

Automotive products

RADOX® cables and system solutions

Edition 2020/09



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RADOX® battery cables – thin-wall, flexible



Power cables for road vehicles, class D according to ISO 6722, operating temperature –40 to +150 °C

RADOX battery cables are high temperature resistant products with a reduced outer diameter.

The cable is highly resistant to temperature, ozone, weathering, hydrolysis and has excellent resistance to battery acid and cooling agents. It is also resistant against oils, fuels and other fluids used inside and outside of the motor compartment.

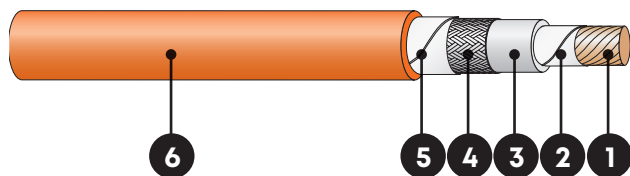
Thanks to its electron beam cross-linked RADOX insulation, the cable has, despite the reduced outer diameter, excellent resistance to heat pressure and abrasion. In addition, the RADOX battery cable has outstanding dielectric properties. The flame retardant insulation does not melt or flow at high temperatures and is easy to strip.

General features

- Operating temperature –70 to +150 °C
- Outstanding flexibility
- Reduced outer diameter
- Resistant to motor oils, battery acid and fuels
- High resistance to heat pressure
- Excellent abrasion resistance

| | |
|--|----|
| RADOX 155 battery cable | 20 |
| RADOX Elastomer S (REMS) battery cable | 24 |
| RADOX screened battery cable | 30 |
| RADOX screened multi core cable | 32 |

RADOX[®] screened single core cable (FHLR91XC13X and FHLR4GC13X)



| | |
|----------------------|----------------------------|
| Number of conductors | 1 |
| Cross section | 1.5 to 150 mm ² |
| Voltage rating | 1000 V AC/1500 V DC |
| Temperature range | -55 to +150 °C (3000 h) |
| Min. bending radius | 4 × cable dia. |

Composition of cable

| | |
|---------------|---|
| 1. Conductor | stranded bare copper |
| 2. Tape | plastic |
| 3. Insulation | RADOX 155S (91X) for 1.5, 2.5, 4.0, 6.0 mm ² RADOX 155 (4G) for > 6 mm ² |
| 4. EMC screen | tin plated copper braid optimised |
| 5. Tape | plastic (PEC) |
| 6. Sheath | RADOX Elastomer S (13X), colour: orange |

Characteristics and specialities

- Excellent high and low temperature resistance
- Ozone and weathering resistance
- Outstanding resistance against battery acid, diesel, various oils, engine coolant and window washer fluids
- Resistance against humidity, petrol and brake fluids
- Flame retardant
- Soldering iron resistant
- Easy to strip and process

Application

Screened power cable for use in hybrid and electrical vehicles.

Standards

| Conductor | General |
|----------------------------------|--|
| ISO 6722 -1, ISO 19642-9 | ISO 6722, ISO 19642-9 class D, thin-wall |
| DIN EN 13602, Cu-ETPI-A (CW003A) | |

For further technical details please refer to our data sheet STD 806104.

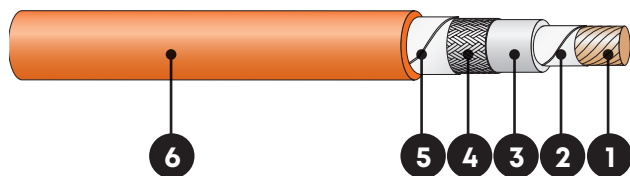
RADOX[®] screened single core cable (FHLR91XC13X and FHLR4GC13X)

Extract from our delivery programme

| Cross section | Conductor | | | | Cable | | | | |
|---------------|-------------------------|----------------------------------|----------------------------|------------------|-------------------------------|--------------------------------|----------------------------|--------------------------|------------------------------------|
| | Nominal mm ² | Number of ind. wires guide value | Dia. of ind. wires max. mm | Diameter max. mm | Resistance at 20 °C max. Ω/km | Diameter of insulation nom. mm | Diameter of screen max. mm | Overall-diameter nom. mm | Z _T at 30 MHz nom. mΩ/m |
| 2.5 | 50 | 0.26 | 2.0 | 7.60 | 2.85 | 3.3 | 5.0 ± 0.2 | 100 | 4.9 |
| 4 | 56 | 0.31 | 2.5 | 4.71 | 3.55 | 4.0 | 5.8 ± 0.2 | 110 | 7.0 |
| 6 | 84 | 0.31 | 3.0 | 3.14 | 4.15 | 4.7 | 6.6 ± 0.3 | 70 | 9.8 |
| 8 | 60 | 0.41 | 3.8 | 2.38 | 5.05 | 5.6 | 7.6 ± 0.3 | 40 | 12.5 |
| 10 | 78 | 0.41 | 4.3 | 1.82 | 5.75 | 6.3 | 8.4 ± 0.3 | 30 | 15.8 |
| 12 | 92 | 0.41 | 4.7 | 1.52 | 6.10 | 6.7 | 8.9 ± 0.3 | 30 | 17.9 |
| 16 | 126 | 0.41 | 5.4 | 1.16 | 6.90 | 7.5 | 9.7 ± 0.3 | 40 | 23.0 |
| 20 | 154 | 0.41 | 6.2 | 0.955 | 7.60 | 8.3 | 10.6 ± 0.3 | 30 | 28.2 |
| 25 | 189 | 0.41 | 6.7 | 0.743 | 8.20 | 8.9 | 11.2 ± 0.3 | 40 | 32.8 |
| 30 | 224 | 0.41 | 7.4 | 0.647 | 9.10 | 9.8 | 12.1 ± 0.3 | 30 | 38.5 |
| 35 | 273 | 0.41 | 7.9 | 0.527 | 9.70 | 10.4 | 12.7 ± 0.3 | 60 | 44.7 |
| 40 | 301 | 0.41 | 8.5 | 0.473 | 10.40 | 11.3 | 13.6 ± 0.3 | 20 | 51.3 |
| 50 | 385 | 0.41 | 9.4 | 0.368 | 11.50 | 12.6 | 14.9 ± 0.3 | 30 | 64.2 |
| 60 | 294 | 0.51 | 10.6 | 0.315 | 12.60 | 13.5 | 15.9 ± 0.3 | 30 | 73.1 |
| 70 | 360 | 0.51 | 11.6 | 0.259 | 13.70 | 14.6 | 17.0 ± 0.3 | 30 | 85.8 |
| 95 | 480 | 0.51 | 13.5 | 0.196 | 16.20 | 17.3 | 19.9 ± 0.4 | 20 | 115.3 |
| 120 | 589 | 0.51 | 15.1 | 0.153 | 18.00 | 19.1 | 22.6 ± 0.4 | 20 | 145.5 |
| 150 | 741 | 0.51 | 17.0 | 0.122 | 20.00 | 21.3 | 24.9 ± 0.5 | 30 | 177.4 |

Datasheet TD 806104

RADOX[®] screened FLEX single core cable (FHLR4GC13X)



| | |
|----------------------|---------------------------|
| Number of conductors | 1 |
| Cross section | 16 to 120 mm ² |
| Voltage rating | 1000 V AC/1500 V DC |
| Temperature range | -55 to +150 °C (3000 h) |
| Min. bending radius | 3 × cable dia. |

Composition of cable

| | |
|---------------|---|
| 1. Conductor | stranded bare copper ISO structure C (flexible) |
| 2. Tape | plastic |
| 3. Insulation | RADOX 155 (4G) |
| 4. EMC screen | tin plated copper braid optimized |
| 5. Tape | plastic (PEC) |
| 6. Sheath | RADOX Elastomer S (13X), colour: orange |

Characteristics and specialities

- Excellent high and low temperature resistance
- Enhanced cable flexibility
- Easy and low-effort cable routing
- Ozone and weathering resistance
- Outstanding resistance against battery acid, diesel, various oils, engine coolant and window washer fluids
- Resistance against humidity, petrol and brake fluids
- Flame retardant
- Soldering iron resistant
- Easy to strip and process

Application

Screened cable for power transmission in hybrid and electrical vehicles.

Standards

| Conductor | General |
|--|--|
| ISO 6722-1, ISO 19642-9 (ISO structure C) | ISO 6722-1, ISO 19642-9 class D, thin-wall |
| DIN EN 13602, Cu-ETPI-A (CW003A) | |

For further technical details please refer to our data sheet STD 859519.

RADOX[®] screened FLEX single core cable (FHLR4GC13X)

Extract from our delivery programme

| Cross section | Conductor | | | | Cable | | | | |
|---------------|-------------------------|----------------------------------|----------------------------|------------------|-------------------------------|--------------------------------|----------------------------|--------------------------|------------------------------------|
| | Nominal mm ² | Number of ind. wires guide value | Dia. of ind. wires max. mm | Diameter max. mm | Resistance at 20 °C max. Ω/km | Diameter of insulation nom. mm | Diameter of screen max. mm | Overall-diameter nom. mm | Z _T at 30 MHz nom. mΩ/m |
| 16 | 490 | 0.21 | 5.4 | 1.16 | 6.85 | 8.0 | 9.3 ± 0.3 | 60 | 22.8 |
| 25 | 760 | 0.21 | 7.1 | 0.743 | 8.35 | 9.5 | 11.0 ± 0.3 | 50 | 32.2 |
| 35 | 1064 | 0.21 | 8.2 | 0.527 | 9.90 | 11.2 | 12.9 ± 0.3 | 40 | 46.1 |
| 50 | 1520 | 0.21 | 9.9 | 0.368 | 11.70 | 13.0 | 14.9 ± 0.3 | 30 | 63.1 |
| 70 | 1427 | 0.26 | 11.6 | 0.259 | 14.00 | 15.2 | 17.0 ± 0.4 | 30 | 85.2 |
| 95 | 1936 | 0.26 | 13.3 | 0.196 | 16.20 | 17.7 | 19.5 ± 0.4 | 20 | 113.7 |
| 120 | 2450 | 0.26 | 15.1 | 0.153 | 19.10 | 20.7 | 22.6 ± 0.4 | 20 | 143.5 |

Datasheet STD 859519