



Zerohal 100G



Applications

Raychem Zerohal 100G has been developed to meet the requirements of German Specification VG 952 18-20, Type E primary wire.

The construction is a dual wall combination of Raychem 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.

Features and benefits

- Qualified to VG 952 18-20, Type E.
- Halogen free, low smoke.
- Highly flame retardant.
- Flexible, easy to install.
- Small size, lightweight (thin wall construction).

System

- System 100

Physical characteristics

Handleability

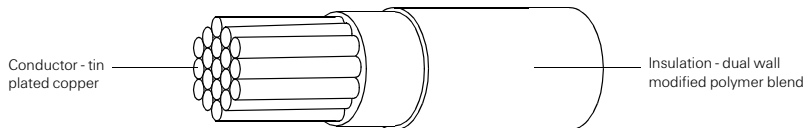
Zerohal 100G has been designed for minimum recoil during harnessing operations, to be readily handleable by modern wiring and harnessing techniques and to be easily stripped with standard equipment and tools.

Available in:

Americas

Europe

Asia Pacific



Fax-on-demand

US only (800) 260-9099

Outside US (650) 257-2301

Visit our website at www.tycoelectronics.com**Approvals**

VG 95218-20, Type E (Electrical cables and insulated wires for low frequency

-Part 20: Single core insulated wires.)

Typical properties

Test	Method	Typical value
Max. operating temperature	VG 95218-20, ASTM D 3032	125°C (20,000 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 ageing (150°C, 6 h)	DIN VDE 0472 Pt 303,	No cracking, no dielectric
(140°C, 120 h)	IEC 811-1-2	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) > 0.5 M ohms. km (90°C)
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.

**Users should independently evaluate the suitability of the product for their application.
Before ordering check with factory for most current data.**

Zerohal 100G (cont'd.)

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 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 952 18-20, Type E.

Flammability

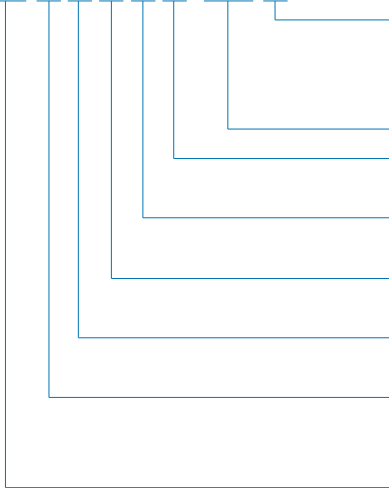
Zerohal 100G meets the flammability/burning behavior requirements of VG 952 18-20, Type E.

Fire hazard properties

Test	Method	Typical value
Toxicity	NES 713	3.5
Smoke density	IEC 1034 Pt 1 and 2	95% light 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 952 18 Pt 2	< 15 sec afterburn < 150 mm burn length

Part numbering system

100 G X X X X- Size- X



Primary wire insulation color

0=Black 1=Brown 2=Red 2L=Pink 3=Orange 4=Yellow

5=Green 6=Blue 7=Violet 8=Grey 9=White

NB. VG 952 18 T020-EXXX wire only available in colors 0, 1, 4, 5, 6, 9

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 952 18-20, Type E

Basic specification number

Fax-on-demand

US only (800) 260-9099

Outside US (650) 257-2301

Visit our website at www.tycoelectronics.com**Ordering information**

Conductor		Insulated wire							
Nominal cross sectional area	Stranding No x nom dia (mm)	Diameter (mm)		Maximum resistance at 20°C ohms/km	Diameter (mm)		Maximum weight g/m	VG 95218	Raychem
		min.	max.		min.	max.		part number	part number
0.40	19x0.16	0.74	0.79	50.50	1.28	1.39	5.17	VG 95218 T020-E02*	100G0111-0.40*
0.50	19x0.18	0.82	0.90	40.10	1.37	1.47	6.60	VG 95218 T020-E03*	100G0111-0.50*
0.60	19x0.20	0.95	1.01	31.10	1.47	1.57	7.54	VG 95218 T020-E04*	100G0111-0.60*
0.75	19x0.23	1.04	1.15	26.70	1.59	1.70	8.90	VG 95218 T020-E05*	100G0111-0.75*
1.00	19x0.25	1.17	1.26	20.00	1.69	1.80	10.73	VG 95218 T020-E06*	100G0111-1.00*
1.20	19x0.29	1.32	1.42	15.30	1.88	1.98	13.59	VG 95218 T020-E07*	100G0111-1.20*
1.50	37x0.23	1.46	1.58	13.70	2.03	2.13	15.96	VG 95218 T020-E08*	100G0111-1.50*
2.00	37x0.25	1.68	1.82	10.50	2.31	2.41	20.29	VG 95218 T020-E09*	100G0111-2.00*
2.50	37x0.29	1.85	2.01	8.21	2.48	2.63	25.65	VG 95218 T020-E10*	100G0111-2.50*
3.00	37x0.32	2.12	2.24	6.58	2.70	2.86	31.00	VG 95218 T020-E11*	100G0111-3.00*
4.00	56x0.30	2.41	2.56	4.86	3.01	3.16	43.48	-	100G0111-4.00*

The VG 95218-20, Type E specification defines that the insulation color shall be black, brown, yellow/green, blue or white only.

To ensure full compliance with the specification, order the VG 95218 part number complete with color code.

Raychem Type 100G wire, meeting the performance requirements of VG 95218-20, Type E, is available in other colors (see part numbering system).

To order these colors, order the Raychem 100G part number.

*Color code in accordance with part number system.