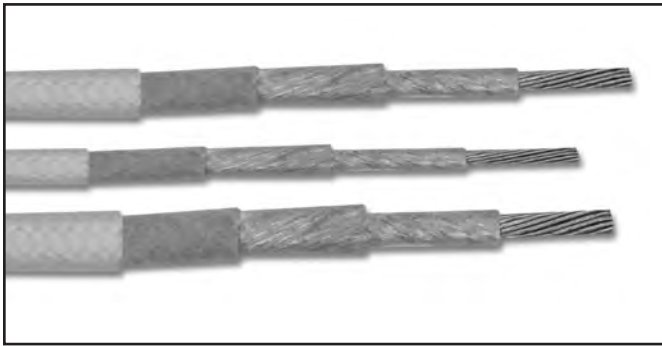


MIL-W-25038/1 (*Thermazone I*) wire—high-temperature, abrasion resistant



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.