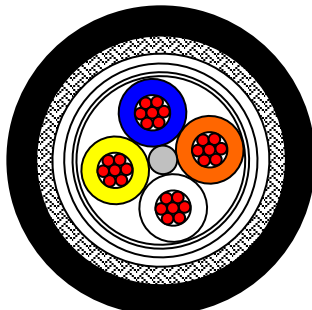


Rolling Stock Cables



MOVIS CAT 5e 2x2x_ J S 100 Ω

Halogen-free data cables for railway rolling stock, having special fire performance and increased heat resistance



Application

These cables are intended for fixed wiring or occasional movements in railway rolling stock. Typical use is the submission of data packages in computer networks. The rules for the installation of cabling acc. DIN EN 50343 must be respected; attention should be paid to the general rules of DIN EN 50355 where applicable.

Usable on railway vehicles having hazard level HL3 (indoor/outdoor) acc. to EN45545-1:2013

Global data

Type designation	CAT 5e 2x2x0,5 mm ² (AWG20)	CAT 5e 2x2x0,34 mm ² (AWG22)
Standard	PRYSMIAN specification and DIN EN 50288-2-2:2014	

Design features

Conductor	Stranded, tinned copper wires (class 5 acc. DIN EN 60228)
Insulation	Polypropylene (foam-skin) 09Y
Core identification	Pair 1: BU-WT; Pair 2: YE-OR
Core arrangement	Cores stranded as quad covered with PET-foil and flame retardant polyolefin compound
Screen	Braid of tinned copper wires above an aluminum-laminated polyester foil
Outer sheath	Halogen-free, heat-resistant, cross-linked elastomeric special compound, requirements based on compound type EM 103; standard colours: black or blue (others possible upon request)

Electrical parameters

Operating voltage (RMS) AC	≤ 100 V
Max. permissible operating voltage AC	300 V
Test voltage DC	1000 V
Characteristic impedance	100 Ω ± 5 %
Insulation resistance	≥ 5 GΩkm

Thermal parameters

Max. permissible operating temperature	90 °C
Min. permissible op. temp. free moving	-25 °C
Min. permissible op. temp. fix installed	-35 °C

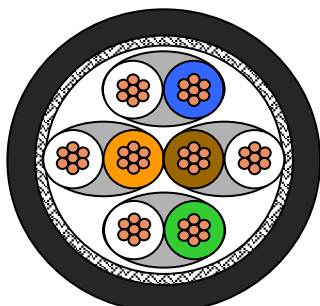
Mechanical parameters

Max. tensile load on the conductor	15 N/mm ²
Min. bending radius bending or installation	10 x D
Min. bending radius fix installed	6 x D

Number of cores x cross section	MLFB Number	Conductor diameter nom. mm	Screen diameter nom. mm	Outer diameter min. mm	Outer diameter max. mm	Bending radius fixed min. mm	Bending radius moving min. mm	Weight approx. kg/km	Permissible tensile force max. N
2x2x0.5 (AWG 20)									
blue sheath	5DB50013	0.85	5.1	7.4	8.4	47	79	100	30
black sheath	5DB50010	0.85	5.1	7.4	8.4	47	79	100	30
2x2x0.34 (AWG 22)									
blue sheath	5DB50023	0.75	4.9	7.2	8.2	46	77	90	20
black sheath	5DB50020	0.75	4.9	7.2	8.2	46	77	90	20

MOVIS CAT 5/7 S/FTP 4x2x_ J S 100 Ω

Halogen-free data cables for railway rolling stock, having special fire performance and increased heat resistance



Application

These cables are intended for fixed wiring or occasional movements in railway rolling stock. Typical use is the submission of data packages in computer networks. The rules for the installation of cabling acc. DIN EN 50343 must be respected; attention should be paid to the general rules of DIN EN 50355 where applicable.

Usable on railway vehicles having hazard level HL3 (indoor/outdoor) acc. to EN45545-1:2013

Global data

Type designation	CAT 5 S/FTP 4x2x0,22 mm ² (AWG24)	CAT 7 S/FTP 4x2x0,27 mm ² (AWG23)
Standard	PRYSMIAN specification and DIN EN 50288-2-2:2014	

Design features

Conductor	Stranded, tinned copper wires (class 5 acc. DIN EN 60228)
Insulation	Polypropylene (foam-skin) 09Y
Core identification	Pair 1: WT/OR; Pair 2: WT/GN; Pair 3: WT/BN; Pair 4: WT/BU
Core arrangement	Cores stranded as pair covered with aluminum-laminated polyester foil 4 pairs stranded as quad
Screen	Braid of tinned copper wires
Outer sheath	Halogen-free, heat-resistant, cross-linked elastomeric special compound, requirements based on compound type EM 103; standard colours: black or blue (others possible upon request)

Electrical parameters

Operating voltage (RMS) AC	≤ 100 V
Max. permissible operating voltage AC	300 V
Test voltage DC	1000 V
Characteristic impedance	100 Ω ± 5 %
Insulation resistance	≥ 5 GΩkm

Thermal parameters

Max. permissible operating temperature	90 °C
Min. permissible op. temp. free moving	-25 °C
Min. permissible op. temp. fix installed	-35 °C

Mechanical parameters

Max. tensile load on the conductor	15 N/mm ²
Min. bending radius bending or installation	10 x D
Min. bending radius fix installed	6 x D

Number of cores x cross section	MLFB Number	Conductor diameter nom. mm	Screen diameter nom. mm	Outer diameter min. mm	Outer diameter max. mm	Bending radius fixed min. mm	Bending radius moving min. mm	Weight approx. kg/km	Permissible tensile force max. N
Cat 5 S/FTP 4x2x0.22 (AWG 24)									
blue sheath	5DB50113	0.60	6.2	8.5	9.5	54	90	100	26
black sheath	5DB50110	0.60	6.2	8.5	9.5	54	90	100	26
Cat 7 S/FTP 4x2x0.27 (AWG 23)									
blue sheath	5DB50123	0.66	6.6	8.9	9.9	56	94	110	32
black sheath	5DB50120	0.66	6.6	8.9	9.9	56	94	110	32

Rolling Stock Cables

Rolling Stock Data Cables

A wide range of data cables for Rolling Stock applications is currently under development:

- Bus cables 120Ω, such as WTB and MVB
- Special Bus cable designs (e.g. 105Ω)
- Optical fiber cables
- Combinations of different elements

Basic Specification:

- Data transmission values according to relevant standards
- Outer sheath classified as EM103 (J) or EM104 (M)
 - Temperature range -25 up to 90°C or -40 up to 90°C
 - Ozone resistant
 - UV resistant
 - Oil and fuel resistant
 - Acid, alkaline resistant
 - Resistant against a wide range of cleaning agents
- Fire protection according to EN 45545-2:2013, R15/16, HL1, 2, 3
 - Single cable burn test
 - Bunched cables burn test
 - Smoke density
 - Halogen free
 - Toxicity

