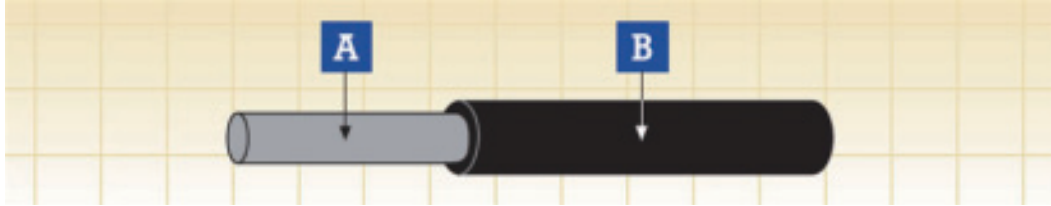


FIREROL High Temperature Single Core Unsheathed Cables

1.8/3 kV or 3.6/6 kV

EN 50382-2 (FRL-HT-3SU/FRL-HT-6SU)



A. Conductor B. Insulation

Construction

Conductor

Flexible tinned annealed copper wires (red copper only for 150 °C core temperature) class 5 according to HD 383

Insulation

Silicon rubber according to EN 50382-1 (EI 111)

Electrical & Mechanical Properties

Nominal Voltage

1.8/3 kV or 3.6/6 kV

Max. Conductor Temperature

120 °C/150 °C (fixed installation)

Min. Permissible Ambient Temperature

-25 °C/-40 °C (fixed installation)

Bending Radius

3 x Overall Diameter (D<12mm);

4 x Overall Diameter (D>12mm)

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;

Vertical flame spread of vertically mounted bunched wires or cables

NF C 32-070 2.2 (C1); VDE 0472 Teil 804

EN 50268-2; IEC 61034-2; NF C 32-073 ;

Low Smoke Emission

NF C 20-902; NF F 16 101; VDE 0472 Teil 816

Halogen Free

EN 50267-2-1; IEC 60754-1; NF C 32-074;

NF C 20-454; VDE 0472 Teil 815

Low Corrosivity (Acidity & Conductivity)

EN 50267-2-2/3; IEC 60754-2; NF C 32-074;

NF C 20-453; VDE 0472 Teil 813

Low Toxicity

EN 50305; NF X 70-100; NF F 63 808; TM1-04; BS6853

Smoke Index

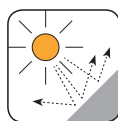
NF F 63 808; BS6853; NF F 16 101



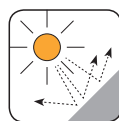
Impact Resistant



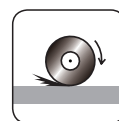
Highly Flexible



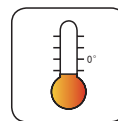
UV Resistant



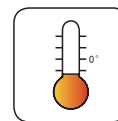
Ozone Resistant



Abrasion Retardant



Cold Resistant



Resistance To Soldering Heat



Acid & Alkaline Resistant

EN 50382 High Temperature Rolling Stock Cables

FRL-HT-3SU 1.8/3 kV

Nominal Cross-Sectional Area mm ²	Conductor Diameter (a) mm	Min. Mean Thickness of Insulation mm	Overall Diameter		Weight kg/km	Max. Conductor Resistance		Min. Insulation Resistance	
			Min. mm	Max. mm		Tinned Conductor	Plain Conductor	20 °C MΩ x km	150 °C MΩ x km
						20 °C Ω/km	20 °C Ω/km		
1.5	1.5	2.5	6.3	7.3	50	13.7	13.3	970	1.90
2.5	1.95	2.5	6.7	7.8	70	8.21	7.98	840	1.60
4	2.5	2.5	7.2	8.4	80	5.09	4.95	720	1.40
6	3.0	2.5	7.7	9.0	100	3.39	3.30	650	1.30
10	3.9	2.5	8.5	10.0	160	1.95	1.91	540	1.00
16	5.0	2.5	9.6	11.2	210	1.24	1.21	460	0.90
25	6.4	2.5	10.9	12.7	290	0.795	0.780	380	0.70
35	7.7	2.5	12.1	14.1	380	0.565	0.554	330	0.60
50	9.2	2.5	13.5	15.8	520	0.393	0.386	290	0.50
70	11.0	2.5	15.2	17.8	720	0.277	0.272	250	0.50
95	12.5	2.7	17.0	19.9	930	0.210	0.206	230	0.40
120	14.2	2.7	18.6	21.7	1140	0.164	0.161	210	0.40
150	15.8	2.7	20.1	23.5	1430	0.132	0.129	190	0.30
185	17.5	2.7	21.7	25.4	1720	0.108	0.106	170	0.30
240	20.1	2.7	24.1	28.2	2270	0.0817	0.0801	150	0.30
300	22.5	2.7	26.4	30.9	2750	0.0654	0.0641	140	0.20
400	25.8	2.9	29.9	34.9	3730	0.0495	0.0486	130	0.20

FRL-HT-6SU 3.6/6 kV

Nominal Cross-Sectional Area mm ²	Conductor Diameter (a) mm	Min. Mean Thickness of Insulation mm	Overall Diameter		Weight kg/km	Max. Conductor Resistance		Min. Insulation Resistance	
			Min. mm	Max. mm		Tinned Conductor	Plain Conductor	20 °C MΩ x km	150 °C MΩ x km
						20 °C Ω/km	20 °C Ω/km		
2.5	1.95	3.0	7.6	8.9	80	8.21	7.98	920	1.80
4	2.5	3.0	8.1	9.5	100	5.09	4.95	800	1.60
6	3.0	3.0	9.0	10.6	120	3.39	3.30	750	1.50
10	3.9	3.0	9.5	11.1	180	1.95	1.91	610	1.20
16	5.0	3.0	10.5	12.3	230	1.24	1.21	520	1.00
25	6.4	3.0	11.8	13.8	310	0.795	0.780	430	0.80
35	7.7	3.0	13.0	15.2	410	0.565	0.554	380	0.70
50	9.2	3.0	14.4	16.9	550	0.393	0.386	330	0.60
70	11.0	3.0	16.1	18.9	740	0.277	0.272	280	0.50
95	12.5	3.0	17.5	20.5	940	0.210	0.206	260	0.50
120	14.2	3.1	19.3	22.6	1170	0.164	0.161	240	0.40
150	15.8	3.1	20.8	24.4	1460	0.132	0.129	220	0.40
185	17.5	3.2	22.6	26.5	1760	0.108	0.106	200	0.40
240	20.1	3.4	25.4	29.8	2340	0.0817	0.0801	190	0.30
300	22.5	3.4	27.7	32.4	2820	0.0654	0.0641	170	0.30
400	25.8	3.4	30.8	36.0	3780	0.0495	0.0486	150	0.30

(a)= For information, indicative only



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



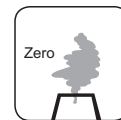
Low Toxicity
EN 50305: NF X70-100/NF
F63 800/1M1-04/BS 6855



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



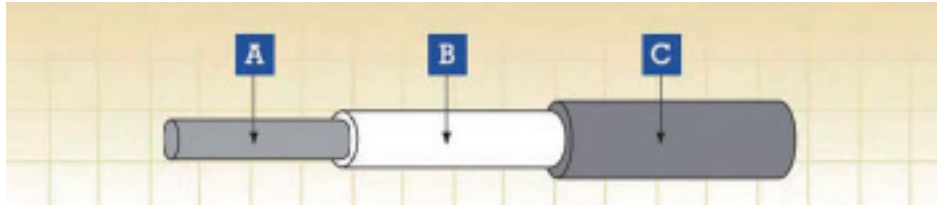
Low Smoke Emission
IEC 61034-2 / EN 50268-2
NF C32-073/NF C 20-902



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

FIREROL High Temperature Single Core Sheathed Cables

1.8/3 kV or 3.6/6 kV
EN 50382-2 (FRL-HT-3S/FRL-HT-6S)



A. Conductor B. Insulation C. Sheath

Construction

Conductor

Flexible tinned annealed copper wires (red copper only for 150 °C core temperature) class 5 according to HD 383

Insulation

Silicon rubber according to EN 50382-1 (EI 112)

Outer Sheath

LSZH elastomeric compound according to EN 50382-1 (EM 105, EM 106 or EM 107)

Electrical & Mechanical Properties

Nominal Voltage

1.8/3 kV or 3.6/6 kV

Max. Conductor Temperature

120 °C/150 °C (fixed installation)

Min. Permissible Ambient Temperature

-25 °C/-40 °C (fixed installation)

Bending Radius

3 x Overall Diameter (D < 12mm);
4 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;

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

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

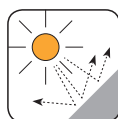
Smoke Index



Impact Resistant



Highly Flexible



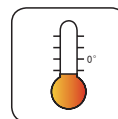
UV Resistant



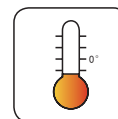
Ozone Resistant



Abrasion Retardant



Cold Resistant



Resistance To Soldering Heat



Acid & Alkaline Resistant

EN 50382 High Temperature Rolling Stock Cables

FRL-HT-3S 1.8/3 kV

Nominal Cross-Sectional Area	Conductor Diameter (a)	Min. Mean Thickness of Insulation	Min. Average Sheath Thickness	Overall Diameter		Weight	Max. Conductor Resistance		Min. Insulation Resistance	
				Min.	Max.		Tinned Conductor	Plain Conductor	20 °C	150 °C
							20 °C	20 °C		
mm ²	mm	mm	mm	mm	mm	kg/km	Ω/km	Ω/km	MΩ x km	MΩ x km
1.5	1.5	1.3	1.4	6.8	7.9	70	13.7	13.3	670	1.30
2.5	1.95	1.3	1.4	7.2	8.4	80	8.21	7.98	570	1.10
4	2.5	1.3	1.4	7.7	9.0	100	5.09	4.95	480	0.90
6	3.0	1.3	1.4	8.2	9.6	120	3.39	3.30	420	0.80
10	3.9	1.5	1.4	9.4	11.0	190	1.95	1.91	380	0.70
16	5.0	1.5	1.4	10.5	12.2	240	1.24	1.21	310	0.60
25	6.4	1.8	1.4	12.3	14.4	340	0.795	0.780	300	0.60
35	7.7	1.8	1.4	13.6	15.9	440	0.565	0.554	250	0.50
50	9.2	1.8	1.4	15.0	17.5	580	0.393	0.386	220	0.40
70	11.0	1.8	1.5	16.8	19.7	780	0.277	0.272	200	0.40
95	12.5	2.2	1.5	19.0	22.2	1020	0.210	0.206	190	0.40
120	14.2	2.2	1.6	20.8	24.3	1270	0.164	0.161	180	0.30
150	15.8	2.2	1.6	22.3	26.1	1560	0.132	0.129	160	0.30
185	17.5	2.4	1.7	24.5	28.6	1890	0.108	0.106	160	0.30
240	20.1	2.4	1.8	27.1	31.7	2480	0.0817	0.0801	140	0.20
300	22.5	2.4	1.9	29.5	34.6	2990	0.0654	0.0641	120	0.20
400	25.8	2.6	2.0	33.2	38.9	4010	0.0495	0.0486	120	0.20

FRL-HT-6S 3.6/6 kV

Nominal Cross-Sectional Area	Conductor Diameter (a)	Min. Mean Thickness of Insulation	Min. Average Sheath Thickness	Overall Diameter		Weight	Max. Conductor Resistance		Min. Insulation Resistance	
				Min.	Max.		Tinned Conductor	Plain Conductor	20 °C	150 °C
							20 °C	20 °C		
mm ²	mm	mm	mm	mm	mm	kg/km	Ω/km	Ω/km	MΩ x km	MΩ x km
2.5	1.95	2.6	1.4	9.9	11.6	130	8.21	7.98	870	1.70
4	2.5	2.6	1.4	10.4	12.2	150	5.09	4.95	750	1.50
6	3.0	2.6	1.4	10.9	12.8	180	3.39	3.30	670	1.30
10	3.9	2.6	1.4	11.8	13.8	240	1.95	1.91	570	1.10
16	5.0	2.6	1.4	12.8	15.0	300	1.24	1.21	480	0.90
25	6.4	2.9	1.4	14.7	17.2	410	0.795	0.780	430	0.80
35	7.7	2.9	1.4	15.9	18.6	510	0.565	0.554	380	0.70
50	9.2	2.9	1.5	17.5	20.5	660	0.393	0.386	330	0.60
70	11.0	2.9	1.5	19.2	22.4	870	0.277	0.272	280	0.50
95	12.5	2.9	1.6	20.8	24.3	1100	0.210	0.206	250	0.50
120	14.2	2.9	1.6	22.4	26.2	1330	0.164	0.161	230	0.40
150	15.8	2.9	1.7	24.1	28.2	1640	0.132	0.129	210	0.40
185	17.5	3.2	1.8	26.4	30.9	1990	0.108	0.106	210	0.40
240	20.1	3.4	1.9	29.4	34.4	2620	0.0817	0.0801	190	0.30
300	22.5	3.4	1.9	31.7	37.1	3120	0.0654	0.0641	170	0.30
400	25.8	3.4	2.0	35.0	40.9	4150	0.0495	0.0486	150	0.30



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



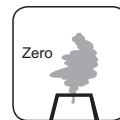
Low Toxicity
EN 50305; NF X70-100/NF
F63 809/TM1-04/BS 6853



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

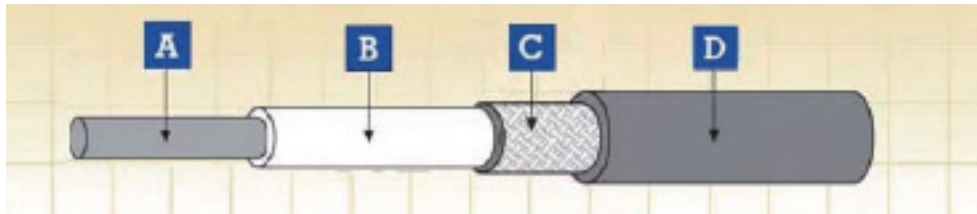


Low Smoke Emission
IEC 61034-2 / EN 50268-2
NF C32-073/NF C 20-902



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

FIREROL High Temperature Single Core Screened & Sheathed Cables 1.8/3 kV or 3.6/6 kV EN 50382-2 (FRL-HT-3S-OS/FRL-HT-6S-OS)



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

Construction

Conductor

Flexible tinned annealed copper wires (red copper only for 150 °C core temperature) class 5 according to HD 383

Insulation

Silicon rubber according to EN 50382-1 (EI 112)

Overall Screen

Tinned annealed copper wires

Outer Sheath

LSZH elastomeric compound according to EN 50382-1 (EM 105, EM 106 or EM 107)

Electrical & Mechanical Properties

Nominal Voltage

1.8/3 kV or 3.6/6 kV

Max. Conductor Temperature

120 °C/150 °C (fixed installation)

Min. Permissible Ambient Temperature

-25 °C/-40 °C (fixed installation)

Bending Radius

3 x Overall Diameter (D < 12mm);
4 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;

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

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



Impact Resistant



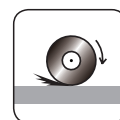
Highly Flexible



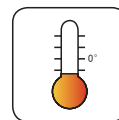
UV Resistant



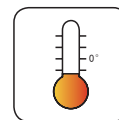
Ozone Resistant



Abrasion Retardant



Cold Resistant



Resistance To Soldering Heat



Acid & Alkaline Resistant

EN 50382 High Temperature Rolling Stock Cables

FRL-HT-3S-OS 1.8/3 kV

Nominal Cross-Sectional Area	Conductor Diameter (a)	Min. Mean Thickness of Insulation	Min. Screen Wire Diameter	Min. Average Sheath Thickness	Overall Diameter		Weight	Max. Conductor Resistance		Min. Insulation Resistance	
					Min.	Max.		Tinned Conductor	Plain Conductor	Min. Insulation Resistance	
								20 °C	20 °C	20 °C	150 °C
mm ²	mm	mm	mm	mm	mm	mm	kg/km	Ω/km	Ω/km	MΩ x km	MΩ x km
1.5	1.5	1.3	0.16	1.4	6.8	7.9	113	13.7	13.3	670	1.30
2.5	1.95	1.3	0.16	1.4	7.2	8.4	134	8.21	7.98	570	1.10
4	2.5	1.3	0.21	1.4	7.7	9.0	171	5.09	4.95	480	0.90
6	3.0	1.3	0.21	1.4	8.2	9.6	205	3.39	3.30	420	0.80
10	3.9	1.5	0.21	1.4	9.4	11.0	283	1.95	1.91	380	0.70
16	5.0	1.5	0.26	1.4	10.5	12.2	381	1.24	1.21	310	0.60
25	6.4	1.8	0.26	1.4	12.3	14.4	539	0.795	0.780	300	0.60
35	7.7	1.8	0.31	1.4	13.6	15.9	682	0.565	0.554	250	0.50
50	9.2	1.8	0.31	1.4	15.0	17.5	882	0.393	0.386	220	0.40
70	11.0	1.8	0.31	1.5	16.8	19.7	1174	0.277	0.272	200	0.40
95	12.5	2.2	0.31	1.5	19.0	22.2	1483	0.210	0.206	190	0.40
120	14.2	2.2	0.31	1.6	20.8	24.3	1819	0.164	0.161	180	0.30
150	15.8	2.2	0.31	1.6	22.3	26.1	2188	0.132	0.129	160	0.30
185	17.5	2.4	0.31	1.7	24.5	28.6	2606	0.108	0.106	160	0.30
240	20.1	2.4	0.31	1.8	27.1	31.7	3318	0.0817	0.0801	140	0.20
300	22.5	2.4	0.31	1.9	29.5	34.6	4015	0.0654	0.0641	120	0.20
400	25.8	2.6	0.31	2.0	33.2	38.9	5170	0.0495	0.0486	120	0.20

FRL-HT-6S-OS 3.6/6 kV

Nominal Cross-Sectional Area	Conductor Diameter (a)	Min. Mean Thickness of Insulation	Min. Screen Wire Diameter	Min. Average Sheath Thickness	Overall Diameter		Weight	Max. Conductor Resistance		Min. Insulation Resistance	
					Min.	Max.		Tinned Conductor	Plain Conductor	Min. Insulation Resistance	
								20 °C	20 °C	20 °C	150 °C
mm ²	mm	mm	mm	mm	mm	mm	kg/km	Ω/km	Ω/km	MΩ x km	MΩ x km
2.5	1.95	2.6	0.16	1.4	9.9	11.6	209	8.21	7.98	870	1.70
4	2.5	2.6	0.16	1.4	10.4	12.2	240	5.09	4.95	750	1.50
6	3.0	2.6	0.21	1.4	10.9	12.8	291	3.39	3.30	670	1.30
10	3.9	2.6	0.21	1.4	11.8	13.8	363	1.95	1.91	570	1.10
16	5.0	2.6	0.21	1.4	12.8	15.0	453	1.24	1.21	480	0.90
25	6.4	2.9	0.26	1.4	14.7	17.2	640	0.795	0.780	430	0.80
35	7.7	2.9	0.26	1.4	15.9	18.6	770	0.565	0.554	380	0.70
50	9.2	2.9	0.31	1.5	17.5	20.5	1012	0.393	0.386	330	0.60
70	11.0	2.9	0.31	1.5	19.2	22.4	1307	0.277	0.272	280	0.50
95	12.5	2.9	0.31	1.6	20.8	24.3	1586	0.210	0.206	250	0.50
120	14.2	2.9	0.31	1.6	22.4	26.2	1916	0.164	0.161	230	0.40
150	15.8	2.9	0.31	1.7	24.1	28.2	2309	0.132	0.129	210	0.40
185	17.5	3.2	0.31	1.8	26.4	30.9	2750	0.108	0.106	210	0.40
240	20.1	3.4	0.31	1.9	29.4	34.4	3420	0.0817	0.0801	190	0.30
300	22.5	3.4	0.31	1.9	31.7	37.1	4150	0.0654	0.0641	170	0.30
400	25.8	3.4	0.31	2.0	35.0	40.9	5200	0.0495	0.0486	150	0.30

(a)= For information, indicative only



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/EN50266-2-1



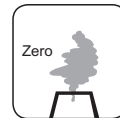
Low Toxicity
EN 50305; NF X70-100/NF
F63 809/TM1-04/BS 6853



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

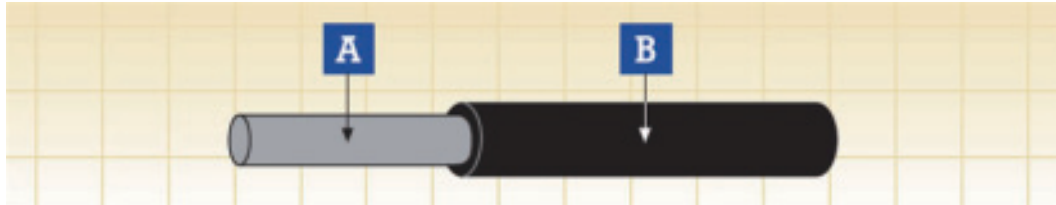


Low Smoke Emission
IEC 61034-2 / EN 50268-2
NF C32-073/NF C 20-902



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

FIREROL High Temperature Single Core Cables with Reinforced Insulation 3.6/6 kV EN 50382-2 (FRL-HT-6SURI)



A. Conductor B. Insulation

Construction

Conductor

Extra flexible tinned annealed copper wires (red copper only for 150 °C core temperature) class 6 according to HD 383

Insulation

Silicon rubber according to EN 50382-1 (EI 112)

Electrical & Mechanical Properties

Nominal Voltage

3.6/6 kV

Max. Conductor Temperature

120 °C / 150 °C (fixed installation)

Min. Permissible Ambient Temperature

-25 °C / -40 °C (fixed installation)

Bending Radius

3 x Overall Diameter (D < 12mm);
4 x Overall Diameter (D > 12mm)

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;

Vertical flame spread of vertically mounted bunched wires or cables

NF C 32-070 2.2 (C1); VDE 0472 Teil 804

EN 50268-2; IEC 61034-2; NF C 32-073 ;

Low Smoke Emission

NF C 20-902; NF F 16 101; VDE 0472 Teil 816

Halogen Free

EN 50267-2-1; IEC 60754-1; NF C 32-074;

NF C 20-454; VDE 0472 Teil 815

Low Corrosivity (Acidity & Conductivity)

EN 50267-2-2/3; IEC 60754-2; NF C 32-074;

NF C 20-453; VDE 0472 Teil 813

Low Toxicity

EN 50305; NF X 70-100; NF F 63 808; TM1-04; BS6853

Smoke Index

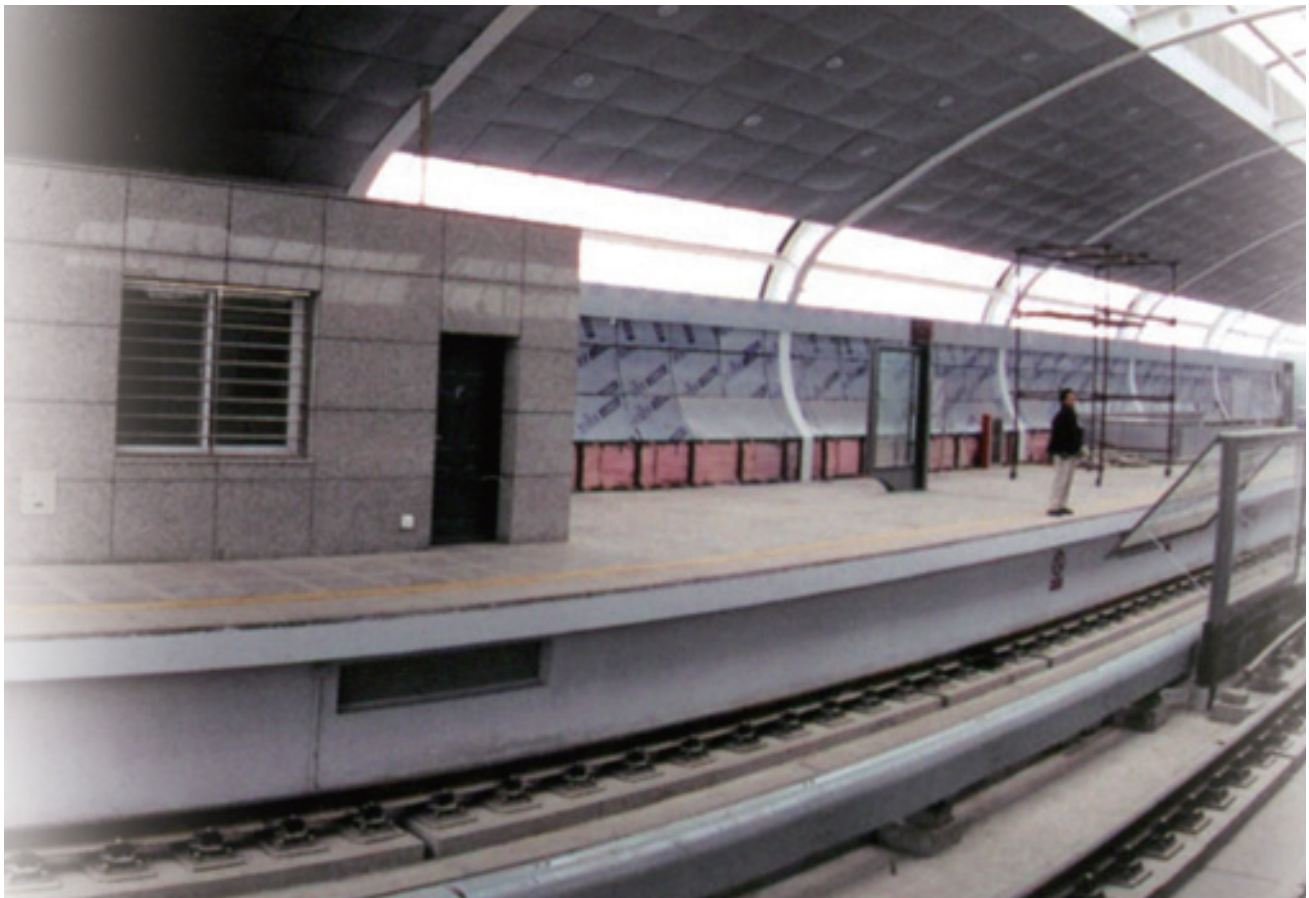
NF F 63 808; BS6853; NF F 16 101



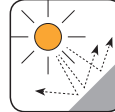
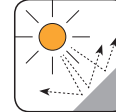

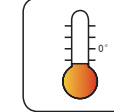









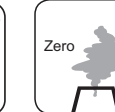
EN 50382 High Temperature Rolling Stock Cables

FRL-HT-6SURI 3.6/6 kV

Nominal Cross-Sectional Area	Conductor Diameter (a)	Min. Mean Thickness of Insulation	Overall Diameter		Weight	Max. Conductor Resistance		Min. Insulation Resistance	
			Min.	Max.		Tinned Conductor	Plain Conductor	Min. Insulation Resistance	
						20 °C	20 °C	20 °C	150 °C
mm ²	mm	mm	mm	mm	kg/km	Ω/km	Ω/km	MΩ x km	MΩ x km
50	9.2	3.0	15.2	17.8	560	0.393	0.386	340	0.70
70	11.0	3.0	16.9	19.8	770	0.277	0.272	300	0.60
95	12.5	3.0	18.3	21.4	970	0.210	0.206	270	0.55
120	14.2	3.1	20.1	23.5	1200	0.164	0.161	250	0.50
150	15.8	3.1	21.6	25.3	1480	0.132	0.129	220	0.45
185	17.5	3.2	23.4	27.4	1800	0.108	0.106	210	0.40

(a)= For information, indicative only



 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 809/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 IEC 60754-1/EN 50267-2-1 NF C20-454