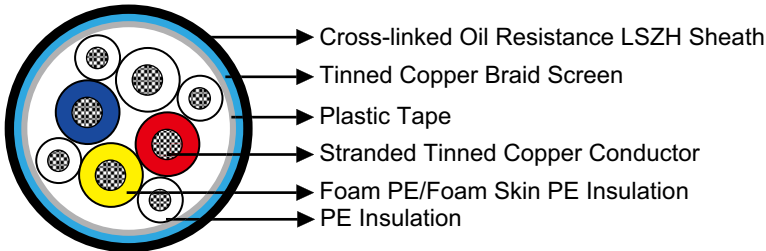


MVB (Multifunction Vehicle Bus) Cables (Redundant Version) FRL-MVB-02YCH-1Q0.5S+4G0.25



Application

The cables are designed for permanent installation inside of rolling stock to connect fixed parts. A typical application is a communication system in a locomotive. The system uses a wire backed bus system to the TCN standard for control and instrumentation and for diagnostics. This bus system consists of the rail bus WTB (Wired Train Bus) and the road bus MVB (Multifunction Vehicle Bus) which are connected via redundant gateways.

Construction

Conductor

Stranded tinned copper conductor according to IEC 60228 class 5

Insulation

0.6mm foam PE/foam skin PE (for 0.5mm² conductor), 0.2mm PE (for 0.25mm² conductor)

Core Wrapping

Plastic tape(s)

EMC Screen

Tinned copper braid

Outer Sheath

Cross-linked oil resistant LSZH compound

Electrical & Mechanical Properties

Nominal Voltage	300 V
Max. Temperature	90 °C
Min. Temperature	-40 °C
Bending Radius	10 × 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
EN45545-2	R15 Interior/ R16 Exterior HL1, HL2, HL3

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 ;	
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
 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
 EN45545-2

Halogen Free

Low Corrosivity (Acidity & Conductivity)

Low Toxicity

Smoke Index

Requirement for fire behavior of materials & components
 R15/R16

FRL-MVB-02YCH-1Q0.5S+4G0.25

Nominal Cross-Sectional Area	Number & Nominal Diameter of Strands	Nominal Overall Diameter	Nominal Weight	Max. Conductor Resistance	Impedance	Max. Transfer Impedance	Max. Attenuation	
				20 °C	@0.75-3MHz	f<=20MHz	@1.5MHz	@3MHz
mm ²	No/mm	mm	kg/km	Ω/km	Ω	mΩ/m	dB/km	dB/km
0.5 / 0.25	19/0.18(0.5) 7/0.2(0.25)	7.9	95	41	120+/-12	20	17	25

