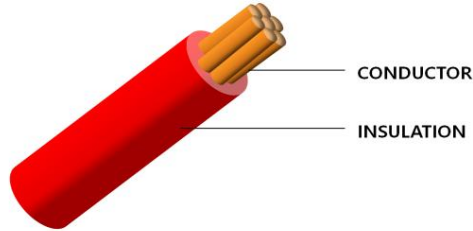


THERMOSET- INSULATED WIRE UL TYPE

RHH, RHHW, RHHW-2, XHH, XHHW, XHHW-2, SIS

SCOPE AND DEFINITIONS

This standard specifies the requirements for single-conductor, thermoset-insulated wires and cables rate 600V, 1000V, 2000V.



APPLICATION

Thermoset-insulated wires are generally used in the alternating current (AC) electrical distribution systems of residential, commercial and industrial buildings and installations.

These wires are single conductor wires that are intended for lighting and power applications in accordance with the National Electric Code and other general purpose wiring applications.

CONDUCTORS

- Solid or Stranded bare copper per ASTM-B3, ASTM-B8 and ASTM-B787

INSULATION (Compound listed by UL)

- Cross-linked polyethylene(XLPE).
- Heat and moisture-resistant
- Oil and Gasoline resistant
- Sunlight resistant
- Low temperature rate -40 °C
- Flame retardant compound per UL 44

PRODUCT SERVICE DESCRIPTION

- FLAME RETARDANT : VW-1 / FT2(Horizontal flame) / FV-1(Vertical flame)
- SUNLIGHT RESISTANCE
- COLD BEND -40°C

STANDARDS & REFERENCE

- ASTM B8 Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
- ASTM B3 Standard Specification for Soft or Annealed Copper Wire
- UL 1581 Reference Standard for Electrical Wires, Cables, and Flexible Cords
- UL 2556 Wire and Cable Test Methods
- UL 44 Thermoset-Insulated Wires and Cables

PRODUCT TYPE AND RATE

Thermoset-insulated wire is rated 600V, 1000V, 2000V and is designated as follows:

RHW	Indicates a single conductor having a thermoset insulation, with or without a nonmetallic covering, rated 75°C dry, 75°C wet and V rate 600V or 1kV, 2kV.
RHW-2	Indicates a single conductor having a thermoset insulation, with or without a nonmetallic covering, rated 90°C dry, 90°C wet and V rate 600V or 1kV, 2kV.
RHH	Indicates a single conductor having a thermoset insulation, with or without a nonmetallic covering, rated 90°C dry only and V rate 600V or 1kV, 2kV.
XHH	Indicates a single conductor having a cross-linked synthetic polymer insulation with no overall covering provided, rated 90°C dry and V rate 600V or 1kV.
XHHW	Indicates a single conductor having a cross-linked synthetic polymer insulation with no overall covering provided, rated 90°C dry, 75°C wet and V rate 600V or 1kV.
XHHW-2	Indicates a single conductor having a cross-linked synthetic polymer insulation with no overall covering provided, rated 90°C dry, 90°C wet and V rate 600V or 1kV.
SIS	Indicates a single conductor having thermosetting insulation with no overall covering provided rated 90°C dry, for switchboard wiring only and V rate 600V or 1kV.



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THERMOSET- INSULATED WIRE UL TYPE

RHH, RHHW, RHHW-2, XHH, XHHW, XHHW-2, SIS

SIZE OF PRODUCT (TYPE : 600V or 1000V(*) - XHH, XHHW, XHHW-2)

AWG or kcmil	Cross-sectional Area	Number of Strands	Nominal diameter of conductor	Insulation Thickness	Overall Diameter
	mm ²	EA	mm	mm	mm
14AWG SOL	2.08	1	1.63	0.76	3.15
12AWG SOL	3.31	1	2.05	0.76	3.57
10AWG SOL	5.26	1	2.59	0.76	4.11
14AWG	2.08	7 or 19	1.85	0.76	3.37
12AWG	3.31	7	2.32	0.76	3.84
10AWG	5.26	7	2.95	0.76	4.47
8AWG	8.37	7	3.71	1.14	5.99
6AWG	13.3	7	4.67	1.14	6.95
4AWG	21.2	7	5.89	1.14	8.17
3AWG	26.7	7	6.60	1.14	8.88
2AWG	33.6	19	7.42	1.14	9.70
1AWG	42.4	19	8.43	1.40	11.23
1/0AWG	53.5	19	9.45	1.40	12.25
2/0AWG	67.4	19	10.62	1.40	13.42
3/0AWG	85.0	19	11.94	1.40	14.74
4/0AWG	107	19	13.41	1.40	16.21
250KCMIL	127	37	14.60	1.65	17.90
300KCMIL	152	37	16.00	1.65	19.30
350KCMIL	177	37	17.30	1.65	20.60
400KCMIL	203	37	18.49	1.65	21.79
450KCMIL	228	37	19.61	1.65	22.91
500KCMIL	253	37	20.65	1.65	23.95
550KCMIL	279	61	21.72	2.03	25.78
600KCMIL	304	61	22.68	2.03	26.74
650KCMIL	329	61	23.60	2.03	27.66
700KCMIL	355	61	24.49	2.03	28.55
750KCMIL	380	61	25.35	2.03	29.41
800KCMIL	405	61	26.16	2.03	30.22
900KCMIL	456	61	27.79	2.03	31.85
1000KCMIL	507	61	29.26	2.03	33.32

(*) 1000V = Applies to the United States only



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THERMOSET- INSULATED WIRE UL TYPE

RHH, RHHW, RHHW-2, XHH, XHHW, XHHW-2, SIS

SIZE OF PRODUCT (TYPE : 600V or 1000V(*) - RHH, RHHW, RHHW-2)

AWG or kcmil	Cross-sectional Area	Number of Strands	Nominal diameter of conductor	Insulation Thickness	Overall Diameter
	mm ²	EA	mm	mm	mm
14AWG SOL	2.08	1	1.63	1.14	3.91
12AWG SOL	3.31	1	2.05	1.14	4.33
10AWG SOL	5.26	1	2.59	1.14	4.87
14AWG	2.08	7 or 19	1.85	1.14	4.13
12AWG	3.31	7	2.32	1.14	4.60
10AWG	5.26	7	2.95	1.14	5.23
8AWG	8.37	7	3.71	1.52	6.75
6AWG	13.3	7	4.67	1.52	7.71
4AWG	21.2	7	5.89	1.52	8.93
3AWG	26.7	7	6.60	1.52	9.64
2AWG	33.6	19	7.42	1.52	10.46
1AWG	42.4	19	8.43	2.03	12.49
1/0AWG	53.5	19	9.45	2.03	13.51
2/0AWG	67.4	19	10.62	2.03	14.68
3/0AWG	85.0	19	11.94	2.03	16.00
4/0AWG	107	19	13.41	2.03	17.47
250KCMIL	127	37	14.60	2.41	19.42
300KCMIL	152	37	16.00	2.41	20.82
350KCMIL	177	37	17.30	2.41	22.12
400KCMIL	203	37	18.49	2.41	23.31
450KCMIL	228	37	19.61	2.41	24.43
500KCMIL	253	37	20.65	2.41	25.47
550KCMIL	279	61	21.72	2.79	27.30
600KCMIL	304	61	22.68	2.79	28.26
650KCMIL	329	61	23.60	2.79	29.18
700KCMIL	355	61	24.49	2.79	30.07
750KCMIL	380	61	25.35	2.79	30.93
800KCMIL	405	61	26.16	2.79	31.74
900KCMIL	456	61	27.79	2.79	33.37
1000KCMIL	507	61	29.26	2.79	34.84

(*) 1000V = Applies to the United States only



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THERMOSET- INSULATED WIRE UL TYPE

RHH, RHHW, RHHW-2, XHH, XHHW, XHHW-2, SIS

SIZE OF PRODUCT (TYPE : 2000V - RHH, RHHW, RHHW-2)

AWG or kcmil	Cross-sectional Area	Number of Strands	Nominal diameter of conductor	Insulation Thickness	Overall Diameter
	mm ²	EA	mm	mm	mm
14AWG SOL	2.08	1	1.63	1.52	4.67
12AWG SOL	3.31	1	2.05	1.52	5.09
10AWG SOL	5.26	1	2.59	1.52	5.63
14AWG	2.08	7 or 19	1.85	1.52	4.89
12AWG	3.31	7	2.32	1.52	5.36
10AWG	5.26	7	2.95	1.52	5.99
8AWG	8.37	7	3.71	1.78	7.27
6AWG	13.3	7	4.67	1.78	8.23
4AWG	21.2	7	5.89	1.78	9.45
3AWG	26.7	7	6.60	1.78	10.16
2AWG	33.6	19	7.42	1.78	10.98
1AWG	42.4	19	8.43	2.29	13.01
1/0AWG	53.5	19	9.45	2.29	14.03
2/0AWG	67.4	19	10.62	2.29	15.20
3/0AWG	85.0	19	11.94	2.29	16.52
4/0AWG	107	19	13.41	2.29	17.99
250KCMIL	127	37	14.60	2.67	19.94
300KCMIL	152	37	16.00	2.67	21.34
350KCMIL	177	37	17.30	2.67	22.64
400KCMIL	203	37	18.49	2.67	23.83
450KCMIL	228	37	19.61	2.67	24.95
500KCMIL	253	37	20.65	2.67	25.99
550KCMIL	279	61	21.72	3.05	27.82
600KCMIL	304	61	22.68	3.05	28.78
650KCMIL	329	61	23.60	3.05	29.70
700KCMIL	355	61	24.49	3.05	30.59
750KCMIL	380	61	25.35	3.05	31.45
800KCMIL	405	61	26.16	3.05	32.26
900KCMIL	456	61	27.79	3.05	33.89
1000KCMIL	507	61	29.26	3.05	35.36



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THERMOSET- INSULATED WIRE UL TYPE

RHH, RHHW, RHHW-2, XHH, XHHW, XHHW-2, SIS

SIZE OF PRODUCT (TYPE : 600V – SIS)

AWG or kcmil	Cross-sectional Area	Number of Strands	Nominal diameter of conductor	Insulation Thickness	Overall Diameter
	mm ²	EA	mm	mm	mm
14AWG SOL	2.08	1	1.63	0.76	3.15
12AWG SOL	3.31	1	2.05	0.76	3.57
10AWG SOL	5.26	1	2.59	0.76	4.11
14AWG	2.08	7 or 19	1.85	0.76	3.37
12AWG	3.31	7	2.32	0.76	3.84
10AWG	5.26	7	2.95	0.76	4.47
8AWG	8.37	7	3.71	1.14	5.99
6AWG	13.3	7	4.67	1.14	6.95
4AWG	21.2	7	5.89	1.14	8.17

(*) SIS wire is a range of single-core wires with cross-linked polyethylene insulation (XLPE) for use in electrical switchboards and panels with voltages up to 600V.



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