

100E SIGNAL WIRE & CABLE

Document number: TTDS-Issue: 1

Date: May 2015



100E RAIL SIGNAI

SIGNAL WIRE & CABLE

Wire and Cable

Page 1 of 23

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100E SIGNAL WIRE & CABLE

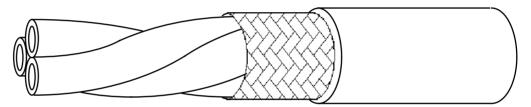
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APPLICATION/USE:

Rail approved zero Halogen, light weight wire and cable for signal, and Low voltage applications. The construction is a dual wall combination of TE Connectivity formulated polymer blends. Developed to meet Rail specification requirements, whilst maintaining the desirable features of small size, lightweight, flexibility, non-wrinkling.



100E approvals:

EN50306-2

Thin Wall single core Wires 300 volts

EN50306-3

Single Core and Multi-Core Cables (pairs, triples and quads) screened and thin wall sheathed

EN50306-4

Multi-Core and Multi-Pair Cables standard wall sheathed, screened or unscreened

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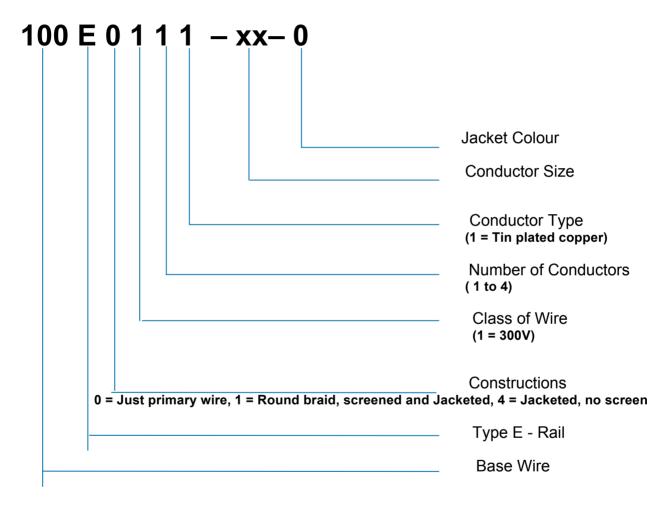
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PART DESCRIPTION



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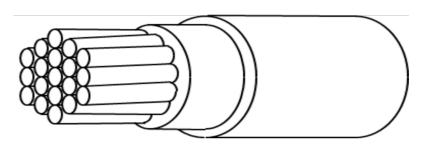
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EN50306-2

Thin Wall Single Core Wires 300 volts 100E-0111-XX-X



| | Conductor | | | | Finished Wire | | | |
|-----------------|-----------|-----------|------|-------|------------------|------|-------|---------|
| | Non | ninal | Dian | neter | Maximum Diameter | | neter | Maximum |
| Part | Cross | Conductor | (m | ım) | Resistance | (mm) | | Weight |
| Description | Sectional | Stranding | | | @ | | | (kg/km) |
| | Area | No./Diam. | | | 20°C | | | |
| | (mm²) | (mm) | Min. | Max. | (ohms/km) | Min. | Max. |] |
| 100E0111-0.50-* | 0.50 | 19/0.18 | 0.82 | 0.90 | 40.1 | 1.37 | 1.45 | 6.60 |
| 100E0111-0.75-* | 0.75 | 19/0.23 | 1.04 | 1.15 | 26.7 | 1.59 | 1.65 | 8.90 |
| 100E0111-1.00-* | 1.00 | 19/0.25 | 1.17 | 1.26 | 20.0 | 1.69 | 1.80 | 10.7 |
| 100E0111-1.50-* | 1.50 | 37/0.23 | 1.46 | 1.58 | 13.7 | 2.03 | 2.13 | 16.0 |
| 100E0111-2.50-* | 2.50 | 37/0.29 | 1.85 | 2.01 | 8.21 | 2.50 | 2.63 | 25.7 |

Mark Manufacturer's Name, EN Reference, Voltage Rating, Number of Cores and Conductor Size, Hazard Level

E.G TE Connectivity EN 50306-2 300V 1x1.50 M

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Operating -55°C to 125°C

Continuous Operating Temperature Wire

Continuous Operating Temperature Cable

-30°C to 105°C

Halogens Halogen Free, Low Smoke, Highly Flame Retarded

Voltage rating 100E 300/500V

Conductor size range 0.50mm² to 2.50mm²

Construction Single Core

Colours Single core insulation white

Standard Insulation White

Conductors Tin plated copper stranded

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EN 50306-2

FIRE HAZARD PERFORMANCE

| TEST | METHOD | RESULT |
|--|-----------------------|---|
| Flame Propagation – Single Cable | IEC 60332-1-2 | Charring Confined to between 50mm and 540mm |
| Flame Propagation – Bunched Cable (d ≥ 12mm) | IEC 60332-3-24 | Max. burn length 2.5m |
| Flame Propagation – Bunched Cable (6mm < d < 12mm) | EN 50305 Clause 9.1.1 | Max. burn length 2.5m |
| Flame Propagation – Bunched Cable (d ≤ 6mm) | EN 50305 Clause 9.1.2 | Max. burn length 1.5m |
| Smoke Testing | EN 61034-2 | 3m cube box 90% min. transmittance |
| Toxicity | EN 50305 Clause 9.2 | Index Max. 6 |
| Fluorine Content | IEC 60684-2 CI 45.2 | < 0.1% Fluorine |
| Evolution of HCL | EN 60754-1 | < 0.5% HCL |
| Acid Gas Emission | EN 60754-2 | pH > 4.3, conductivity < 10 μS/mm |

GENERAL PROPERTIES

| TEST | METHOD | REQUIREMENT |
|-------------------------------------|-----------------------|--|
| Electrical Resistance of Conductors | EN 50305 Clause 6.1 | See SCD |
| Voltage Test on Complete Cable | EN 50305 Clause 6.2.1 | 5 minutes, 2Kv No breakdown of the insulation |

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| Dialectic Strength | EN 50305 Clause 6.8 | Minimum Breakdown Voltage – 4Kv |
|--|-------------------------------|--|
| Spark Test | EN 50305 Clause 6.5 | No breakdown |
| DC Stability | EN 50305 Clause 6.7 | 85±2°C for 240h No breakdown of the insulation |
| Insulation Resistance | 6.4.1 and 6.4.2 of EN 50305 | Table 2 of EN 50306-2 |
| Insulation Application | EN 50306-1 | EN 50306-1 |
| Insulation Thickness | EN 50306-1 | EN 50306-1 |
| Insulation Concentricity | EN 50306-1 | EN 50306-1 |
| Overall Diameter | EN 50306-1 Clause 6.7 | EN 50306-2 Table 1 |
| Cable Identification and Marking | EN 50306-4 Clause 3.2.3 3.2.4 | As EN 50306-2 |
| Durability of Identification | EN 50305 Clause 10.1 | Legible after rubbing with wet cloth |
| Strippability of Insulation | EN 50305 Clause 5.5.1 | Easily Stripped |
| Adhesion of insulation to the Conductors | EN 50305 Clause 5.5.2 | EN 50306-2 Table 2 |
| Hot Set Test | IEC 60811-507 | 15 minutes at 200±3°C Max elongation 100% under load 25% after unloading |
| Long Term Ageing | EN 50305 Clause 7.3 | 20,000 hours at 125°C |
| Mineral Oil Immersion | EN 50305 Clause 8.1 | IRM 902, 24h at 100±2°C No Breakdown |
| Fuel Resistance | EN 50305 Clause 8.1 | IRM 903, 168h at 70±2°C No Breakdown |
| Acid and Alkali Resistance | EN 50305 Clause 8.2 | Oxalic Acid and Sodium Hydroxide, 168h at 23±2°C No Breakdown |
| Pressure at High Temperature | EN 50305 Clause 7.5 | 4h at 125±2°C No Breakdown |
| Dynamic Cut Through | EN 50305 Clause 5.6 | Mean Value ≥ 50N Minimum Value ≥ 30N |

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| Notch Propagation of Sheath | EN 50305 Clause 5.3 | 0.05 mm Notch, at 85°C, Ambient and -15°C No breakdown of sheath |
|---------------------------------|-----------------------|--|
| Shrinkage | EN 50305 Clause 7.6 | Max 0.5% |
| Blocking of Cores | EN 50305 Clause 10.2 | 6h at 150±2°C Easily Separate, no Damage |
| Bending Test at Low Temperature | IEC 60811-504 | 4h at -40°C No Cracks in Sheath |
| Abrasion Resistance | EN 50305 Clause 5.2 | Load 8N Mean ≥ 150 cycles Minimum 100 Cycles |
| Ozone Resistance | EN 50305 Clause 7.4.1 | 250 to 300 x 10 ⁻⁶ , 25 ±2°C, 24h No Cracks or Breakdown |
| Stress Cracking | EN 50306-1 Clause 7.7 | 168h at 154°C No Cracks or Breakdown |

EN50306-3

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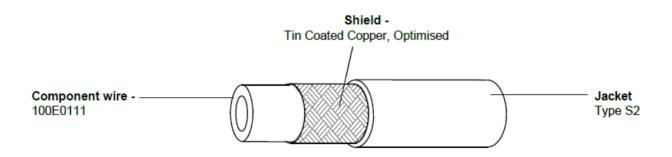
Issue: 1

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Single Core and Multi-Core Cables (pairs, triples and quads) screened and thin wall sheathed

One CORE 100E1111-xx-x

SINGLE CONDUCTOR CABLE, HALOGEN FREE, SHIELDED AND JACKETED 300 VOLT IN ACCORDANCE WITH EN 50306-3, TEMPERATURE CLASSIFICATION 90°C



| Part | Nominal | Shield | ield Jacket Thickness | | Overall Diameter | | | Maximum |
|-------------------|-----------|--------|-----------------------|------|------------------|--------|-------|---------|
| Description | Cross | Size | (m | nm) | (mm) | | | Weight |
| | Sectional | (mm) | | | Lower | | Upper | (kg/km) |
| | Area | | | | Spec | | Spec | |
| | (mm²) | | Min. | Nom. | Limit | Target | Limit | |
| 100E1111-0.50-*-* | 0.50 | 0.10 | 0.20 | 0.38 | 2.30 | 2.61 | 2.80 | 17.4 |
| 100E1111-0.75-*-* | 0.75 | 0.10 | 0.20 | 0.38 | 2.50 | 2.82 | 3.00 | 20.7 |
| 100E1111-1.00-*-* | 1.00 | 0.10 | 0.20 | 0.38 | 2.70 | 2.95 | 3.20 | 23.9 |
| 100E1111-1.50-*-* | 1.50 | 0.10 | 0.20 | 0.38 | 3.10 | 3.28 | 3.60 | 31.6 |
| 100E1111-2.50-*-* | 2.50 | 0.13 | 0.20 | 0.38 | 3.60 | 3.88 | 4.40 | 49.3 |

EN50306-3

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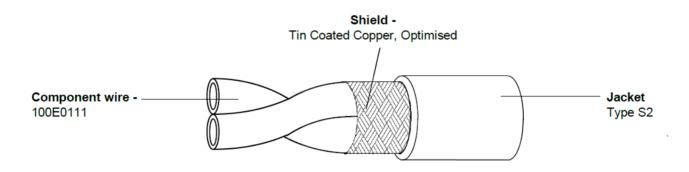
Issue: 1

Date: May 2015

Single Core and Multi-Core Cables (pairs, triples and quads) screened and thin wall sheathed

TWO CORE 100E1121-xx-x

TWO CONDUCTOR CABLE, HALOGEN FREE, SHIELDED AND JACKETED 300 VOLT IN ACCORDANCE WITH EN 50306-3. TEMPERATURE CLASSIFICATION 90°C



| Part | Nominal | Shield | Jacket Thickness | | Overall Diameter | | | Maximum |
|---------------------|-----------|--------|------------------|------|------------------|--------|-------|----------|
| Description | Cross | Size | (mm) | | (mm) | | | Weight |
| | Sectional | (mm) | | | Lower | | Upper | (kg/ km) |
| | Area | | | | Spec | | Spec | |
| | (mm²) | | Min. | Nom. | Limit | Target | Limit | |
| 100E1121-0.50-*/*-* | 0.50 | 0.13 | 0.20 | 0.38 | 3.70 | 4.14 | 4.30 | 32.5 |
| 100E1121-0.75-*/*-* | 0.75 | 0.13 | 0.20 | 0.38 | 4.15 | 4.56 | 4.70 | 39.0 |
| 100E1121-1.00-*/*-* | 1.00 | 0.13 | 0.20 | 0.38 | 4.20 | 4.81 | 5.20 | 47.0 |
| 100E1121-1.50-*/*-* | 1.50 | 0.13 | 0.20 | 0.38 | 5.10 | 5.48 | 6.10 | 64.4 |
| 100E1121-2.50-*/*-* | 2.50 | 0.13 | 0.20 | 0.38 | 6.40 | 6.45 | 7.40 | 95.2 |

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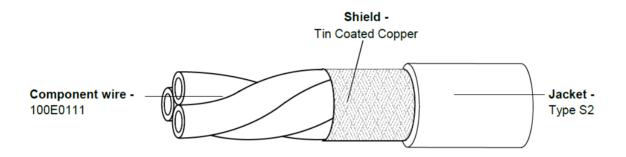
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Single Core and Multi-Core Cables (pairs, triples and quads) screened and thin wall sheathed

THREE CORE 100E1131-xx-x

THREE CONDUCTOR CABLE, HALOGEN FREE, SHIELDED AND JACKETED 300 VOLT IN ACCORDANCE WITH EN 50306-3, TEMPERATURE CLASSIFICATION 90°C



| Part | Cross | Shield | Jacket T | Jacket Thckness | | Overall Diameter | | |
|-----------------------|-----------|--------|----------|-----------------|-------|------------------|------|---------|
| Description | Sectional | Size | (mı | (mm) | | | | Weight |
| | Area | (mm) | | | | | | (kg/km) |
| | (mm²) | | Min. | Nom. | Limit | Nom. | Max. | |
| 100E1131-0.50-*/*/*-* | 0.50 | 0.13 | 0.20 | 0.38 | 3.70 | 4.36 | 4.50 | 42.0 |
| 100E1131-0.75-*/*/*-* | 0.75 | 0.13 | 0.20 | 0.38 | 4.00 | 4.82 | 5.00 | 52.2 |
| 100E1131-1.00-*/*/*-* | 1.00 | 0.13 | 0.20 | 0.38 | 4.50 | 5.09 | 5.50 | 62.3 |
| 100E1131-1.50-*/*/*-* | 1.50 | 0.13 | 0.20 | 0.38 | 5.40 | 5.81 | 6.40 | 85.9 |
| 100E1131-2.50-*/*/*-* | 2.50 | 0.13 | 0.20 | 0.38 | 6.80 | 6.86 | 7.80 | 129 |

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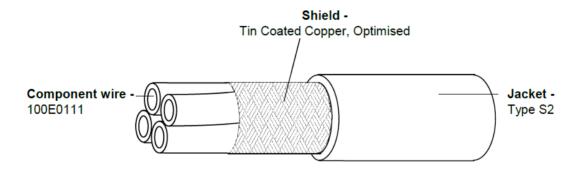
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EN50306-3

Single Core and Multi-Core Cables (pairs, triples and quads) screened and thin wall sheathed
FOUR CORE 100E1141-xx-x

FOUR CONDUCTOR CABLE, HALOGEN FREE, SHIELDED AND JACKETED 300 VOLT IN ACCORDANCE WITH EN 50306-3, TEMPERATURE CLASSIFICATION 90°C



| Part | Cross | Shield | Jacket Thckness | | Ove | Maximum | | |
|-------------------------|-----------|--------|-----------------|------|-------|---------|-------|---------|
| Description | Sectional | Size | (mm) | | Lower | | Upper | Weight |
| | Area | (mm) | | | Spec | Target | Spec | (kg/km) |
| | (mm²) | | Min. | Nom. | Limit | | Limit | |
| 100E1141-0.50-*/*/*/*-* | 0.50 | 0.13 | 0.25 | 0.38 | 4.00 | 4.72 | 5.00 | 85.8 |
| 100E1141-0.75-*/*/*/*-* | 0.75 | 0.13 | 0.25 | 0.38 | 4.50 | 5.22 | 5.50 | 101 |
| 100E1141-1.00-*/*/*/*-* | 1.00 | 0.13 | 0.30 | 0.43 | 5.00 | 5.62 | 6.00 | 123 |
| 100E1141-1.50-*/*/*/*-* | 1.50 | 0.13 | 0.38 | 0.48 | 6.00 | 6.53 | 7.00 | 168 |
| 100E1141-2.50-*/*/*/*-* | 2.50 | 0.13 | 0.46 | 0.61 | 7.50 | 7.96 | 8.50 | 250 |

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Continuous Operating

Temperature Wire

-55°C to 125°C

Continuous Operating

Temperature Cable

-30°C to 105°C

Halogens Halogen Free, Low Smoke, Highly Flame Retarded

Voltage rating 100E 300/500V

Conductor size range 0.50mm² to 2.50mm²

Construction Multi Core

Colours Single core insulation white

Standard Insulation White

Conductors Tin plated copper stranded

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EN 50306-3

FIRE HAZARD PERFORMANCE

| TEST | METHOD | RESULT |
|--|-----------------------|---|
| Flame Propagation – Single Cable | IEC 60332-1-2 | Charring Confined to between 50mm and 540mm |
| Flame Propagation – Bunched Cable (d ≥ 12mm) | IEC 60332-3-24 | Max. burn length 2.5m |
| Flame Propagation – Bunched Cable (6mm < d < 12mm) | EN 50305 Clause 9.1.1 | Max. burn length 2.5m |
| Flame Propagation – Bunched Cable (d ≤ 6mm) | EN 50305 Clause 9.1.2 | Max. burn length 1.5m |
| Smoke Testing | EN 61034-2 | 3m cube box 90% min. transmittance |
| Toxicity | EN 50305 Clause 9.2 | Index Max. 5 |
| Fluorine Content | IEC 60684-2 CI 45.2 | < 0.1% Fluorine |
| Evolution of HCL | EN 60754-1 | < 0.5% HCL |
| Acid Gas Emission | EN 60754-2 | pH > 4.3, conductivity < 10 μS/mm |

GENERAL PROPERTIES

| TEST | METHOD | REQUIREMENT |
|-------------------------------------|-----------------------|--|
| Electrical Resistance of Conductors | EN 50305 Clause 6.1 | See SCD |
| Voltage Test on Complete Cable | EN 50305 Clause 6.2.1 | 5 minutes, 2Kv No breakdown of the insulation |

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| Voltage Test on Sheath | EN 50305 Clause 6.3 | 5 minutes, 2Kv No breakdown of the Sheath |
|---|----------------------------------|--|
| Spark Test on Sheath | EN 50305 Clause 6.5 | No breakdown of the sheath |
| Sheath - Application | EN 50306-1 Clause 6.6.2 | As EN 50306-3 |
| Metallic Screen – Diameter of Wire | EN 50306-4 Clause 5.3.4 | As EN 50306-3 |
| Metallic Screen – Filling Factor | EN 50306-4 Clause 5.3.4 | As EN 50306-3 |
| Sheath - Thickness | EN 50306-1 Annex 2 | As EN 50306-3 |
| Overall Diameter | EN 50306-1 Clause 6.7 | As EN 50306-3 |
| Identification and Marking | EN 50306-4 Clause 3.2.3 3.2.4 | As EN 50306-3 |
| Durability of Identification | EN 50305 Clause 10.1 | Print markings are durable |
| Mechanical Properties of the Sheath in the State as Delivered | IEC 60811-501 | 240h at 120±2°C Elongation ± 30% Tensile Strength ± 30% From Initial Test |
| Water Absorption | EN 50305 Clause 8.3 | Water, 168h at 70±2°C No breakdown of the sheath |
| Hot Set Test | IEC 60811-507 | 15 minutes at 200±3°C Max elongation 100% under load 25% after unloading |
| Long Term Ageing | EN 50305 Clause 7.3 | 20,000 hours at 125°C |
| Mineral Oil Immersion | EN 50305 Clause 8.1 | IRM 902, 24h at 100±2°C No Breakdown |
| Fuel Resistance | EN 50305 Clause 8.1 | IRM 903, 168h at 70±2°C No Breakdown |
| Acid and Alkali Resistance | EN 50305 Clause 8.2 | Oxalic Acid and Sodium Hydroxide, 168h at 23±2°C No Breakdown |
| Pressure at High Temperature | EN 50305 Clause 7.5 | 4h at 125±2°C |

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| | | No Breakdown |
|---------------------------------|-----------------------|--|
| Dunamia Cut Thuaugh | Mean Value ≥ 50N | |
| Dynamic Cut Through | EN 50305 Clause 5.6 | Minimum Value ≥ 30N |
| Notch Propagation of Sheath | EN 50305 Clause 5.3 | 0.05 mm Notch, at 85°C, Ambient and -15°C No breakdown of sheath |
| Bending Test at Low Temperature | IEC 60811-504 | 4h at -40°C No Cracks in Sheath |
| Abrasion Resistance | EN 50305 Clause 5.2 | Load 8N Mean ≥ 150 cycles Minimum 100 Cycles |
| Ozone | EN 50305 Clause 7.4.1 | 250 to 300 x 10 ⁻⁶ , 25 ±2°C, 24h No Cracks or Breakdown |
| Stress Cracking | EN 50306-1 Clause 7.7 | 168h at 154°C No cracks or breakdown |

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EN50306-4

Multi-Core and Multi-Pair Cables standard wall sheathed, screened or unscreened EPD design

- Multi-Core and Multi-Pair Cables standard wall sheathed
 - Unscreened, Sheathed for either exposed or protected wiring, (0.50 mm² to 2.50 mm², number of cores from 2 to 48)
 - Conform with table 1 of EN 50306-4 (Class 1P or 1E)
 - Screened, Sheathed for either exposed or protected wiring (0.50 mm² to 2.50 mm², number of cores from 2 to 8)
 - Conform with table 3 of EN 50306-4 (Class 3P or 3E)
 - Screened, Sheathed for either exposed or protected wiring (0.50 mm² to 1.50 mm², number of pairs of cores from 2 to 7)
 - Conform with table 3 of EN 50306-4 (Class 5P or 5E)
 - Cores White, Outer Jacket Black

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100E SIGNAL WIRE & CABLE

Document number: TTDS-Issue: 1

Date: May 2015

-55°C to 125°C

Continuous Operating Temperature Wire

Continuous Operating

Temperature Cable

-30°C to 105°C

Halogens Halogen Free, Low Smoke, Highly Flame Retarded

Voltage rating 100E 300/500V

Conductor size range 0.50mm² to 2.50mm²

Construction Multi Core

Colours Single core insulation white

Standard Insulation White

Conductors Tin plated copper stranded

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100E SIGNAL WIRE & CABLE

Document number: TTDS-

Issue: 1

Date: May 2015

EN 50306-4 CLASS 1P & 1E

FIRE HAZARD PERFORMANCE

| TEST | METHOD | RESULT |
|--|-----------------------|---|
| Flame Propagation – Single Cable | IEC 60332-1-2 | Charring Confined to between 50mm and 540mm |
| Flame Propagation – Bunched Cable (d ≥ 12mm) | IEC 60332-3-24 | Max. burn length 2.5m |
| Flame Propagation – Bunched Cable (6mm < d < 12mm) | EN 50305 Clause 9.1.1 | Max. burn length 2.5m |
| Flame Propagation – Bunched Cable (d ≤ 6mm) | EN 50305 Clause 9.1.2 | Max. burn length 1.5m |
| Smoke Testing | EN 61034-2 | 3m cube box 70% min. transmittance |
| Toxicity | EN 50305 Clause 9.2 | Index Max. 5 |
| Fluorine Content | IEC 60684-2 CI 45.2 | < 0.1% Fluorine |
| Evolution of HCL | EN 60754-1 | < 0.5% HCL |
| Acid Gas Emission | EN 60754-2 | pH > 4.3, conductivity < 10 μS/mm |

GENERAL PROPERTIES (See EN 50306-4 for full details)

| TEST | METHOD | REQUIREMENT |
|--|-------------------------------|--|
| Electrical Resistance of Conductors | EN 50305 Clause 6.1 | See SCD |
| Voltage Test on Complete Cable | EN 50305 Clause 6.2.1 | 5 minutes, 2Kv No breakdown of the insulation |
| Sheath - Application | EN 50306-1 Clause 6.6.2 | As EN 50306-4 |
| Sheath - Thickness | EN 50306-1 Annex 2 | As EN 50306-4 |
| Overall Diameter | EN 50306-1 Clause 6.7 | As EN 50306-4 |
| Identification and Marking | EN 50306-4 Clause 3.2.3 3.2.4 | As EN 50306-4 |

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100E SIGNAL WIRE & CABLE

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| Durability of Identification | EN 50305 Clause 10.1 | Print markings are durable |
|---|-----------------------|--|
| Mechanical Properties of the Sheath in the State as Delivered | IEC 60811-501 | 240h at 120±2°C Elongation ± 30% Tensile Strength ± 30% From Initial Test |
| Hot Set Test | IEC 60811-507 | 15 minutes at 200±3°C Max elongation 100% under load 25% after unloading |
| Long Term Ageing | EN 50305 Clause 7.3 | 20,000 hours at 125°C |
| Mineral Oil Immersion | IEC 60811-404 | IRM 902, 24h at 100±2°C Elongation ± 30% Tensile Strength ± 30% From Initial Test |
| Fuel Resistance | IEC 60811-404 | IRM 903, 168h at 70±2°C Elongation ± 30% Tensile Strength ± 30% From Initial Test |
| Acid and Alkali Resistance | IEC 60811-404 | Oxalic Acid and Sodium Hydroxide, 168h at Elongation ± 30% Tensile Strength ± 30% From Initial Test |
| Pressure at High Temperature | IEC 60811-508 | 4h at 125±2°C Max 50% indentation |
| Bending Test at Low Temperature | IEC 60811-504 | 4h at -40°C No Cracks in Sheath |
| Elongation at Low Temperature | IEC 60811-504 | Elongation ≥ 30% at -40°C |
| Impact Resistance at Low Temperature | EN 50305 Clause 5.1 | 2h at -25°C No Cracks |
| Ozone | EN 50305 Clause 7.4.2 | 250 to 300 x 10 ⁻⁶ , 25 ±2°C, 24h No Cracks |
| Water Absorption | IEC 60811-402 | Water, 168h at 70±2°C Weight increase ≤ 15 mg/cm² |
| Compatibility | EN 50305 Cl. 7.1 | 168h at 115±2°C |

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100E SIGNAL WIRE & CABLE

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Issue: 1

Date: May 2015

| Elongation ± 30% |
|------------------------|
| Tensile Strength ± 30% |
| From Initial Test |

EN 50306-4 CLASS 3P & 3E

FIRE HAZARD PERFORMANCE

| TEST | METHOD | RESULT |
|--|-----------------------|---|
| Flame Propagation – Single Cable | IEC 60332-1-2 | Charring Confined to between 50mm and 540mm |
| Flame Propagation – Bunched Cable (d ≥ 12mm) | IEC 60332-3-24 | Max. burn length 2.5m |
| Flame Propagation – Bunched Cable (6mm < d < 12mm) | EN 50305 Clause 9.1.1 | Max. burn length 2.5m |
| Flame Propagation — Bunched Cable (d ≤ 6mm) | EN 50305 Clause 9.1.2 | Max. burn length 1.5m |
| Smoke Testing | EN 61034-2 | 3m cube box 70% min. transmittance |
| Toxicity | EN 50305 Clause 9.2 | Index Max. 5 |
| Fluorine Content | IEC 60684-2 CI 45.2 | < 0.1% Fluorine |
| Evolution of HCL | EN 60754-1 | < 0.5% HCL |
| Acid Gas Emission | EN 60754-2 | pH > 4.3, conductivity < 10 μS/mm |

GENERAL PROPERTIES (See EN 50306-4 for full details)

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| TEST | METHOD | REQUIREMENT |
|--|-------------------------------|--|
| Electrical Resistance of Conductors | EN 50305 Clause 6.1 | See SCD |
| Voltage Test on Complete Cable | EN 50305 Clause 6.2.1 | 5 minutes, 2Kv No breakdown of the insulation |
| Spark Test on Sheath | EN 50305 Clause 6.5 | 5 minutes, 2Kv No breakdown of the Sheath |
| Metallic Screen – Diameter of Wire | EN 50306-4 Clause 5.3.4 | As EN 50306-4 |
| Metallic Screen – Filling Factor | EN 50306-4 Clause 5.3.4 | As EN 50306-4 |
| Sheath - Application | EN 50306-1 Clause 6.6.2 | As EN 50306-4 |
| Sheath - Thickness | EN 50306-1 Annex 2 | As EN 50306-4 |
| Overall Diameter | EN 50306-1 Clause 6.7 | As EN 50306-4 |
| Identification and Marking | EN 50306-4 Clause 3.2.3 3.2.4 | As EN 50306-4 |
| Durability of Identification | EN 50305 Clause 10.1 | Print markings are durable |
| Mechanical Properties of the Sheath in the State as Delivered | IEC 60811-501 | 240h at 120±2°C Elongation ± 30% Tensile Strength ± 30% From Initial Test |
| Hot Set Test | IEC 60811-507 | 15 minutes at 200±3°C Max elongation 100% under load 25% after unloading |
| Long Term Ageing | EN 50305 Clause 7.3 | 20,000 hours at 125°C |
| Mineral Oil Immersion | IEC 60811-404 | IRM 902, 24h at 100±2°C Elongation ± 30% Tensile Strength ± 30% From Initial Test |
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| Pressure at High Temperature | EN 50305 Clause 7.5 | 4h at 125±2°C Max 50% indentation |
|--------------------------------------|-----------------------|---|
| Bending Test at Low Temperature | IEC 60811-504 | 4h at -40°C No Cracks in Sheath |
| Impact Resistance at Low Temperature | IEC 60811-506 | 2h at -25°C No Cracks |
| Abrasion Resistance | EN 50305 Clause 5.2 | Mean ≥ 150 cycles Minimum 100 Cycles Load 8N |
| Ozone | EN 50305 Clause 7.4.1 | 250 to 300 x 10 ⁻⁶ , 25 ±2°C, 24h No Cracks |

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