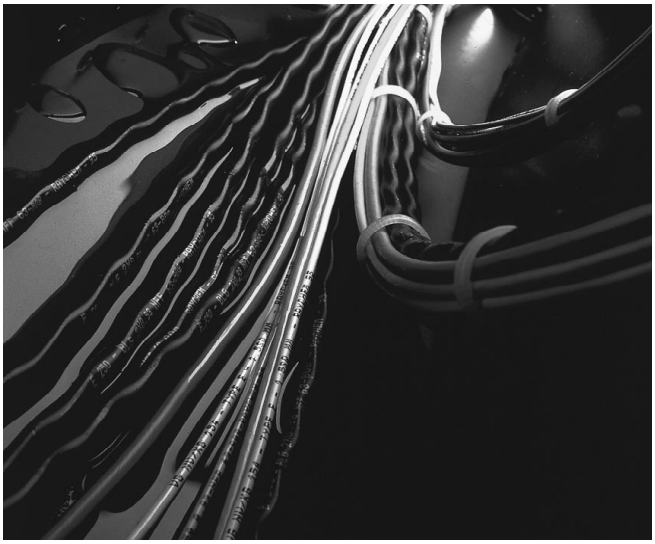
Fax-on-Demand: (800) 260-9099
(650) 361-6523

Before ordering check with factory for most current data.

Zerohal 100

Type 100G and Type 100A wire and cable



Applications

Raychem Zerohal 100G wire and cable have been developed to meet the requirements of many national and industry standards, including specification VG 95218-20 Type E. Zerohal 100A is supplied in AWG conductor sizes.

The construction is a dual-wall combination of Raychem-formulated polymer blends developed to meet specification requirements while having small size, light weight, and flexibility. It is nonwrinkling, and offers ease of stripping, compatibility with standard stripping equipment, lack of recoil, and mechanical robustness.

Features/Benefits

- Qualified to VG 95218-20, Type E.
- Halogen-free, low smoke.
- Highly flame-retardant.
- Flexible, easy to install.
- Small size, light weight (thin-wall construction).

Specifications/Approvals

Series	Military	Raychem
Type 100G	VG 95218-20, Type E (electrical cables and insulated wires for low frequency - Part 20: single-core insulated wires)	WSD 828 and WSD 912
Type 100A		WCD 3107

Zerohal 100G

Raychem part number	VG 95218 part number	Conductor: Cross-sectional area (mm^2)	Conductor: Nominal stranding no. x dia. (mm)	Conductor: Diameter (min.–max.) in mm *(in)*	Insulated wire: Maximum resistance at 20°C in ohms/km *(ohms/1000 ft)*	Insulated wire: Diameter (min.–max.) in mm *(in)*	Insulated wire: Maximum weight in g/m *(lbs/1000 ft)*
100G0111-0.25-*	VG 95218 T020-E01*	0.25	19 x 0.13	0.55–0.63 *(0.022–0.025)*	82.00 *(25.00)*	1.09–1.19 *(0.043–0.047)*	3.59 *(2.41)*
100G0111-0.40-*	VG 95218 T020-E02*	0.40	19 x 0.16	0.74–0.79 *(0.029–0.031)*	50.50 *(15.40)*	1.28–1.39 *(0.050–0.055)*	5.17 *(3.47)*
100G0111-0.50-*	VG 95218 T020-E03*	0.50	19 x 0.18	0.82–0.90 *(0.032–0.035)*	40.10 *(12.23)*	1.37–1.47 *(0.054–0.058)*	6.60 *(4.43)*
100G0111-0.60-*	VG 95218 T020-E04*	0.60	19 x 0.20	0.95–1.01 *(0.037–0.040)*	31.10 *(9.48)*	1.47–1.57 *(0.058–0.062)*	7.54 *(5.06)*
100G0111-0.75-*	VG 95218 T020-E05*	0.75	19 x 0.23	1.04–1.15 *(0.041–0.045)*	26.70 *(8.14)*	1.59–1.70 *(0.063–0.067)*	8.90 *(5.98)*
100G0111-1.00-*	VG 95218 T020-E06*	1.00	19 x 0.25	1.17–1.26 *(0.046–0.050)*	20.00 *(6.10)*	1.69–1.80 *(0.067–0.071)*	10.73 *(7.21)*
100G0111-1.20-*	VG 95218 T020-E07*	1.20	19 x 0.29	1.32–1.42 *(0.052–0.056)*	15.30 *(4.66)*	1.88–1.98 *(0.074–0.078)*	13.59 *(9.13)*
100G0111-1.50-*	VG 95218 T020-E08*	1.50	37 x 0.23	1.46–1.58 *(0.057–0.062)*	13.70 *(4.18)*	2.03–2.13 *(0.080–0.084)*	15.96 *(10.72)*
100G0111-2.00-*	VG 95218 T020-E09*	2.00	37 x 0.25	1.68–1.82 *(0.066–0.072)*	10.50 *(3.20)*	2.31–2.41 *(0.091–0.095)*	20.29 *(13.63)*
100G0111-2.50-*	VG 95218 T020-E01	2.50	37 x 0.29	1.85–2.01 *(0.073–0.079)*	8.21 *(2.50)*	2.48–2.63 *(0.098–0.104)*	25.65 *(17.22)*
100G0111-3.00-*	VG 95218 T020-E01	3.00	37 x 0.32	2.12–2.24 *(0.083–0.088)*	6.58 *(2.01)*	2.70–2.86 *(0.106–0.113)*	31.00 *(20.82)*
100G0111-4.00-*	–	4.00	56 x 0.30	2.41–2.56 *(0.095–0.101)*	4.86 *(1.48)*	3.01–3.16 *(0.119–0.124)*	43.48 *(29.20)*

Zerohal 100A

Part number	Wire size (AWG)	Conductor: Nominal stranding (no/AWG)	Conductor: Diameter (min.–max.) in mm *(in)*	Insulated wire: Maximum resistance at 20°C in ohms/km *(ohms/1000 ft)*	Insulated wire: Diameter in mm (*in*)	Insulated wire: Maximum weight in kg/km *(lb/1000 ft)*
100A0111-24-*	24	19 x 36	0.55–0.63 *(0.022–0.025)*	84.3 *(25.7)*	1.09–1.19 *(0.043–0.047)*	3.59 *(2.41)*
100A0111-22-*	22	19 x 34	0.74–0.79 *(0.029–0.031)*	52.2 *(15.9)*	1.26–1.33 *(0.049–0.052)*	4.98 *(3.34)*
100A0111-20-*	20	19 x 32	0.94–1.01 *(0.037–0.040)*	32.4 *(9.9)*	1.46–1.54 *(0.058–0.061)*	7.42 *(4.98)*
100A0111-18-*	18	19 x 30	1.17–1.26 *(0.046–0.050)*	20.4 *(6.2)*	1.69–1.79 *(0.067–0.071)*	10.89 *(7.31)*
100A0111-16-*	16	19 x 29	1.32–1.35 *(0.052–0.053)*	15.8 *(4.8)*	1.84–1.94 *(0.072–0.076)*	13.70 *(9.19)*
100A0111-14-*	14	19 x 27	1.65–1.79 *(0.065–0.070)*	10.0 *(3.1)*	2.27–2.39 *(0.089–0.094)*	21.53 *(14.45)*
100A0111-12-*	12	37 x 28	2.08–2.24 *(0.082–0.088)*	6.63 *(2.0)*	2.71–2.86 *(0.107–0.113)*	28.14 *(18.89)*
100A0111-10-*	10	37 x 26	2.69–2.83 *(0.106–0.111)*	4.13 *(1.3)*	3.33–3.51 *(0.131–0.138)*	49.58 *(33.27)*

Notes:
- The VG 95218-20, Type E specification defines that the insulation color shall be black, brown, red, orange, yellow, green, blue, violet, gray, white, or yellow/green only. To ensure full compliance with the specification, order the VG 95218 part number complete with color code.
- Raychem Type 100G wire meets the performance requirements of VG 95218-20, Type E, using metric conductor stranding and sizes.
- Raychem Type 100A wire meets the performance requirements of Raychem specification WCD 3107 using AWG conductor stranding and sizes.

*Color code in accordance with Part Numbering System on page 10-20.

Typical Properties (Raychem Type 100G wire)

Test	Method	Typical Value
Max. operating temperature	VG 95218-20, ASTM D 3032	125°C (10,000 h)
Insulation shrinkage (160°C)	DIN VDE 0472 Pt 628, IEC 811-1-3	<0.5%
Low-temperature bend	VG 95218 - Pt 2	–55°C
Pressure test at high temperature	DIN VDE 0472 Pt 609, IEC 811-3-1	125°C, < 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	600 V rms
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) >0.5 M ohms/km (90°C)
Chemical resistance		
Grease (G-354)*	VG 95218 - Pt 2, 70°C 24 h	<5% diameter change, no dielectric breakdown
Hydraulic fluid (h-515, H-544)*	VG 95218 - Pt 2, 50°C 24 h	<5% diameter change, no dielectric breakdown
Brake fluid (H-542)*	VG 95218 - Pt 2, 23°C 24 h	<5% diameter change, no dielectric breakdown
De-icing fluid (S-745)*	VG 95218 - Pt 2, 23°C 24 h	<5% diameter change, no dielectric breakdown
MEK	VG 95218 - Pt 2, 23°C 24 h	<5% diameter change, no dielectric breakdown
70/30 ISO-Octane/Toluene	VG 95218 - Pt 2, 23°C 24 h	<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%

Note:
For further details please consult VG 95218-20, Type E.
*NATO Code.

Physical Characteristics

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

Environmental Properties

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

Fire Hazard Characteristics
Zerohal 100 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.

Voltage rating
Zerohal 100 wire is a 600 V rms rated wire.

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

Fire Hazard Properties

Test	Method	Typical Value
Toxicity	NES 713	3.5
Smoke density	IEC 1034 Pt 1 and 2	95% light transmission
Halogen content	DIN VDE 0472 Pt 815	Not 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

Part Numbering System

100 X X X X X Size – X

Primary wire insulation color
0 = Black
1 = Brown
2 = Red
3 = Orange
4 = Yellow
5 = Green
6 = Blue
7 = Violet
8 = Grey
9 = White
Additional number after base color indicates stripe.

Conductor size
(mm^2, AWG)

Conductor type
1 = Tin-plated copper

Number of conductors
1

Class of wire
1 = 600-V equipment wire

Construction
0 = Primary wire

Wire type
G = Meets the performance requirements of VG 95218-20, Type E, metric conductor
A = AWG conductor

Basic specification number