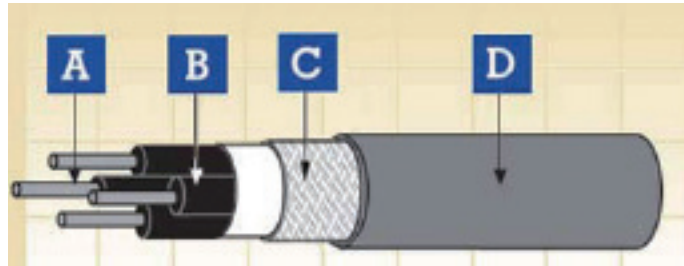


Category 5E Data Cables

FRL-Cat5E-4C0.5S/FRL-Cat5E-4C22A/FRL-Cat5E-4P22A



A. Conductor B. Insulation C. EMC Screen 1 & 2 D. Sheath

Application

The cables are designed for permanently protected installation, inside and outside railway rolling stock, buses and other vehicles to connect fixed parts. Ethernet based networks as: infotainment, multimedia, passenger information system etc.

Construction

For 4 x 0.5mm², 4 x 22 AWG cables

Conductor: Stranded tin plated copper conductor (for 0.5mm² cables) or stranded silver plated copper conductor (for 22AWG cables) according to IEC 60228 class 5

Insulation: Electron beam crosslinkable compound

Cable Element: Individual conductor stranded together

EMC Screen 1: Plastic laminated aluminium tape

EMC Screen 2: Tin plated copper braid

Core Wrapping: Plastic tape(s)

Outer Sheath: Electron beam crosslinkable compound

For 4 x 2 x 22 AWG cables

Center: PE filler.

Conductor: Stranded tin plated copper conductor according to IEC 60228 class 5

Insulation: Electron beam crosslinkable compound

EMC Screen 1: Plastic laminated aluminium tape

EMC Screen 2: Tin plated copper braid

Core Wrapping: Plastic tape(s)

Outer Sheath: Electron beam crosslinkable compound

Electrical & Mechanical Properties

Nominal Voltage	300 V
Max. Temperature	90 °C
Min. Temperature	-40 °C
Bending Radius	6 × 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

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

FRL-Cat5E-4C0.5S

Nominal Cross-Sectional Area	Nominal Sheath Thickness	Nominal Overall Diameter	Nominal Weight	Max. Conductor Resistance 20 °C	Max. Resistance Unbalance	Characteristic Impedance	Transfer Impedance	Max.Capacitance	
						@100MHz	f≤30MHz	core to core	Core to screen
mm ²	mm	mm	kg/km	Ω/km	Ω/km	Ω	mΩ/m	pF/m	pF/m
0.5	1.2	8.3	102	40.1	1.1	100+/-5	200	65	100

FRL-Cat5E-4C22A

Nominal Cross-Sectional Area	Nominal Sheath Thickness	Nominal Overall Diameter	Nominal Weight	Max. Conductor Resistance 20 °C	Max. Resistance Unbalance	Characteristic Impedance	Transfer Impedance	Max.Capacitance	
						@100MHz	f≤30MHz	core to core	Core to screen
AWG	mm	mm	kg/km	Ω/km	Ω/km	Ω	mΩ/m	pF/m	pF/m
22	1.2	7.25	81	54.4	1.1	100+/-5	200	65	100

FRL-Cat5E-4P22A

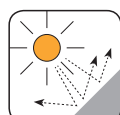
Nominal Cross-Sectional Area	Nominal Sheath Thickness	Nominal Overall Diameter	Nominal Weight	Max. Conductor Resistance 20 °C	Max. Resistance Unbalance	Characteristic Impedance	Transfer Impedance	Max.Capacitance	
						@100MHz	f≤30MHz	core to core	Core to screen
AWG	mm	mm	kg/km	Ω/km	Ω/km	Ω	mΩ/m	pF/m	pF/m
22	1.2	12.6	174	54.4	1.1	100+/-5	200	65	100



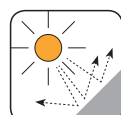
Corona Resistant



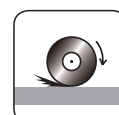
Highly Flexible



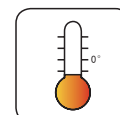
UV Resistant



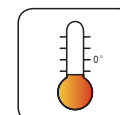
Ozone Resistant



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/EN50268-2-4



Flame Retardant
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1



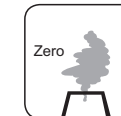
Low Toxicity
EN 50305; NF X70-100/NF
F63 808/TM1-04/BS 6853



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