



RAIL SIGNAL WIRE AND CABLE

This family of low voltage signal wire and cables, meets all requirements of EN50306-2, -3, -4 as well as the flame, smoke and toxicity requirements of EN45545-2. Their cross linked outer jacket makes this family of cables suitable for the harshest of Rail environments. The portfolio meets the key European, Asian Rail standards. With the polymer science background, we developed light weight thin walled jackets. Reduction in wall thickness and jacket insulation offers significant space savings and provides savings in weight. With our design capabilities, custom designs are available to meet individual customer requirements.

BENEFITS

- Reduction of overall energy consumption of the train
- More space for passengers due to less space required for the wire
- TE EN50306 Wire & cable only takes up 50% of the space against traditional thick wall wires, decreasing space for wires and increasing space for passengers.
- The lower weight of the TE EN50306 Wire & cable reduces the overall energy consumption of the train, which reduces costs and environmental load.
- The TE EN50306 Wire & cable meets all the rail requirements for low voltage signal wire the lifetime and quality are high.
- Thanks to the use of an Electron beam the outer jackets are ruggedized which makes the TE EN50306 Wire & cable qualified for the harshest environments without failure of the cable.

RAIL Signal Wire and Cable

APPLICATIONS

- Metro stations
- Locomotives
- Train carriages
- Track side

SPECIFICATIONS

- EN50306-2, -3, -4
- EN45545-2

ELECTRICAL

- 300V

MECHANICAL

- EN50306

STANDARDS

Specification / Standard	Category / Hazard Level
EN 45545-2	R15/R16 - Hazard Level 3
EN 50306	Meets physical performance requirements of EN 50306-2 Hazard Level 4, Identifier M *Meets physical performance requirements of EN 50306-3 Hazard Level 4, Identifier MM
DIN 5510-2	

SINGLE CORE WIRE AND MULTI-CORE SHIELDED CABLES

Characteristics

- Excellent resistance to high and low temperature
- Outstanding Flame retardant
- Halogen free
- Thin walled with excellent flexibility
- Resistance to Oil, fuel, ozone and weathering.
- Easy to strip
- Low smoke density
- Soldering iron resistant
- Electron Beam Cross Linked.
- Resistance to corona effect

SINGLE CORE WIRE

EN50306-2-RAIL

Part Description	Conductor			Finished Wire				
	Nominal		Diameter Max.	Insulation Thickness Min.	Maximum Resistance @ 20°C (Ohms/km)	Diameter (mm)		Approx. Weight (kg/km)
	Cross Sectional Area (mm ²)	Conductor Stranding No./Diam. (mm)				Min.	Max.	
	(mm ²)	(mm)	(mm)	(mm)	(Ohms/km)	Min.	Max.	(kg/km)
EN50306-2-RAIL-0.50	0.50	19/0.18	0.95	0.18	40.10	1.15	1.45	6.0
EN50306-2-RAIL-0.75	0.75	37/0.16	1.15	0.18	26.70	1.35	1.65	8.0
EN50306-2-RAIL-1.00	1.00	37/0.18	1.30	0.18	20.00	1.45	1.80	10.0
EN50306-2-RAIL-1.50	1.50	37/0.23	1.65	0.22	13.70	1.95	2.30	15.0
EN50306-2-RAIL-2.50	2.50	37/0.30	2.15	0.28	8.21	2.50	2.85	25.0

RAIL Signal Wire and Cable

RL0111:

Part Description	Conductor			Finished Wire				
	Nominal		Diameter Max.	Insulation Thickness Min.	Maximum Resistance @ 20°C	Diameter (mm)		Approx. Weight (kg/km)
	Cross Sectional Area	Conductor Stranding No./Diam.				Min.	Max.	
	(mm ²)	(mm)	(mm)	(mm)	(Ohms/km)			
⁽¹⁾ RL0111-0.50-*	0.50	19/0.18	0.95	0.18	40.10	1.15	1.45	6.0
⁽¹⁾ RL0111-0.75-*	0.75	37/0.16	1.15	0.18	26.70	1.35	1.65	8.0
⁽¹⁾ RL0111-1.00-*	1.00	37/0.18	1.30	0.18	20.00	1.45	1.80	10.0
RL0111-1.20-*	1.20	19/0.29	1.45	0.20	15.80	1.80	2.10	13.0
⁽¹⁾ RL0111-1.50-*	1.50	37/0.23	1.65	0.22	13.70	1.95	2.30	15.0
⁽¹⁾ RL0111-2.50-*	2.50	37/0.30	2.15	0.28	8.21	2.50	2.85	25.0
RL0111-4.00-*	4.00	56/0.30	2.60	0.28	4.89	2.90	3.25	42.0

MULTI-CORE SHIELDED CABLES

Part Number	Nominal		Maximum Maximum @ 20°C	Core Diameter Max.	Sheath Thickness Min.	Outer Diameter (mm)		Approx. Cable Weight (kg/km)
	No. of Cores	CSA				Min.	Max.	
	(No.)	(mm ²)	(mm)	(Ohms/km)	(mm)			
EN50306-3-RAIL-1X0.50	1	0.50	40.1	1.45	0.20	2.3	2.8	15
EN50306-3-RAIL-2X0.50	2	0.50	40.1	1.45	0.20	3.5	4.3	32
EN50306-3-RAIL-3X0.50	3	0.50	40.1	1.45	0.20	3.7	4.5	38
EN50306-3-RAIL-4X0.50	4	0.50	40.1	1.45	0.20	4.0	5.0	47
EN50306-3-RAIL-1X0.75	1	0.75	26.7	1.65	0.20	2.5	3.0	19
EN50306-3-RAIL-2X0.75	2	0.75	26.7	1.65	0.20	3.9	4.7	41
EN50306-3-RAIL-3X0.75	3	0.75	26.7	1.65	0.20	4.0	5.0	49
EN50306-3-RAIL-4X0.75	4	0.75	26.7	1.65	0.20	4.6	5.5	59
EN50306-3-RAIL-1X1.00	1	1.00	20.0	1.80	0.20	2.7	3.2	21
EN50306-3-RAIL-2X1.00	2	1.00	20.0	1.80	0.20	4.2	5.2	46
EN50306-3-RAIL-3X1.00	3	1.00	20.0	1.80	0.20	4.5	5.5	56
EN50306-3-RAIL-4X1.00	4	1.00	20.0	1.80	0.20	5.0	6.0	70
EN50306-3-RAIL-1X1.50	1	1.50	13.7	2.30	0.20	3.1	3.6	28
EN50306-3-RAIL-2X1.50	2	1.50	13.7	2.30	0.20	5.1	6.1	65
EN50306-3-RAIL-3X1.50	3	1.50	13.7	2.30	0.20	5.4	6.4	80
EN50306-3-RAIL-4X1.50	4	1.50	13.7	2.30	0.20	6.0	7.0	100
EN50306-3-RAIL-1X2.50	1	2.50	8.21	2.85	0.20	3.6	4.4	43
EN50306-3-RAIL-2X2.50	2	2.50	8.21	2.85	0.20	6.4	7.4	95
EN50306-3-RAIL-3X2.50	3	2.50	8.21	2.85	0.20	6.8	7.8	120
EN50306-3-RAIL-4X2.50	4	2.50	8.21	2.85	0.20	7.5	8.5	150

MULTI-CORE SHIELDED CABLES

RL11*1:

Part Number	Nominal		Maximum Maximum @ 20°C	Core Diameter Max.	Sheath Thickness Min.	Outer Diameter (mm)		Approx. Cable Weight (kg/km)
	No. of Cores	CSA				Min.	Max.	
	(No.)	(mm ²)	(mm)	(Ohms/ km)	(mm)			(mm)
RL1111-0.50-*-*	1	0.50	40.1	1.45	0.20	2.3	2.8	15
RL1121-0.50-*/*-*	2	0.50	40.1	1.45	0.20	3.5	4.3	32
RL1131-0.50-*/*/*-*	3	0.50	40.1	1.45	0.20	3.7	4.5	38
RL1141-0.50-*/*/*/*-*	4	0.50	40.1	1.45	0.20	4.0	5.0	47
RL1111-0.75-*-*	1	0.75	26.7	1.65	0.20	2.5	3.0	19
RL1121-0.75-*/*-*	2	0.75	26.7	1.65	0.20	3.9	4.7	41
RL1131-0.75-*/*/*-*	3	0.75	26.7	1.65	0.20	4.0	5.0	49
RL1141-0.75-*/*/*/*-*	4	0.75	26.7	1.65	0.20	4.6	5.5	59
RL1111-1.00-*-*	1	1.00	20.0	1.80	0.20	2.7	3.2	21
RL1121-1.00-*/*-*	2	1.00	20.0	1.80	0.20	4.2	5.2	46
RL1131-1.00-*/*/*-*	3	1.00	20.0	1.80	0.20	4.5	5.5	56
RL1141-1.00-*/*/*/*-*	4	1.00	20.0	1.80	0.20	5.0	6.0	70
RL1111-1.20-*-*	1	1.20	15.8	2.10	0.20	2.9	3.5	25
RL1121-1.20-*/*-*	2	1.20	15.8	2.10	0.20	4.5	5.5	55
RL1131-1.20-*/*/*-*	3	1.20	15.8	2.10	0.20	4.7	5.3	68
RL1141-1.20-*/*/*/*-*	4	1.20	15.8	2.10	0.20	5.5	6.5	85
RL1111-1.50-*-*	1	1.50	13.7	2.30	0.20	3.1	3.6	28
RL1121-1.50-*/*-*	2	1.50	13.7	2.30	0.20	5.1	6.1	65
RL1131-1.50-*/*/*-*	3	1.50	13.7	2.30	0.20	5.4	6.4	80
RL1141-1.50-*/*/*/*-*	4	1.50	13.7	2.30	0.20	6.0	7.0	100

te.com

TE Connectivity, TE Connectivity (logo) and Every Connection Counts are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

While TE has made every reasonable effort to ensure the accuracy of the information in this brochure, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any adjustments to the information contained herein at any time without notice. TE expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this catalog are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult TE for the latest dimensions and design specifications.

© 2020 TE Connectivity. All Rights Reserved.

7-1773983-7 06/20 AK