Errata

NFPA 70

National Electrical Code®

2002 Edition

Reference: 2002 *NEC®*

The National Electrical Code Correlating Committee notes the following errors in the 2002 edition of NFPA 70, *National Electrical Code.*

How to Use this Errata Sheet

This is a list of errata to the first printing of the 2002 *NEC®*. A first printing is indicated by the numeral 1 as the last digit in the line of number appearing at the bottom of the inside front cover.

1.	Page 70-30	Figure 90.3: In bottom box, change "Annex A through Annex D" to "Annex A through Annex F".
2.	Page 70-42	110.14(C)(1): Change reference from 110.14(A) or (B) to 110.14(C)(1)(a) or 110.14(C)(1)(b).
3.	Page 70-53	210.8(A)(2): In paragraph after *Exception No. 2,* change reference 210.8(A)(5) to 210.8(A)(2).
4.	Page 70-53	210.8(B) Exception: After "*Exception*", insert "*to (2)*".
5.	Page 70-55	210.19(A)(4): Change reference from 210.19(C) to 210.19(A)(3).
6.	Page 70-65	Table 220.19: Change Column A value for 20 appliances from 25 to 35.
7.	Page 70-72	225.22 Exception: Change reference from 398.12(1) to 348.12(1).
8.	Page 70-86	240.4(E): Change reference from 210.19(C) and (D) to 210.19(A)(3) and (A)(4).
9.	Page 70-96	Table 250.3: Change reference for "Class 1, Class 2, and Class 3, remote-control, signaling, and power-limited circuit" from 725.6 to 725.9. Change reference for "Fire alarm systems" from 760.6 to 760.9.
10.	Page 70-103	250.32(D): Change reference from 225.31 to 225.32.
11.	Page 70-143	Table 310.15(B)(6): Add a second sentence to table title to read: "Conductor Types RHH, RHW, RHW-2, THHN, THHW, THW, THW-2, THWN, THWN-2, XHHW, XHHW-2, SE, USE, USE-2."
12.	Page 70-159	Table 310.83: In the horizontal column entitled "Two Circuits", change "Detail 10" to "Detail 6".

13.	Page 70-161	312.6(B): Change reference from 312.6(A)(1) or (2) to 312.6(B)(1) or (2).
14.	Page 70-162	Table 312.6(A): In the "5 Wires per Terminal" metric column for 600-700 kcmil, revise "456" to "356".
15.	Page 70-163	Table 312.6(B): In the "2 Wires per Terminal" metric column for 250 kcmil/350 kcmil AA-8000, change superscript note reference from "b" to "d".
16.	Page 70-191	344.42(A): Add a new, fourth sentence to read: "Threadless couplings and connectors shall not be used on threaded conduit ends unless listed for the purpose."
17.	Page 198	356.12(3): Change reference from 356.100(5) to 356.10(5).
18.	Page 70-203	362.10(2): In the last sentence after "combustible", add "or noncombustible".
19.	Pages 70-231 to 70-236	Table 400.4: In "Use" column, add "Damp and locations" for all cord-type letter designations that end with "W". For all cords with "W" designation, add a note to read: "See note 13". In notes to Table 400.4, add new Note 13 to read: "13. Cords that comply with the requirements for outdoor cords and are so listed shall be permitted to be designated as weather and water resistant with the suffix "W" after the code-type designation. Cords with the suffix "W" are suitable for use in wet locations." See insert of corrected table.
20.	Page 70-248	406.4(A): Change reference "370.20" to "314.20".
21.	Page 70-249	406.5(C): Change 2.54 mm (0.010 in.) to 2.54 mm (0.10 in.) in two places.
22.	Page 70-267	422.32: Change reference from "Part X of Article 430." to "Part IX of Article 430."
23.	Page 70-342	500.5(B)(1) FPN No. 2 (5): The text beginning with "Experience has demonstrated" and ending with "Article 504" is part of the FPN and the font is incorrect.
24.	Page 70-373	505.9(C)(2) *Exception*: Change "*(4), (5), and (6*)" to *"(3), (4), and (5)"*.
25.	Page 70-374	505.9(D)(1) *Exception No. 2:* Change references *500.6(D) and Table 500.6(D)* to *500.8(B) and Table 500.8(B).*
26.	Page 70-381	511.4(B): Delete "…or Article 505 for the division or zone in which they are used."
27.	Page 70-422	520.50(D): Change reference "Article 384" to "Article 408".
28.	Page 70-428	525.23(C): Change reference 525.18(A) or (B) to 525.23(A) or (B).
29.	Page 70-537	680.62(B)(5): Change to read: "Electrical devices and controls that are not associated with the therapeutic tubs and that are not located a minimum of 1.5 m (5 ft) from such units".
30.	Page 70-546	690.64(A): Change reference 230.8(5) to 230.82(5).
31.	Page 70-550	692.65(A): Change reference 230.8(5) to 230.82(5).

32.	Page 70-618	Article 348: Change acronym for Flexible Metal Conduit from "FMT to "FMC".
33.	Page 70-622	Table 5: Revise Chapter 9, Table 5 as shown in insert.
34.	Page 70-655	Table C7: In title, change acronym "LFML" to "LFMC".
35.	Page 70-665	Table C12: Change "WH-2" to "RHW-2" and "HW" to "RHW".
36.	Page 70-672	Example D9: Change two references from "Table 430.22(B)" to "Table 430.22(E)".
37.	2005 NEC Schedule	Under "Method of Submitting a Proposal to Revise the National Electrical Code®" revise "November 5, 1999" and "2002 National Electrical Code" to "November 1, 2002" and "2005 National Electrical Code".

Issue Date: January 18, 2002

Chapter 4 Equipment for General Use

ARTICLE 400
Flexible Cords and Cables

I. General

400.1 Scope. This article covers general requirements, applications, and construction specifications for flexible cords and flexible cables.

400.2 Other Articles. Flexible cords and flexible cables shall comply with this article and with the applicable provisions of other articles of this *Code*.

400.3 Suitability. Flexible cords and cables and their associated fittings shall be suitable for the conditions of use and location.

400.4 Types. Flexible cords and flexible cables shall conform to the description in Table 400.4. Types of flexible cords and flexible cables other than those listed in the table shall be the subject of special investigation.

Table 400.4 Flexible Cords and Cables (See 400.4.)

Trade Name	Type Letter	Voltage	AWG or kcmil	Number of Conductors	Insulation	Nominal Insulation Thickness[1]			Braid on Each Conductor	Outer Covering	Use		
						AWG or kcmil	mm	mils					
Lamp cord	C	300 600	18–16 14–10	2 or more	Thermoset or thermoplastic	18–16 14–10	0.76 1.14	30 45	Cotton	None	Pendant or portable	Dry locations	Not hard usage
Elevator cable	E See Note 5. See Note 9. See Note 10.	300 or 600	20–2	2 or more	Thermoset	20–16 14–12 12–10 8–2	0.51 0.76 1.14 1.52	20 30 45 60	Cotton	Three cotton, Outer one flame-retardant & moisture-resistant. See Note 3.	Elevator lighting and control	Unclassified locations	
						20–16 14–12 12–10 8–2	0.51 0.76 1.14 1.52	20 30 45 60	Flexible nylon jacket				
Elevator cable	EO See Note 5. See Note 10.	300 or 600	20–2	2 or more	Thermoset	20–16 14–12 12–10 8–2	0.51 0.76 1.14 1.52	20 30 45 60	Cotton	Outer one Three cotton, flame-retardant & moisture-resistant. See Note 3.	Elevator lighting and control	Unclassified locations	
										One cotton and a neoprene jacket. See Note 3.		Hazardous (classified) locations	
Elevator cable	ET See Note 5. See Note 10.	300 or 600	20–2	2 or more	Thermoplastic	20–16 14–12 12–10 8–2	0.51 0.76 1.14 1.52	20 30 45 60	Rayon	Three cotton or equivalent. Outer one flame-retardant & moisture-resistant. See Note 3.	Unclassified locations		
	ETLB See Note 5. See Note 10.	300 or 600							None				
	ETP See Note 5. See Note 10.	300 or 600							Rayon	Thermoplastic	Hazardous (classified) locations		
	ETT See Note 5. See Note 10.	300 or 600							None	One cotton or equivalent and a thermoplastic jacket			
Portable power cable	G	2000	12–500	2–6 plus grounding conductor(s)	Thermoset	12–2 1–4/0 250–500	1.52 2.03 2.41	60 80 95		Oil-resistant thermoset	Portable and extra hard usage		

Table 400.4 *Continued*

Trade Name	Type Letter	Voltage	AWG or kcmil	Number of Conductors	Insulation	Nominal Insulation Thickness[1]			Braid on Each Conductor	Outer Covering	Use		
						AWG or kcmil	mm	mils					
	G-GC	2000	12–500	3–6 plus grounding conductors and 1 ground check conductor	Thermoset	12–2 1–4/0 250–500	1.52 2.03 2.41	60 80 95		Oil-resistant thermoset			
Heater cord	HPD	300	18–12	2, 3, or 4	Thermoset	18–16 14–12	0.38 0.76	15 30	None	Cotton or rayon	Portable heaters	Dry locations	Not hard usage
Parallel heater cord	HPN See Note 6.	300	18–12	2 or 3	Oil-resistant thermoset	18–16 14–12	1.14 1.52 2.41	45 60 95	None	Oil-resistant thermoset	Portable	Damp locations	Not hard usage
Thermoset jacketed heater cords	HSJ	300	18–12	2, 3, or 4	Thermoset	18–16	0.76	30	None	Cotton and Thermoset	Portable or portable heater	Damp locations	Hard usage
	HSJO	300	18–12		Oil-resistant thermoset	14–12	1.14	45		Cotton and oil-resistant thermoset			
	HSJOO	300	18–12										
Non-integral parallel cords	NISP-1 See Note 6.	300	20-18	2 or 3	Thermoset	20-18	0.38	15	None	Thermoset	Pendant or portable	Damp locations	Not hard usage
	NISP-2 See Note 6.	300	18-16			18-16	0.76	30					
	NISPE-1 See Note 6.	300	20-18		Thermo-plastic elastomer	20-18	0.38	15		Thermoplastic elastomer			
	NISPE-2 See Note 6.	300	18-16			18-16	0.76	30					
	NISPT-1 See Note 6.	300	20-18		Thermo-plastic	20-18	0.38	15		Thermoplastic			
	NISPT-2 See Note 6.	300	18-16			18-16	0.76	30					
Twisted portable cord	PD	300 600	18–16 14-10	2 or more	Thermoset or thermo-plastic	18–16 14–10	0.76 1.14	30 45	Cotton	Cotton or rayon	Pendant or portable	Dry locations	Not hard usage
Portable power cable	PPE	2000	12–500	1–6 plus optional grounding conductor(s)	Thermo-plastic elastomer	12–2 1–4/0 250–500	1.52 2.03 2.41	60 80 95		Oil-resistant thermoplastic elastomer	Portable, extra hard usage		
Hard service cord	S See Note 4.	600	18–12	2 or more	Thermoset	18–16 14–10 8–2	0.76 1.14 1.52	30 45 60	None	Thermoset	Pendant or portable	Damp locations	Extra hard usage
Flexible stage and lighting power cable	SC	600	8–250	1 or more		8–2 1–4/0 250	1.52 2.03 2.41	60 80 95		Thermoset[2]	Portable, extra hard usage		
	SCE	600			Thermo-plastic elastomer					Thermoplastic elastomer[2]			
	SCT	600			Thermo-plastic					Thermoplastic[2]			
Hard service cord	SE See Note 4.	600	18–2	2 or more	Thermo-plastic elastomer	18–16 14–10 8–2	0.76 1.14 1.52	30 45 60	None	Thermoplastic elastomer	Pendant or portable	Damp locations	Extra hard usage
	SEW See Note 4. See Note 13.	600										Damp and wet locations	

Table 400.4 *Continued*

Trade Name	Type Letter	Voltage	AWG or kcmil	Number of Conductors	Insulation	Nominal Insulation Thickness[1]			Braid on Each Conductor	Outer Covering	Use		
						AWG or kcmil	mm	mils					
	SEO See Note 4.	600								Oil-resistant thermoplastic elastomer		Damp locations	
	SEOW See Note 4. See Note 13.	600										Damp and wet locations	
	SEOO See Note 4.	600			Oil-resistant thermo-plastic elastomer							Damp locations	
	SEOOW See Note 4. See Note 13.	600										Damp and wet locations	
Junior hard service cord	SJ	300	18–10	2–6	Thermoset	18–12	0.76	30	None	Thermoset	Pendant or portable	Damp locations	Hard usage
	SJE	300			Thermo-plastic elastomer					Thermoplastic elastomer			
	SJEW See Note 13.	300										Damp and wet locations	
	SJEO	300								Oil-resistant thermoplastic elastomer		Damp locations	
	SJEOW See Note 13.	300										Damp and wet locations	
	SJEOO	300			Oil-resistant thermo-plastic elastomer							Damp locations	
	SJEOOW See Note 13.	300										Damp and wet locations	
	SJO	300			Thermoset					Oil-resistant thermoset		Damp locations	
	SJOW See Note 13.	300										Damp and wet locations	
	SJOO	300			Oil-resistant thermoset							Damp locations	
	SJOOW See Note 13.	300										Damp and wet locations	
	SJT	300			Thermo-plastic	10	1.14	45		Thermoplastic		Damp locations	
	SJTW See Note 13.	300										Damp and wet locations	
	SJTO	300			Thermo-plastic	18–12	0.76	30		Oil-resistant thermoplastic		Damp locations	
	SJTOW See Note 13.	300										Damp and wet locations	
	SJTOO	300			Oil-resistant thermo-plastic							Damp locations	
	SJTOOW See Note 13.	300										Damp and wet locations	

Table 400.4 *Continued*

Trade Name	Type Letter	Voltage	AWG or kcmil	Number of Conductors	Insulation	Nominal Insulation Thickness[1]			Braid on Each Conductor	Outer Covering	Use		
						AWG or kcmil	mm	mils					
Hard service cord	SO See Note 4.	600	18–2	2 or more	Thermoset	18–16	0.76	30		Oil-resistant thermoset	Pendant or portable	Damp locations	Extra hard usage
	SOW See Note 4. See Note 13.	600										Damp and wet locations	
	SOO See Note 4.	600			Oil-resistant thermoset	14–10 8–2	1.14 1.52	45 60				Damp locations	
	SOOW See Note 4. See Note 13.	600										Damp and wet locations	
All thermoset parallel cord	SP-1 See Note 6.	300	20–18	2 or 3	Thermoset	20–18	0.76	30	None	None	Pendant or portable	Damp locations	Not hard usage
	SP-2 See Note 6.	300	18–16			18-16	1.14	45					
	SP-3 See Note 6.	300	18–10			18–16 14 12 10	1.52 2.03 2.41 2.80	60 80 95 110			Refrigerators, room air conditioners, and as permitted in 422.16(B)		
All elastomer (thermoplastic) parallel cord	SPE-1 See Note 6.	300	20-18	2 or 3	Thermoplastic elastomer	20–18	0.76	30	None	None	Pendant or portable	Damp locations	Not Hard usage
	SPE-2 See Note 6.	300	18–16			18–16	1.14	45					
	SPE-3 See Note 6.	300	18–10			18–16 14 12 10	1.52 2.03 2.41 2.80	60 80 95 110			Refrigerators, room air conditioners, and as permitted in 422.16(B)		
All plastic parallel cord	SPT-1 See Note 6.	300	20–18	2 or 3	Thermoplastic	20–18	0.76	30	None	None	Pendant or portable	Damp locations	Not hard usage
	SPT-1W See Note 6. See Note 13.	300										Damp and wet locations	
	SPT-2 See Note 6.	300	18–16			18–16	1.14	45				Damp locations	
	SPT-2W See Note 6. See Note 13.	300										Damp and wet locations	
	SPT-3 See Note 6.	300	18–10			18–16 14 12 10	1.52 2.03 2.41 2.80	60 80 95 110			Refrigerators, room air conditioners, and as permitted in 422.16(B)	Damp locations	Not hard usage
Range, dryer cable	SRD	300	10–4	3 or 4	Thermoset	10–4	1.14	45	None	Thermoset	Portable	Damp locations	Ranges, dryers
	SRDE	300	10–4	3 or 4	Thermoplastic elastomer				None	Thermoplastic elastomer			
	SRDT	300	10–4	3 or 4	Thermoplastic				None	Thermoplastic			

Table 400.4 *Continued*

Trade Name	Type Letter	Voltage	AWG or kcmil	Number of Conductors	Insulation	Nominal Insulation Thickness[1]			Braid on Each Conductor	Outer Covering	Use		
						AWG or kcmil	mm	mils					
Hard service cord	ST See Note 4.	600	18–2	2 or more	Thermo-plastic	18–16 14–10 8–2	0.76 1.14 1.52	30 45 60	None	Thermoplastic	Pendant or portable	Damp locations	Extra hard usage
	STW See Note 4. See Note 13.	600										Damp and wet locations	
	STO See Note 4.	600								Oil-resistant thermoplastic		Damp locations	
	STOW See Note 4. See Note 13.	600										Damp and wet locations	
	STOO See Note 4.	600			Oil-resistant thermo-plastic							Damp locations	
	STOOW See Note 4. See Note 13.	600										Damp and wet locations	
Vacuum cleaner cord	SV See Note 6.	300	18–16	2 or 3	Thermoset	18–16	0.38	15	None	Thermoset	Pendant or portable	Damp locations	Not hard usage
	SVE See Note 6.	300			Thermo-plastic elastomer					Thermoplastic elastomer			
	SVEO See Note 6.	300								Oil-resistant thermoplastic elastomer			
	SVEOO See Note 6.	300			Oil-resistant thermo-plas tic elastomer								
	SVO	300			Thermoset					Oil-resistant thermoset			
	SVOO	300			Oil-resistant thermoset					Oil-resistant thermoset			
	SVT See Note 6.	300			Thermo-plastic					Thermoplastic			
	SVTO See Note 6.	300			Thermo-plastic					Oil-resistant thermoplastic			
	SVTOO	300			Oil-resistant thermo-plastic								
Parallel tinsel cord	TPT See Note 2.	300	27	2	Thermo-plastic	27	0.76	30	None	Thermoplastic	Attached to an appliance	Damp locations	Not hard usage
Jacketed tinsel cord	TST See Note 2.	300	27	2	Thermo-plastic	27	0.38	15	None	Thermoplastic	Attached to an appliance	Damp locations	Not Hard Usage
Portable power-cable	W	2000	12–500 501–1000	1–6 1	Thermoset	12–2 1–4/0 250–500 501–1000	1.52 2.03 2.41 2.80	60 80 95 110		Oil-resistant thermoset	Portable, extra hard usage		
Electric vehicle cable	EV	600	18–500 See Note 11.	2 or more plus grounding conduc-tor(s), plus optional hybrid data, signal com-munica-tions, and optical fiber cables	Thermoset with optional nylon See Note 12.	18–16 14–10 8–2 1–4/0 250–500	0.76 (0.51) 1.14 (0.76) 1.52 (1.14) 2.03 (1.52) 2.41 (1.90)	30 (20) 45 (30) 60 (45) 80 (60) 95 (75) See Note 12.	Optional	Thermoset	Electric vehicle charging	Wet locations	Extra hard usage
	EVJ	300	18-12 See Note 11.			18–12	0.76 (0.51)	30 (20) See Note 12.					Hard usage

Table 400.4 *Continued*

Trade Name	Type Letter	Voltage	AWG or kcmil	Number of Conductors	Insulation	Nominal Insulation Thickness[1]			Braid on Each Conductor	Outer Covering	Use		
						AWG or kcmil	mm	mils					
	EVE	600	18-500 See Note 11.	2 or more plus grounding conductor(s), plus optional hybrid data, signal communications, and optical fiber cables	Thermoplastic elastomer with optional nylon See Note 12.	18–16 14–10 8–2 1–4/0 250–500	0.76 (0.51) 1.14 (0.76) 1.52 (1.14) 2.03 (1.52) 2.41 (1.90)	30 (20) 45 (30) 60 (45) 80 (60) 95 (75) See Note 12.		Thermoplastic elastomer			Extra hard usage
	EVJE	300	18–12 See Note 11.			18–12	0.76 (0.51)	30 (20) See Note 12.					Hard usage
	EVT	600	18–500 See Note 11.	2 or more plus grounding conductor(s), plus optional hybrid data, signal communications, and optical fiber cables	Thermoplastic with optional nylon See Note 12.	18–16 14–10 8–2 1–4/0 250–500	0.76 (0.51) 1.14 (0.76) 1.52 (1.14) 2.03 (1.52) 2.41 (1.90)	30 (20) 45 (30) 60 (45) 80 (60) 95 (75) See Note 12.	Optional	Thermoplastic	Electric vehicle charging	Wet Locations	Extra hard usage
	EVJT	300	18–12 See Note 11.			18–12	0.76 (0.51)	30 (20) See Note 12.					Hard usage

*See Note 8.

**The required outer covering on some single conductor cables may be integral with the insulation.

Notes:

1. All types listed in Table 400.4 shall have individual conductors twisted together except for Types HPN, SP-1, SP-2, SP-3, SPE-1, SPE-2, SPE-3, SPT-1, SPT-2, SPT-3, TPT, NISP-1, NISP-2, NISPT-1, NISPT-2, NISPE-1, NISPE-2, and three-conductor parallel versions of SRD, SRDE, and SRDT.

2. Types TPT and TST shall be permitted in lengths not exceeding 2.5 m (8 ft) where attached directly, or by means of a special type of plug, to a portable appliance rated at 50 watts or less and of such nature that extreme flexibility of the cord is essential.

3. Rubber-filled or varnished cambric tapes shall be permitted as a substitute for the inner braids.

4. Types G, G-GC, S, SC, SCE, SCT, SE, SEO, SEOO, SO, SOO, ST, STO, STOO, PPE, and W shall be permitted for use on theater stages, in garages, and elsewhere where flexible cords are permitted by this *Code*.

5. Elevator traveling cables for operating control and signal circuits shall contain nonmetallic fillers as necessary to maintain concentricity. Cables shall have steel supporting members as required for suspension by 620.41. In locations subject to excessive moisture or corrosive vapors or gases, supporting members of other materials shall be permitted. Where steel supporting members are used, they shall run straight through the center of the cable assembly and shall not be cabled with the copper strands of any conductor.

In addition to conductors used for control and signaling circuits, Types E, EO, ET, ETLB, ETP, and ETT elevator cables shall be permitted to incorporate in the construction, one or more 20 AWG telephone conductor pairs, one or more coaxial cables, or one or more optical fibers. The 20 AWG conductor pairs shall be permitted to be covered with suitable shielding for telephone, audio, or higher frequency communications circuits; the coaxial cables consist of a center conductor, insulation, and shield for use in video or other radio frequency communications circuits. The optical fiber shall be suitably covered with flame-retardant thermoplastic. The insulation of the conductors shall be rubber or thermoplastic of thickness not less than specified for the other conductors of the particular type of cable. Metallic shields shall have their own protective covering. Where used, these components shall be permitted to be incorporated in any layer of the cable assembly but shall not run straight through the center.

6.The third conductor in these cables shall be used for equipment grounding purpose only. The insulation of the grounding conductor for Types SPE-1, SPE-2, SPE-3, SPT-1, SPT-2, SPT-3, NISPT-1, NISPT-2, NISPE-1, and NISPE-2 shall be permitted to be thermoset polymer.

7. The individual conductors of all cords, except those of heat-resistant cords, shall have a thermoset or thermoplastic insulation, except that the equipment grounding conductor where used shall be in accordance with 400.23(B).

8. Where the voltage between any two conductors exceeds 300, but does not exceed 600, flexible cord of 10 AWG and smaller shall have thermoset or thermoplastic insulation on the individual conductors at least 1.14 mm (45 mils) in thickness, unless Type S, SE, SEO, SEOO, SO, SOO, ST, STO, or STOO cord is used.

9. Insulations and outer coverings that meet the requirements as flame retardant, limited smoke, and are so listed, shall be permitted to be marked for limited smoke after the code type designation.

10. Elevator cables in sizes 20 AWG through 14 AWG are rated 300 volts, and sizes 10 through 2 are rated 600 volts. 12 AWG is rated 300 volts with a 0.76-mm (30-mil) insulation thickness and 600 volts with a 1.14-mm (45-mil) insulation thickness.

11. Conductor size for Types EV, EVJ, EVE, EVJE, EVT, and EVJT cables apply to nonpower-limited circuits only. Conductors of power-limited (data, signal, or communications) circuits may extend beyond the stated AWG size range. All conductors shall be insulated for the same cable voltage rating.

12. Insulation thickness for Types EV, EVJ, EVEJE, EVT, and EVJT cables of nylon construction is indicated in parentheses.

13. Cords that comply with the requirements for outdoor cords and are so listed shall be permitted to be designated as weather and water resistant with the suffix ″W″ after the code type designation. Cords with the ″W″ suffix are suitable for use in wet locations.

Table 5 Dimensions of Insulated Conductors and Fixture Wires

Type	Size (AWG or kcmil)	Approximate Diameter		Approximate Area	
		mm	in.	mm²	in.²
Type: FFH-2, RFH-1, RFH-2, RHH*, RHW*, RHW-2*, RHH, RHW, RHW-2, SF-1, SF-2, SFF-1, SFF-2, TF, TFF, THHW, THW, THW-2, TW, XF, XFF					
RFH-2, FFH-2	18	3.454	0.136	9.355	0.0145
	16	3.759	0.148	11.10	0.0172
RHW-2, RHH, RHW	14	4.902	0.193	18.90	0.0293
	12	5.385	0.212	22.77	0.0353
	10	5.994	0.236	28.19	0.0437
	8	8.280	0.326	53.87	0.0835
	6	9.246	0.364	67.16	0.1041
	4	10.46	0.412	86.00	0.1333
	3	11.18	0.440	98.13	0.1521
	2	11.99	0.472	112.9	0.1750
	1	14.78	0.582	171.6	0.2660
	1/0	15.80	0.622	196.1	0.3039
	2/0	16.97	0.668	226.1	0.3505
	3/0	18.29	0.720	262.7	0.4072
	4/0	19.76	0.778	306.7	0.4754
	250	22.73	0.895	405.9	0.6291
	300	24.13	0.950	457.3	0.7088
	350	25.43	1.001	507.7	0.7870
	400	26.62	1.048	556.5	0.8626
	500	28.78	1.133	650.5	1.0082
	600	31.57	1.243	782.9	1.2135
	700	33.38	1.314	874.9	1.3561
	750	34.24	1.348	920.8	1.4272
	800	35.05	1.380	965.0	1.4957
	900	36.68	1.444	1057	1.6377
	1000	38.15	1.502	1143	1.7719
	1250	43.92	1.729	1515	2.3479
	1500	47.04	1.852	1738	2.6938
	1750	49.94	1.966	1959	3.0357
	2000	52.63	2.072	2175	3.3719
SF-2, SFF-2	18	3.073	0.121	7.419	0.0115
	16	3.378	0.133	8.968	0.0139
	14	3.759	0.148	11.10	0.0172
SF-1, SFF-1	18	2.311	0.091	4.194	0.0065
RFH-1, XF, XFF	18	2.692	0.106	5.161	0.0080
TF, TFF, XF, XFF	16	2.997	0.118	7.032	0.0109
TW, XF, XFF, THHW, THW, THW-2	14	3.378	0.133	8.968	0.0139
TW, THHW, THW, THW-2	12	3.861	0.152	11.68	0.0181
	10	4.470	0.176	15.68	0.0243
	8	5.994	0.236	28.19	0.0437
RHH*, RHW*, RHW-2*	14	4.140	0.163	13.48	0.0209
RHH*, RHW*, RHW-2*, XF, XFF	12	4.623	0.182	16.77	0.0260

Table 5 *Continued*

Type	Size (AWG or kcmil)	Approximate Diameter		Approximate Area	
		mm	in.	mm²	in.²
Type: RHH*, RHW*, RHW-2*, THHN, THHW, THW, THW-2, TFN, TFFN, THWN, THWN-2, XF, XFF					
RHH*, RHW*, RHW-2*, XF, XFF	10	5.232	0.206	21.48	0.0333
RHH*, RHW*, RHW-2*	8	6.756	0.266	35.87	0.0556
TW, THW, THHW, THW-2, RHH*, RHW*, RHW-2*	6	7.722	0.304	46.84	0.0726
	4	8.941	0.352	62.77	0.0973
	3	9.652	0.380	73.16	0.1134
	2	10.46	0.412	86.00	0.1333
	1	12.50	0.492	122.6	0.1901
	1/0	13.51	0.532	143.4	0.2223
	2/0	14.68	0.578	169.3	0.2624
	3/0	16.00	0.630	201.1	0.3117
	4/0	17.48	0.688	239.9	0.3718
	250	19.43	0.765	296.5	0.4596
	300	20.83	0.820	340.7	0.5281
	350	22.12	0.871	384.4	0.5958
	400	23.32	0.918	427.0	0.6619
	500	25.48	1.003	509.7	0.7901
	600	28.27	1.113	627.7	0.9729
	700	30.07	1.184	710.3	1.1010
	750	30.94	1.218	751.7	1.1652
	800	31.75	1.250	791.7	1.2272
	900	33.38	1.314	874.9	1.3561
	1000	34.85	1.372	953.8	1.4784
	1250	39.09	1.539	1200	1.8602
	1500	42.21	1.662	1400	2.1695
	1750	45.11	1.776	1598	2.4773
	2000	47.80	1.882	1795	2.7818
TFN, TFFN	18	2.134	0.084	3.548	0.0055
	16	2.438	0.096	4.645	0.0072
THHN, THWN, THWN-2	14	2.819	0.111	6.258	0.0097
	12	3.302	0.130	8.581	0.0133
	10	4.166	0.164	13.61	0.0211
	8	5.486	0.216	23.61	0.0366
	6	6.452	0.254	32.71	0.0507
	4	8.230	0.324	53.16	0.0824
	3	8.941	0.352	62.77	0.0973
	2	9.754	0.384	74.71	0.1158
	1	11.33	0.446	100.8	0.1562
	1/0	12.34	0.486	119.7	0.1855
	2/0	13.51	0.532	143.4	0.2223
	3/0	14.83	0.584	172.8	0.2679
	4/0	16.31	0.642	208.8	0.3237
	250	18.06	0.711	256.1	0.3970
	300	19.46	0.766	297.3	0.4608

Table 5 *Continued*

Type	Size (AWG or kcmil)	Approximate Diameter mm	Approximate Diameter in.	Approximate Area mm²	Approximate Area in.²
Type: FEP, FEPB, PAF, PAFF, PF, PFA, PFAH, PFF, PGF, PGFF, PTF, PTFF, TFE, THHN, THWN, THWN-2, Z, ZF, ZFF					
THHN, THWN, THWN-2	350	20.75	0.817	338.2	0.5242
	400	21.95	0.864	378.3	0.5863
	500	24.10	0.949	456.3	0.7073
	600	26.70	1.051	559.7	0.8676
	700	28.50	1.12 2	637.9	0.9887
	750	29.36	1.156	677.2	1.0496
	800	30.18	1.188	715.2	1.1085
	900	31.80	1.252	794.3	1.2311
	1000	33.27	1.310	869.5	1.3478
PF, PGFF, PGF, PFF, PTF, PAF, PTFF, PAFF	18	2.184	0.086	3.742	0.0058
	16	2.489	0.098	4.839	0.0075
PF, PGFF, PGF, PFF, PTF, PAF, PTFF, PAFF, TFE, FEP, PFA, FEPB, PFAH	14	2.870	0.113	6.452	0.0100
TFE, FEP, PFA, FEPB, PFAH	12	3.353	0.132	8.839	0.0137
	10	3.962	0.156	12.32	0.0191
	8	5.232	0.206	21.48	0.0333
	6	6.198	0.244	30.19	0.0468
	4	7.417	0.292	43.23	0.0670
	3	8.128	0.320	51.87	0.0804
	2	8.941	0.352	62.77	0.0973
TFE, PFAH	1	10.72	0.422	90.26	0.1399
TFE, PFA PFAH, Z	1/0	11.73	0.462	108.1	0.1676
	2/0	12.90	0.508	130.8	0.2027
	3/0	14.22	0.560	158.9	0.2463
	4/0	15.70	0.618	193.5	0.3000
ZF, ZFF	18	1.930	0.076	2.903	0.0045
	16	2.235	0.088	3.935	0.0061
Z, ZF, ZFF	14	2.616	0.103	5.355	0.0083
Z	12	3.099	0.122	7.548	0.0117
	10	3.962	0.156	12.32	0.0191
	8	4.978	0.196	19.48	0.0302
	6	5.944	0.234	27.74	0.0430
	4	7.163	0.282	40.32	0.0625
	3	8.382	0.330	55.16	0.0855
	2	9.195	0.362	66.39	0.1029
	1	10.21	0.402	81.87	0.1269

Table 5 *Continued*

Type	Size (AWG or kcmil)	Approximate Diameter mm	Approximate Diameter in.	Approximate Area mm²	Approximate Area in.²
Type: KF-1, KF-2, KFF-1, KFF-2, XHH, XHHW, XHHW-2, ZW					
XHHW, ZW, XHHW-2, XHH	14	3.378	0.133	8.968	0.0139
	12	3.861	0.152	11.68	0.0181
	10	4.470	0.176	15.68	0.0243
	8	5.994	0.236	28.19	0.0437
	6	6.960	0.274	38.06	0.0590
	4	8.179	0.322	52.52	0.0814
	3	8.890	0.350	62.06	0.0962
	2	9.703	0.382	73.94	0.1146
XHHW, XHHW-2, XHH	1	11.23	0.442	98.97	0.1534
	1/0	12.24	0.482	117.7	0.1825
	2/0	13.41	0.528	141.3	0.2190
	3/0	14.73	0.58	170.5	0.2642
	4/0	16.21	0.638	206.3	0.3197
	250	17.91	0.705	251.9	0.3904
	300	19.30	0.76	292.6	0.4536
	350	20.60	0.811	333.3	0.5166
	400	21.79	0.858	373.0	0.5782
	500	23.95	0.943	450.6	0.6984
	600	26.75	1.053	561.9	0.8709
	700	28.55	1.124	640.2	0.9923
	750	29.41	1.158	679.5	1.0532
	800	30.23	1.190	717.5	1.1122
	900	31.85	1.254	796.8	1.2351
	1000	33.32	1.312	872.2	1.3519
	1250	37.57	1.479	1108	1.7180
	1500	40.69	1.602	1300	2.0157
	1750	43.59	1.716	1492	2.3127
	2000	46.28	1.822	1682	2.6073
KF-2, KFF-2	18	1.600	0.063	2.000	0.0031
	16	1.905	0.075	2.839	0.0044
	14	2.286	0.090	4.129	0.0064
	12	2.769	0.109	6.000	0.0093
	10	3.378	0.133	8.968	0.0139
KF-1, KFF-1	18	1.448	0.057	1.677	0.0026
	16	1.753	0.069	2.387	0.0037
	14	2.134	0.084	3.548	0.0055
	12	2.616	0.103	5.355	0.0083
	10	3.226	0.127	8.194	0.0127

*Types RHH, RHW, and RHW-2 without outer covering.