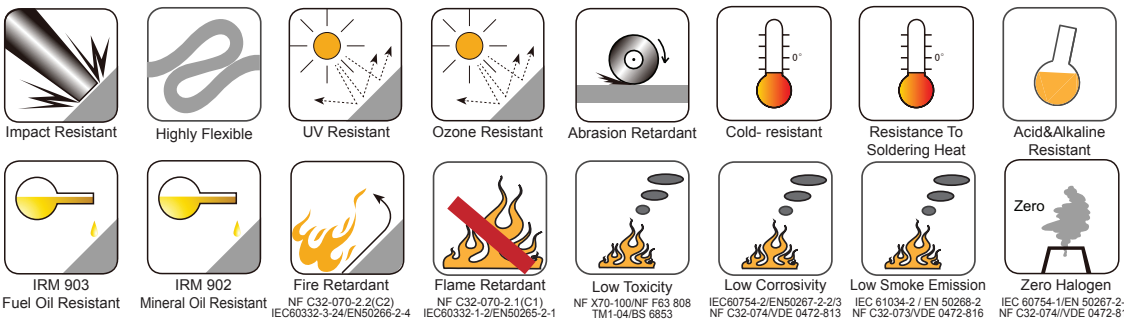
NF F 63-808
NF F 16-101
BS 6853
DIN 5510

Fire Performance in general

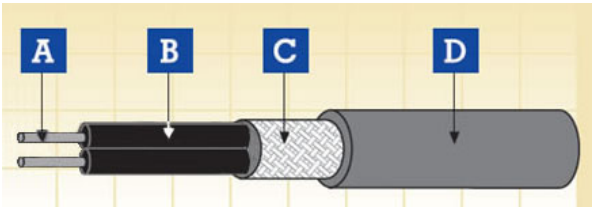
EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)	Vertical flame propogation for a single insulated wire or cable
EN 50266-2-4 + EN 50305; IEC 60332-3-24; NF C 32-070 2.2 (C1); VDE 0472 Teil 804	Vertical flame spread of vertically mounted bunched wires or cables
EN 50268-2; IEC 61034-2; NF C 32-073 ; 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

FRF-TW-025S-OS 250 V

Nominal Cross Sectional Area	Number & Nominal Diameter of Strands	Overall Diameter		Weight
		Min.	Max.	
mm²	No/mm	mm	mm	kg/km
0.38	19/0.16	2.05	2.55	11.5
0.60	19/0.20	2.30	2.80	15.0
0.93	19/0.25	2.50	3.00	18.8
1.34	19/0.30	2.70	3.20	24.2
1.82	37/0.25	3.30	3.75	32.0
2.61	37/0.30	3.60	4.20	43.0
4.32	61/0.30	4.15	4.75	63.0



FIREROL Thin Wall Multicore Screened Cables With Standard Wall Sheath 250 V
NF F 63-808 (FRF-TW-025M-OS)



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

Application

These cables are 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, suitable for use in cable harnesses, switchboards and control panels, driver desks etc.

Construction

Conductor
Stranded tinned copper wires

Insulation
Radiation crosslinkable LSZH compound

Screen
Tinned copper braid

Sheath
Radiation crosslinkable LSZH compound

Electrical & Mechanical Properties

Nominal Voltage	250 V
Maximum Conductor Temperature	105°C/125°C
Temperature Range	-40°C~+105°C
Bending Radius	5 × Overall Diameter

Standards

NF F 63-808
NF F 16-101
BS 6853
DIN 5510

Fire Performance in general

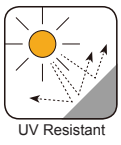
EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)	Vertical flame propogation for a single insulated wire or cable
EN 50266-2-4 + EN 50305; IEC 60332-3-24; NF C 32-070 2.2 (C1); VDE 0472 Teil 804	Vertical flame spread of vertically mounted bunched wires or cables
EN 50268-2; IEC 61034-2; NF C 32-073 ; 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

FRF-TW-025M-OS 250 V

Number of Cores	Nominal Cross Sectional Area	Number & Nominal Diameter of Strands	Overall Diameter		Weight
			Min.	Max.	
-	mm²	No/mm	mm	mm	kg/km
2	0.38	19/0.16	3.20	4.00	20.0
2	0.60	19/0.20	3.70	4.50	32.0
2	0.93	19/0.25	4.25	5.05	39.5
2	1.34	19/0.30	4.80	5.60	54.0
2	1.82	37/0.25	5.55	6.35	66.0
2	2.61	37/0.30	6.35	7.15	87.0
2	4.32	61/0.30	7.50	8.30	128.0
3	0.38	19/0.16	3.55	4.35	30.0
3	0.60	19/0.20	4.00	4.80	39.0
3	0.93	19/0.25	4.50	5.30	55.0
3	1.34	19/0.30	5.10	5.90	66.0
3	1.82	37/0.25	4.80	6.60	84.0
3	2.61	37/0.30	6.80	7.60	117.0
3	4.32	61/0.30	8.10	8.90	182.0
4	0.38	19/0.16	4.05	4.85	39.0
4	0.60	19/0.20	4.50	5.30	51.0
4	0.93	19/0.25	5.00	5.80	70.0
4	1.34	19/0.30	5.70	6.50	89.0
4	1.82	37/0.25	6.45	7.25	109.0
4	2.61	37/0.30	7.65	8.45	157.0
4	4.32	61/0.30	9.05	9.85	237.0


Corona Resistant

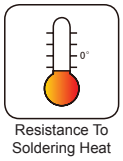

Highly Flexible


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(C2)
IEC60332-3-24/EN50266-2-4


Flame Retardant
NF C32-070-2.1(C1)
IEC60332-1-2/EN50265-2-1


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


Low Corrosivity
IEC60754-2/EN50267-2-2/3
NF C32-074/VDE 0472-813


Low Smoke Emission
IEC 61034-2 / EN 50268-2
NF C32-073/VDE 0472-816

Zero Halogen
IEC 60754-1/EN 50267-2-1
NF C32-074//VDE 0472-815

FIREROL High Temperature Single Core Unsheathed Cables 3000V NF F 63-827 (FRF-HT-3SU)

A. Conductor B. Insulation

Application

These cables are used as power and control cable for protected installations inside and outside of rail and transport vehicles, where handling and installation cost are an important factor, suitable for use in control, auxiliary and main circuit wiring such as cable harnesses, switchboards and control panels, driver desks etc.

Construction

Conductor

Stranded tinned copper wires to IEC 60228 Class 5

Separator

Polyester tape

Insulation

Halogen free silicone rubber

Electrical & Mechanical Properties

Nominal Voltage	3000V
Maximum Conductor Temperature	120°C/140°C
Temperature Range	-40°C~+135°C
Bending Radius	4 × Overall Diameter

Standards

NF F 63-827
NF F 16-101

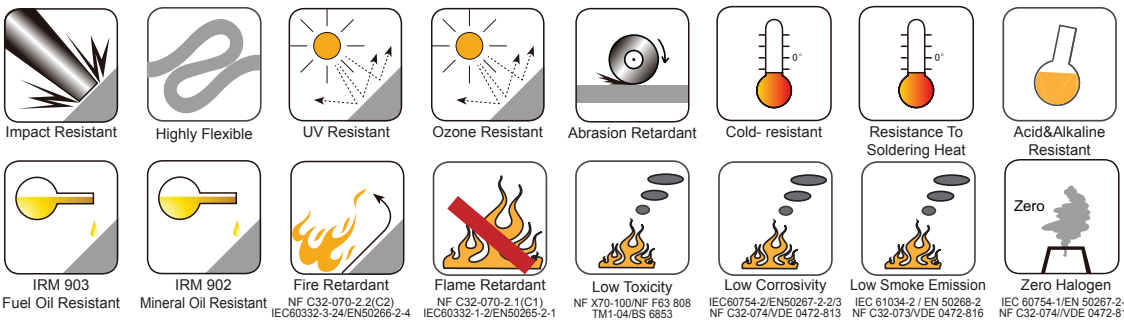
Fire Performance in general

EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)	Vertical flame propogation 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

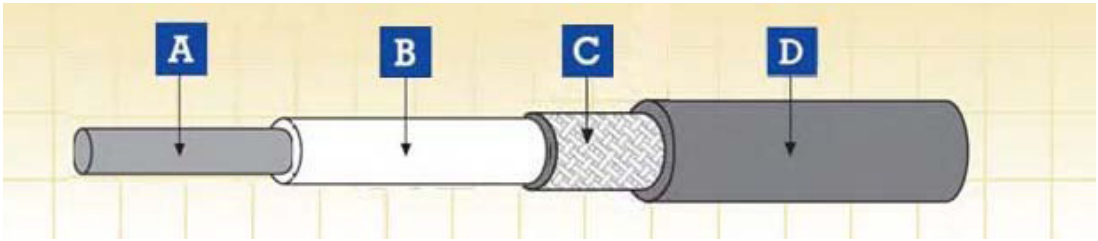
NF F 63-827 Rolling Stock Cables

FRF-HT-3SU 3000V

Nominal Cross Sectional Area	Number & Nominal Diameter of Strands	Nominal Insulation Thickness	Overall Diameter		Weight
			Min.	Max.	
mm²	No/mm	mm	mm	mm	kg/km
2.5	50/0.25	2.3	6.4	7.2	65
4.0	56/0.30	2.3	7.0	7.8	85
6.0	84/0.30	2.3	7.5	8.3	108
10.0	80/0.40	2.3	8.4	9.5	160
16.0	126/0.40	2.3	9.7	10.8	230
25.0	196/0.40	2.3	11.0	12.2	310
35.0	276/0.40	2.4	12.2	13.5	420
50.0	396/0.40	2.5	14.2	15.5	580
70.0	360/0.50	2.7	16.1	17.7	790
95.0	475/0.50	2.7	18.0	19.8	1030
120.0	608/0.50	2.8	20.0	21.9	1250
150.0	756/0.50	2.8	21.8	23.8	1560
185.0	925/0.50	2.9	23.7	25.9	1880
240.0	1221/0.50	3.1	26.6	29.1	2420



FIREROL Extra-Flexible High Temperature Single Core Screened & Sheathed Cables 3000V
NF F 63-827 (FRF-HT-3S-EF)



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

Application

These cables are used as power and control cable for protected installations inside and outside of rail and transport vehicles, where handling and installation cost are an important factor, suitable for used in control, auxiliary and main circuit wiring such as cable harnesses, switchboards and control panels, driver desks etc.

Construction

Conductor
Stranded tinned copper wires to IEC 60228 Class 6

Insulation
Halogen free silicone rubber

Reinforcement
Textile braid

Sheath
Halogen free silicone rubber

Electrical & Mechanical Properties

Nominal Voltage	3000V
Maximum Conductor Temperature	+120°C/+140°C
Temperature Range	-40°C~135°C
Bending Radius	3 × Overall Diameter

Standards

NF F 63-827
NF F 16-101

Fire Performance in general

EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)	Vertical flame propogation 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

FRF-HT-3S-EF 3000V

Nominal Cross Sectional Area	Number & Nominal Diameter of Strands	Nominal Insulation Thickness	Overall Diameter		Weight
			Min.	Max.	
mm²	No/mm	mm	mm	mm	kg/km
25.0	800/0.20	2.8	12.0	13.2	390
35.0	1120/0.20	2.8	13.2	14.7	500
50.0	705/0.30	3.0	15.2	16.7	680
70.0	990/0.30	3.2	17.1	18.8	930
95.0	1340/0.30	3.2	19.0	21.0	1150
120.0	1690/0.30	3.3	21.0	23.1	1470
150.0	2123/0.30	3.3	22.8	25.0	1800
185.0	1470/0.40	3.4	24.7	27.1	2240
240.0	1905/0.40	3.6	27.6	31.2	2820