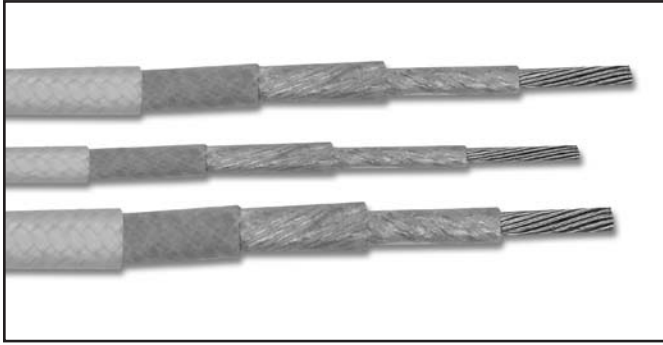


## MIL-W-25038/1 (Thermazone I) wire—high-temperature, abrasion resistant



**MIL-W-25038/1 (Thermazone I)** wires are designed for critical circuit applications where wires must operate in extremely harsh environments, under vibration, and with direct flame exposure.

This heavy-duty, non-asbestos construction offers excellent mechanical performance and abrasion resistance.

**Performance:**

**Voltage rating:** 600V.

**Temperature rating:** -55 to 260° C.

**Construction Details**

**Jacket:** PTFE-coated fiberglass braid and finisher.

**Insulation:** Composite inorganic dielectric.

**Conductor:** 27% nickel-coated copper.

**Colors:** Color coded to MIL-STD-104.

**Identification:** Surface printed per MIL-W-25038.

**Dimensions, Resistance, and Weights—M25038/1 (Thermazone I)**

M25038 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M25038/1-12-*	12	19/25	.090 (2.29)	.165 (4.19)	.185 (4.70)	35.0 (52.1)	2.78 (9.12)	12-FWIK-1925
M25038/1-14-*	14	19/27	.072 (1.83)	.150 (3.81)	.170 (4.32)	25.0 (37.2)	4.32 (14.2)	14-FWIK-1927
M25038/1-16-*	16	19/29	.056 (1.42)	.127 (3.23)	.147 (3.73)	19.0 (28.3)	6.85 (22.5)	16-FWIK-1929
M25038/1-18-*	18	19/30	.050 (1.27)	.119 (3.02)	.135 (3.43)	15.0 (22.3)	9.14 (30.0)	18-FWIK-1930
M25038/1-20-*	20	19/32	.040 (1.02)	.109 (2.77)	.125 (3.18)	12.0 (17.9)	14.6 (47.9)	20-FWIK-1932
M25038/1-22-*	22	19/34	.031 (.79)	.100 (2.54)	.116 (2.95)	10.0 (14.9)	23.7 (77.7)	22-FWIK-1934

Dimensions in inches (mm).

Weights in pounds/1000 feet (Kg/1000 M) max.

Resistance in Ω/1,000 feet (Ω/Km), @20° C.

\* Add color coding per MIL-STD-104 (see page 26).

All values are nominal unless otherwise indicated.

## MIL-W-25038/3 (Thermazone IIIK, IIIG) wire—high-temperature, abrasion resistant

MIL-W-25038/3 (Thermazone IIIK) wires are designed for critical circuit applications where wires must operate in extremely harsh environments, under vibration, and with direct flame exposure.

This heavy-duty, non-asbestos construction offers excellent mechanical performance and abrasion resistance, and is compatible with MIL-C-38999 connectors.

These wires are ideal for use in such aerospace applications as engine compartments, fire-detection circuits, flight-critical circuits, and fly-by-wire systems.

Thermazone IIIG wires also meet or exceed the requirements of MIL-W-25083/3, but provide this performance at a lower cost through the use of an innovative insulation system (see construction details at right).

### Performance:

**Voltage rating:** 600V.

**Temperature rating:** -55 to 260° C.



### Construction Details

**Jacket:** Fused high-performance PTFE tape. (Also available with our unique **Seamless Wrap** PTFE tape; see page 2 for details.)

#### Insulation:

**Thermazone IIIK:** Outer: PTFE/polyimide tape fluid barrier.  
Inner: Inorganic dielectric.

**Thermazone IIIG:** Outer: PTFE-coated fiberglass fluid barrier.  
Inner: Inorganic dielectric.

**Conductor:** 12–18 AWG: 27% nickel-coated copper.  
20–22 AWG: 27% nickel-coated high-strength copper alloy.

**Colors:** Color coded to MIL-STD-104.

**Identification:** Surface printed per MIL-W-25038.

### Dimensions, Resistance, and Weights—M25038/3 (Thermazone IIIK)

M25038 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M25038/3-12-*	12	19/25	.090 (2.29)	.100 (2.54)	.142 (3.61)	28.0 (41.7)	2.78 (9.12)	12-FWKK-1925
M25038/3-14-*	14	19/27	.072 (1.83)	.097 (2.46)	.123 (3.12)	19.5 (29.0)	4.32 (14.2)	14-FWKK-1927
M25038/3-16-*	16	19/29	.056 (1.42)	.068 (1.73)	.103 (2.62)	13.5 (20.1)	6.66 (22.5)	16-FWKK-1929
M25038/3-18-*	18	19/30	.050 (1.27)	.065 (1.65)	.097 (2.46)	10.5 (15.6)	8.50 (30.0)	18-FWKK-1930
M25038/3-20-*	20	19/32	.040 (1.02)	.048 (1.22)	.083 (2.11)	9.0 (13.4)	15.3 (47.9)	20-FWKK-1932
M25038/3-22-*	22	19/34	.031 (.79)	.040 (1.02)	.054 (1.37)	4.2 (6.2)	23.7 (77.7)	22-FWKK-1934

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M) max. Resistance in Ω/1,000 feet (Ω/Km), @20° C.

\* Add color coding per MIL-STD-104 (see page 26). All values are nominal unless otherwise indicated.

### Dimensions, Resistance, and Weights—M25038/3 (Thermazone IIIG)

M25038 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M25038/3-12-*	12	19/25	.090 (2.29)	.100 (2.54)	.142 (3.61)	28.0 (41.7)	2.78 (9.12)	12-FWGG-1925
M25038/3-14-*	14	19/27	.072 (1.83)	.097 (2.46)	.123 (3.12)	19.5 (29.0)	4.32 (14.2)	14-FWGG-1927
M25038/3-16-*	16	19/29	.056 (1.42)	.068 (1.73)	.103 (2.62)	13.5 (20.1)	6.66 (22.5)	16-FWGG-1929
M25038/3-18-*	18	19/30	.050 (1.27)	.065 (1.65)	.097 (2.46)	10.5 (15.6)	8.50 (30.0)	18-FWGG-1930
M25038/3-20-*	20	19/32	.040 (1.02)	.048 (1.22)	.083 (2.11)	9.0 (13.4)	15.3 (47.9)	20-FWGG-1932
M25038/3-22H-*	22	19/34	.031 (.79)	.055 (1.40)	.075 (1.91)	6.0 (8.9)	23.7 (77.7)	22-FWGG-1934

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M) max. Resistance in Ω/1,000 feet (Ω/Km), @20° C.

\* Add color coding per MIL-STD-104 (see page 26). All values are nominal unless otherwise indicated.