

Table 402-3. Fixture Wire

Trade Name	Type Letter	Insulation	AWG	Thickness of Insulation	Mils	Outer Covering	Max. Operating Temp.	Application Provisions
Asbestos Covered Heat-Resistant Fixture Wire	AF	Impregnated Asbestos or Moisture-Resistant Insulation and Impregnated Asbestos	18-14	—	30	None	150°C 302°F	Fixture wiring. Limited to 300 volts and indoor dry locations.
			12-10	20	10			
Heat-Resistant Rubber-Covered Fixture Wire Flexible Stranding	FFH-2	Heat-Resistant Rubber	18-16	.....	30	Nonmetallic Covering	75°C 167°F	Fixture wiring, and as permitted in Section 725-16.
		Heat-Resistant Latex Rubber	18-16	.....	18			
ECTFE Solid or 7-Strand	HF	Ethylene Chloro-Trifluoro-Ethylene	18-14	.....	15	None	150°F 302°F	Fixture wiring, and as permitted in Section 725-16
ECTFE Flexible Stranding	HFF	Ethylene Chloro-Trifluoro-Ethylene	18-14	.....	15	None	150°C 302°F	Fixture wiring, and as permitted in Section 725-16.

Table 402-3 (Continued)

Trade Name	Type Letter	Insulation	AWG	Thickness of Insulation	Mils	Outer Covering	Max. Operating Temp.	Application Provisions
Tape Insulated Fixture Wire—Solid or 7-Strand	KF-1	Aromatic Polyimide Tape	18-10	.....	5.5	None	200°C 392°F	Fixture Wiring. Limited to 300 volts.
	KF-2	Aromatic Polyimide Tape	18-10	.....	8.4	None	200°C 392°F	Fixture wiring, and as permitted in Sections 725-16 and 760-16.
Tape Insulated Fixture Wire—Flexible Stranding	KFF-1	Aromatic Polyimide Tape	18-10	.....	5.5	None	200°C 392°F	Fixture Wiring. Limited to 300 volts.
	KFF-2	Aromatic Polyimide Tape	18-10	.....	8.4	None	200°C 392°F	Fixture wiring, and as permitted in Section 725-16.
Perfluoro-alkoxy—Solid or 7-Strand (Nickel or Nickel-Coated Copper)	PAF	Perfluoro-alkoxy	18-14	.....	20	None	250°C 482°F	Fixture wiring, and as permitted in Sections 725-16 and 760-16. (Nickel or nickel-coated copper)
Perfluoro-alkoxy—Flexible Stranding	PAFF	Perfluoro-alkoxy	18-14	.....	20	None	150°C 302°F	Fixture wiring, and as permitted in Section 725-16.
Fluorinated Ethylene Propylene Fixture Wire—Solid or 7-Strand	PF	Fluorinated Ethylene Propylene	18-14		20	None	200°C 392°F	Fixture wiring, and as permitted in Sections 725-16 and 760-16.

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Table 310-13. (Continued)

Trade Name	Type Letter	Max. Operating Temp.	Application Provisions	Insulation	AWG or kcmil	Thickness of Insulation Mils	Outer Covering****
Moisture- and Heat-Resistant or Cross-Linked Synthetic Polymer	RHW-2	90° C 194° F	Dry and wet locations.	Moisture- and Heat-Resistant or Cross-Linked Synthetic Polymer	14-10 45 8-2 60 1-4/0 80 213-500 95 501-1000 110 1001-2000 125 For 601-2000 volts, see Table 310-62.	45 60 80 95 110 125	Moisture-resistant, flame-retardant, nonmetallic covering*
Silicone-Asbestos	SA	90° C 194° F 125° C 257° F	Dry and damp locations. For special application.†	Silicone Rubber	14-10 45 8-2 60 1-4/0 80 213-500 95 501-1000 110 1001-2000 125	45 60 80 95 110 125	Asbestos, glass, or other suitable braid material
Synthetic Heat-Resistant	SIS††	90° C 194° F	Switchboard wiring only.	Heat-Resistant Cross-Linked Synthetic Polymer	14-10 30 8 45 6-2 60 1-4/0 80	30 45 60 80	None
Thermoplastic and Asbestos	TA	90° C 194° F	Switchboard wiring only.	Thermoplastic and Asbestos	Th'pl' Asb. 14-8 20 20 6-2 30 25 1-4/0 40 30	20 20 30 25 40 30	Flame-retardant, nonmetallic covering
Thermoplastic and Fibrous Outer Braid	TBS	90° C 194° F	Switchboard wiring only.	Thermoplastic	14-10 30 8 45 6-2 60 1-4/0 80	30 45 60 80	Flame-retardant, nonmetallic covering

*Some rubber insulations do not require an outer covering.

****Some insulations do not require an outer covering.

†Where environmental conditions require maximum conductor operating temperatures above 90°C.

††Insulation and outer coverings that meet the requirements of flame-retardant, limited-smoke and are so listed shall be permitted to be designated limited-smoke with the suffix /LS after the Code type designation.

Table 310-13. (Continued)

Extended Polytetrafluoroethylene	TFE	250° C 482° F	Dry locations only. Only for leads within apparatus or within raceways connected to apparatus, or as open wiring. (Nickel or nickel-coated copper only.)	Extruded Polytetrafluoroethylene	14-10 20 8-2 30 1-4/0 45	20 30 45	None
Heat-Resistant Thermoplastic	THHN††	90° C 194° F	Dry and damp locations.	Flame-Retardant, Heat-Resistant Thermoplastic	14-12 15 10 20 8-6 30 4-2 40 1-4/0 50 250-500 60 501-1000 70	15 20 30 40 50 60 70	Nylon jacket or equivalent
Moisture- and Heat-Resistant Thermoplastic	THHW	75° C 167° F 90° C 194° F	Wet location. Dry location.	Flame-Retardant, Moisture- and Heat-Resistant Thermoplastic	14-10 45 8-2 60 1-4/0 80 213-500 95 501-1000 110	45 60 80 95 110	None
Moisture- and Heat-Resistant Thermoplastic	THW††, †††	75° C 167° F 90° C 194° F	Dry and wet locations. Special applications within electric discharge lighting equipment. Limited to 1000 open-circuit volts or less. (Size 14-8 only as permitted in Section 410-31.)	Flame-Retardant, Moisture- and Heat-Resistant Thermoplastic	14-10 45 8-2 60 1-4/0 80 213-500 95 501-1000 110 1001-2000 125	45 60 80 95 110 125	None

††Insulation and outer coverings that meet the requirements of flame-retardant, limited-smoke and are so listed shall be permitted to be designated limited-smoke with the suffix /LS after the Code type designation.

†††Listed wire types designated with the suffix "-2," such as RHW-2, shall be permitted to be used at a continuous 90°C operating temperature, wet or dry.