



TE Connectivity EN 50306 WIRE & CABLE PRODUCTS

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TECHNICAL DATA SHEET

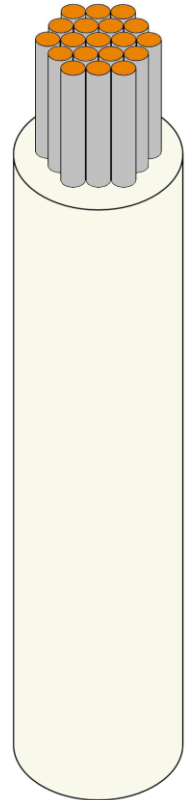
EN 50306 WIRE & CABLE PRODUCTS

Application/Use:

Zero Halogen, light weight cable for signal, and Low voltage applications (300V). The construction is a single wall construction made with a TE Connectivity polymer blend.

Developed to meet Rail specification requirements, whilst maintaining the desirable features of small size, lightweight, flexible and non-wrinkling.

Typical applications include terminal boxes, ground connection and carriage wiring.



Features:

- Electron beam crosslinked insulation – EL 109
- EM104 / S2 Jacket material for multicore cables
- Thin Wall, Light Weight
- Meets common railway requirements
- Highly flexible and low bending radii

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TECHNICAL DATA SHEET

EN 50306 WIRE & CABLE PRODUCTS

EN50306-2-RAIL

SINGLE CORE WIRE

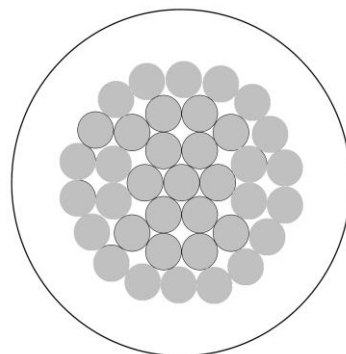
| | | | |
|----------------------|---|-------------------|-----------------|
| Conductor | Stranded Tinned Copper | Voltage Rating | 300 V AC |
| Number of Conductors | 1 | | |
| Cross Section | 0.50mm ² – 2.50mm ² | Temperature Range | -40°C to +120°C |

Construction

| | |
|------------|--|
| Insulation | EBXL – EL 109 Colour: White |
| Conductor | Finely Stranded Annealed Electro Tinned Copper |

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



Standards

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

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TECHNICAL DATA SHEET

EN 50306 WIRE & CABLE PRODUCTS

EN50306-2-RAIL

SINGLE CORE WIRE

| Part Description | Conductor | | | Finished Wire | | | | |
|---------------------|------------------------------|-------------------------------|---------------|---------------------------|---------------------------|---------------|------|----------------|
| | Nominal Cross Sectional Area | Conductor Stranding No./Diam. | Diameter Max. | Insulation Thickness Min. | Maximum Resistance @ 20°C | Diameter (mm) | | Approx. Weight |
| | (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 | 1.40 | 1.80 | 10.0 |
| EN50306-2-RAIL-1.50 | 1.50 | 37/0.23 | 1.65 | 0.22 | 13.70 | 1.90 | 2.30 | 15.0 |
| EN50306-2-RAIL-2.50 | 2.50 | 37/0.30 | 2.15 | 0.28 | 8.21 | 2.45 | 2.85 | 25.0 |

EN50306-2-RAIL

PART NUMBERS

| Part Description | Product Detail | TE Part Number |
|---------------------|--|----------------|
| EN50306-2-RAIL-0.50 | Single Wire, 0.50 mm ² , White Insulation, 300V, EN 50306-3 | 2333642-1 |
| EN50306-2-RAIL-0.75 | Single Wire, 0.75 mm ² , White Insulation, 300V, EN 50306-3 | 2333643-1 |
| EN50306-2-RAIL-1.00 | Single Wire, 1.00 mm ² , White Insulation, 300V, EN 50306-3 | 2333644-1 |
| EN50306-2-RAIL-1.50 | Single Wire, 1.50 mm ² , White Insulation, 300V, EN 50306-3 | 2333645-1 |
| EN50306-2-RAIL-2.50 | Single Wire, 2.50 mm ² , White Insulation, 300V, EN 50306-3 | 2333646-1 |

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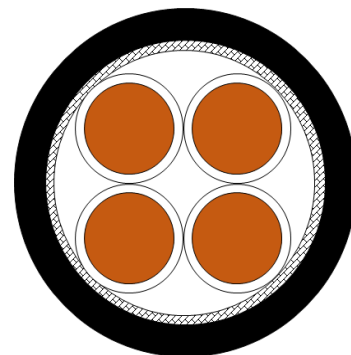
EN50306-3-RAIL

MULTI-CORE SHIELDED CABLES

| | | | |
|----------------------|---|-------------------|-----------------|
| Conductor | IEC 60228 Class 5 | Voltage Rating | 300 V AC |
| Number of Conductors | 1 to 4 | | |
| Cross Section | 0.50mm ² – 2.50mm ² | Temperature Range | -40°C to +120°C |

Construction

| | |
|------------|--------------------------------------|
| Cores | EN 50306-2-RAIL Primary Wire - White |
| EMC Screen | Tinned copper braid |
| Jacket | EXBL – EM104 |
| | Colour: Black |



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.

Standards

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

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TECHNICAL DATA SHEET

EN 50306 WIRE & CABLE PRODUCTS

EN50306-3-RAIL

MULTI-CORE SHIELDED CABLES

| Part Number | Nominal | | Maximum Resistance @ 20°C (Ohms/km) | Core Diameter Max. (mm) | Sheath Thickness Min. (mm) | Outer Diameter (mm) | | Approx. Cable Weight (kg/km) |
|-----------------------|--------------------|-----------|-------------------------------------|-------------------------|----------------------------|---------------------|------|------------------------------|
| | No. of Cores (No.) | CSA (mm²) | | | | Min. | Max. | |
| EN50306-3-RAIL-1X0.50 | 1 | 0.50 | 40.1 | 1.45 | 0.20 | 2.3 | 2.9 | 15 |
| EN50306-3-RAIL-2X0.50 | 2 | 0.50 | 40.1 | 1.45 | 0.20 | 3.5 | 4.4 | 32 |
| EN50306-3-RAIL-3X0.50 | 3 | 0.50 | 40.1 | 1.45 | 0.20 | 3.7 | 4.7 | 38 |
| EN50306-3-RAIL-4X0.50 | 4 | 0.50 | 40.1 | 1.45 | 0.20 | 4.0 | 5.2 | 46 |
| EN50306-3-RAIL-6X0.50 | 6 | 0.50 | 40.1 | 1.45 | 0.20 | 5.5 | 6.5 | 67 |
| EN50306-3-RAIL-8X0.50 | 8 | 0.50 | 40.1 | 1.45 | 0.20 | 6.1 | 7.1 | 86 |
| | | | | | | | | |
| EN50306-3-RAIL-1X0.75 | 1 | 0.75 | 26.7 | 1.65 | 0.20 | 2.5 | 3.1 | 19 |
| EN50306-3-RAIL-2X0.75 | 2 | 0.75 | 26.7 | 1.65 | 0.20 | 3.9 | 4.8 | 41 |
| EN50306-3-RAIL-3X0.75 | 3 | 0.75 | 26.7 | 1.65 | 0.20 | 4.0 | 5.2 | 49 |
| EN50306-3-RAIL-4X0.75 | 4 | 0.75 | 26.7 | 1.65 | 0.20 | 4.5 | 5.7 | 59 |
| EN50306-3-RAIL-6X0.75 | 6 | 0.75 | 26.7 | 1.65 | 0.20 | 6.1 | 7.1 | 87 |
| EN50306-3-RAIL-8X0.75 | 8 | 0.75 | 26.7 | 1.65 | 0.20 | 7.3 | 8.3 | 112 |
| | | | | | | | | |
| EN50306-3-RAIL-1X1.00 | 1 | 1.00 | 20.0 | 1.80 | 0.20 | 2.7 | 3.3 | 21 |
| EN50306-3-RAIL-2X1.00 | 2 | 1.00 | 20.0 | 1.80 | 0.20 | 4.2 | 5.3 | 46 |
| EN50306-3-RAIL-3X1.00 | 3 | 1.00 | 20.0 | 1.80 | 0.20 | 4.5 | 5.7 | 56 |
| EN50306-3-RAIL-4X1.00 | 4 | 1.00 | 20.0 | 1.80 | 0.20 | 5.0 | 6.2 | 70 |
| EN50306-3-RAIL-6X1.00 | 6 | 1.00 | 20.0 | 1.80 | 0.20 | 6.3 | 7.3 | 103 |
| EN50306-3-RAIL-8X1.00 | 8 | 1.00 | 20.0 | 1.80 | 0.20 | 7.5 | 8.5 | 135 |
| | | | | | | | | |
| EN50306-3-RAIL-1X1.50 | 1 | 1.50 | 13.7 | 2.30 | 0.20 | 3.1 | 3.7 | 28 |
| EN50306-3-RAIL-2X1.50 | 2 | 1.50 | 13.7 | 2.30 | 0.20 | 5.1 | 6.2 | 65 |
| EN50306-3-RAIL-3X1.50 | 3 | 1.50 | 13.7 | 2.30 | 0.20 | 5.4 | 6.6 | 80 |
| EN50306-3-RAIL-4X1.50 | 4 | 1.50 | 13.7 | 2.30 | 0.20 | 6.0 | 7.2 | 100 |
| EN50306-3-RAIL-6X1.50 | 6 | 1.50 | 13.7 | 2.30 | 0.20 | 7.3 | 8.3 | 149 |
| EN50306-3-RAIL-8X1.50 | 8 | 1.50 | 13.7 | 2.30 | 0.20 | 8.5 | 9.5 | 195 |

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TECHNICAL DATA SHEET

EN 50306 WIRE & CABLE PRODUCTS

EN50306-3-RAIL

MULTI-CORE SHIELDED CABLES

| Part Number | Nominal | | Maximum Resistance @ 20°C (Ohms/km) | Core Diameter Max. (mm) | Sheath Thickness Min. (mm) | Outer Diameter (mm) | | Approx. Cable Weight (kg/km) |
|-----------------------|-----------------------|---------------------------|---|-------------------------------|----------------------------------|------------------------|------|---------------------------------|
| | No. of Cores (No.) | CSA (mm ²) | | | | Min. | Max. | |
| EN50306-3-RAIL-1X2.50 | 1 | 2.50 | 8.21 | 2.85 | 0.20 | 3.6 | 4.5 | 43 |
| EN50306-3-RAIL-2X2.50 | 2 | 2.50 | 8.21 | 2.85 | 0.20 | 6.4 | 7.5 | 95 |
| EN50306-3-RAIL-3X2.50 | 3 | 2.50 | 8.21 | 2.85 | 0.20 | 6.8 | 8.0 | 120 |
| EN50306-3-RAIL-4X2.50 | 4 | 2.50 | 8.21 | 2.85 | 0.20 | 7.5 | 8.7 | 150 |

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EN 50306 WIRE & CABLE PRODUCTS

EN50306-3-RAIL

PART NUMBERS

| Part Description | Product Detail | TE Part Number |
|-----------------------|---|----------------|
| EN50306-3-RAIL-1X0.50 | 1-Core Cable, 0.50 mm ² , White Core, Black Sheath, EN 50306-3 | 2336342-1 |
| EN50306-3-RAIL-1X0.75 | 1-Core Cable, 0.75 mm ² , White Core, Black Sheath, EN 50306-3 | 2336347-1 |
| EN50306-3-RAIL-1X1.00 | 1-Core Cable, 1.00 mm ² , White Core, Black Sheath, EN 50306-3 | 2336365-1 |
| EN50306-3-RAIL-1X1.50 | 1-Core Cable, 1.50 mm ² , White Core, Black Sheath, EN 50306-3 | 2336371-1 |
| EN50306-3-RAIL-1X2.50 | 1-Core Cable, 2.50 mm ² , White Core, Black Sheath, EN 50306-3 | 2336375-1 |
| EN50306-3-RAIL-2X0.50 | 2-Core Cable, 0.50 mm ² , White Core, Black Sheath, EN 50306-3 | 2336343-1 |
| EN50306-3-RAIL-2X0.75 | 2-Core Cable, 0.75 mm ² , White Core, Black Sheath, EN 50306-3 | 2336358-1 |
| EN50306-3-RAIL-2X1.00 | 2-Core Cable, 1.00 mm ² , White Core, Black Sheath, EN 50306-3 | 2336366-1 |
| EN50306-3-RAIL-2X1.50 | 2-Core Cable, 1.50 mm ² , White Core, Black Sheath, EN 50306-3 | 2336372-1 |
| EN50306-3-RAIL-2X2.50 | 2-Core Cable, 2.50 mm ² , White Core, Black Sheath, EN 50306-3 | 2336376-1 |
| EN50306-3-RAIL-3X0.50 | 3-Core Cable, 0.50 mm ² , White Core, Black Sheath, EN 50306-3 | 2336345-1 |
| EN50306-3-RAIL-3X0.75 | 3-Core Cable, 0.75 mm ² , White Core, Black Sheath, EN 50306-3 | 2336362-1 |
| EN50306-3-RAIL-3X1.00 | 3-Core Cable, 1.00 mm ² , White Core, Black Sheath, EN 50306-3 | 2336369-1 |
| EN50306-3-RAIL-3X1.50 | 3-Core Cable, 1.50 mm ² , White Core, Black Sheath, EN 50306-3 | 2336373-1 |
| EN50306-3-RAIL-3X2.50 | 3-Core Cable, 2.50 mm ² , White Core, Black Sheath, EN 50306-3 | 2336377-1 |
| EN50306-3-RAIL-4X0.50 | 4-Core Cable, 0.50 mm ² , White Core, Black Sheath, EN 50306-3 | 2336346-1 |
| EN50306-3-RAIL-4X0.75 | 4-Core Cable, 0.75 mm ² , White Core, Black Sheath, EN 50306-3 | 2336364-1 |
| EN50306-3-RAIL-4X1.00 | 4-Core Cable, 1.00 mm ² , White Core, Black Sheath, EN 50306-3 | 2336370-1 |
| EN50306-3-RAIL-4X1.50 | 4-Core Cable, 1.50 mm ² , White Core, Black Sheath, EN 50306-3 | 2336374-1 |
| EN50306-3-RAIL-4X2.50 | 4-Core Cable, 2.50 mm ² , White Core, Black Sheath, EN 50306-3 | 2336378-1 |

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