

Zerohal 100G

Product Facts

- Meets requirements of VG 95218-20 Type E
- Halogen free, low smoke
- Highly flame retardant
- Flexible, easy to install
- Small size, lightweight (thin wall construction)



Applications

Zerohal 100G wire was originally developed to meet the requirements of German Specification VG 95218-20, Type E primary wire.

The construction is a dual wall combination of TE formulated polymer blends developed to meet the specification requirements while maintaining the desirable features of small size, lightweight, flexibility, non-wrinkling, ease of stripping, compatibility with standard stripping equipment, lack of recoil and mechanical robustness.

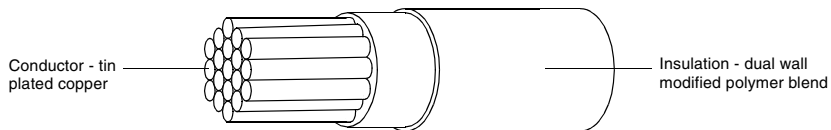
System

- System 100

Physical Characteristics

Handleability

Zerohal 100G wire has been designed for minimum recoil during harnessing operations, to be readily handleable by modern wiring and harnessing techniques and to be easily stripped with standard equipment and tools.



| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
| | ■ | ■ | ■ |

Zerohal 100G (Continued)

Approvals

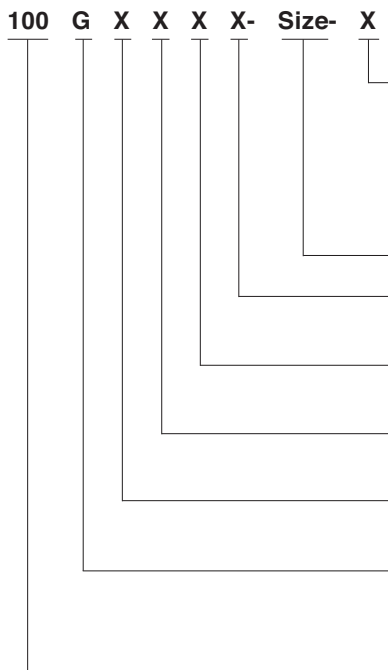
TE Specification WSD912 (Electrical cables and insulated wires for signals and power.
- Part 20: Single core insulated wires.)

Typical Properties

| Test | Method | Typical Value |
|-------------------------------------------|-------------------------------------|-------------------------------------------------------------------|
| Max. operating temperature | VG 95218-20, ASTM D 3032 | 125°C [257°F] (20,000 h) |
| Insulation shrinkage (150°C) | DIN VDE 0472 Pt 628, IEC 811-1-3 | < 0.5% |
| Low temperature bend | VG 95218 - Pt 2 | -55°C [-67 °F] |
| Pressure test at high temperature | DIN VDE 0472 Pt 609, IEC 811-3-1 | 125°C [257°F] < 30% indentation |
| Heat aging (150°C, 6 h) (140°C, 120 h) | DIN VDE 0472 Pt 303, IEC 811-1-2 | No cracking, no dielectric breakdown |
| Voltage rating | VG 95218-20 | 750/1300 V AC |
| Abrasion resistance | VG 95218 - Pt 2 | Pass |
| Insulation blocking (125°C) | VG 95218 - Pt 2 | Pass |
| Voltage withstand (23°C, 2.5 kV rms) | DIN VDE 0472 pt 509 | Pass |
| Insulation resistance | DIN VDE 0472 pt 502, IEC 885-1 | > 500 M ohms. km (20°C [68°F]) > 0.5 M ohms. km (90°C [194°F]) |
| Chemical resistance | | |
| Grease (G-354)* | VG 95218 - Pt 2, 70°C 24h | < 5% diameter change, no dielectric breakdown |
| Hydraulic fluid (H-515, H-544)* | VG 95218 - Pt 2, 50°C 24h | < 5% diameter change, no dielectric breakdown |
| Brake fluid (H-542)* | VG 95218 - Pt 2, 23°C 24h | < 5% diameter change, no dielectric breakdown |
| De-icing fluid (S-745)* | VG 95218 - Pt 2, 23°C 24h | < 5% diameter change, no dielectric breakdown |
| MEK | VG 95218 - Pt 2, 23°C 1h | < 5% diameter change, no dielectric breakdown |
| 70/30 ISO-Octane/ Toluene | VG 95218 - Pt 2, 23°C 24h | < 5% diameter change, no dielectric breakdown |
| Insulation | | |
| Tensile strength | DIN VDE 0472 pt 602, IEC 811-1-1 | > 20 MPa |
| Elongation at break | DIN VDE 0472 pt 602, IEC 811-1-1 | > 200% |

*NATO code. For further details please consult the German Standard VG 95218-20, Type E.

Part Numbering System



Primary Wire Insulation Color

- | | | |
|-----------|------------|------------|
| 0 - Black | 3 - Orange | 7 - Violet |
| 1 - Brown | 4 - Yellow | 8 - Gray |
| 2 - Red | 5 - Green | 9 - White |
| 2L - Pink | 6 - Blue | |

Conductor Size

Conductor Type

- 1 - Tin-plated copper

Number of Conductors

- 1

Class of Wire

- 1 - 750 V equipment wire

Construction

- 0 - Primary wire

Wire Type

- G - Meeting the performance requirements of German Specification VG 95218-20, Type E

Basic Specification Number

Part Numbering System is a cross reference only and not meant for part creation.

Zerohal 100G (Continued)

Environmental Properties

Fluid Resistance

Zerohal 100G wire demonstrates an outstanding balance of resistance to a wide range of commonly used solvents, fluids and lubricants.

Voltage Rating

Zerohal 100G wire is a 750/1300 V AC rated wire.

Fire Hazard Characteristics

Zerohal 100G wire is a halogen free insulation system and does not contain phosphorus or sulphur. It meets the toxicity, smoke density, halogen content, corrosivity and flammability requirements of VG 95218-20, Type E.

Flammability

Zerohal 100G wire meets the flammability/burning behavior requirements of VG 95218-20, Type E.

Fire Hazard Properties

| Test | Method | Typical value |
|---------------------------------|--------------------------------|--------------------------------------------|
| Toxicity | Def. Standard 02-713 | 3.5 |
| Smoke density | IEC 1034 Pt 1 and 2 | 95% light transmittance |
| Halogen content | DIN VDE 0472 pt 815 | Non-detected |
| Corrosivity of combustion gases | DIN VDE 0472 pt 813, IEC 754-2 | 5.0 pH, <4 µS/mm conductivity |
| Flammability | VG 95218 Pt 2 | < 15 sec afterburn < 150 mm burn length |

Ordering Information

| Part Description | Nominal Cross Sectional Area mm ² | Nominal Conductor Stranding No./Dia (mm) | Equivalent AWG Size | Conductor Diameter (mm) | | Minimum Insulation Thickness (mm) | Maximum Resistance @ 20° C (ohm/km) | Diameter (mm) | | | Maximum Weight (kg/km) |
|------------------|----------------------------------------------|------------------------------------------|---------------------|-------------------------|------|-----------------------------------|-------------------------------------|------------------|--------|------------------|------------------------|
| | | | | Min. | Max. | | | Lower Spec Limit | Target | Upper Spec Limit | |
| 100G0111-0.15-* | 0.15 | 19/0.10 | 26 | 0.45 | 0.50 | 0.20 | 133.0 | 0.98 | 1.03 | 1.08 | 2.59 |
| 100G0111-0.25-* | 0.25 | 19/0.13 | 24 | 0.55 | 0.63 | 0.20 | 83.30 | 1.09 | 1.14 | 1.19 | 3.59 |
| 100G0111-0.40-* | 0.40 | 19/0.16 | 22 | 0.73 | 0.79 | 0.20 | 50.50 | 1.28 | 1.33 | 1.38 | 5.18 |
| 100G0111-0.50-* | 0.50 | 19/0.18 | — | 0.82 | 0.90 | 0.20 | 40.10 | 1.37 | 1.40 | 1.45 | 6.60 |
| 100G0111-0.60-* | 0.60 | 19/0.20 | 20 | 0.95 | 1.01 | 0.20 | 31.10 | 1.47 | 1.52 | 1.57 | 7.40 |
| 100G0111-0.75-* | 0.75 | 19/0.23 | — | 1.04 | 1.15 | 0.20 | 24.70 | 1.59 | 1.60 | 1.65 | 8.90 |
| 100G0111-1.00-* | 1.00 | 19/0.25 | 18 | 1.17 | 1.26 | 0.20 | 20.00 | 1.69 | 1.75 | 1.80 | 10.7 |
| 100G0111-1.20-* | 1.20 | 19/0.29 | 16 | 1.32 | 1.42 | 0.20 | 15.30 | 1.88 | 1.93 | 1.98 | 13.6 |
| 100G0111-1.50-* | 1.50 | 37/0.23 | 15 | 1.46 | 1.58 | 0.20 | 12.90 | 2.03 | 2.08 | 2.13 | 16.0 |
| 100G0111-2.00-* | 2.00 | 37/0.25 | 14 | 1.68 | 1.82 | 0.20 | 9.80 | 2.31 | 2.36 | 2.41 | 20.3 |
| 100G0111-2.50-* | 2.50 | 37/0.29 | 13 | 1.85 | 2.01 | 0.25 | 8.01 | 2.50 | 2.55 | 2.63 | 25.7 |
| 100G0111-3.00-* | 3.00 | 37/0.32 | 12 | 2.12 | 2.24 | 0.25 | 6.40 | 2.70 | 2.78 | 2.86 | 31.0 |
| 100G0111-4.00-* | 4.00 | 56/0.30 | — | 2.41 | 2.57 | 0.25 | 4.89 | 3.01 | 3.09 | 3.17 | 43.6 |