

Highlighting Guide

Residential Electrical License

COPYRIGHT© PAUL CALVO SCHOOL

Paul Calvo School

info@paulcalvoschool.net

v2023-10

ELECTRICIAN REFERENCE BOOKS--HIGHLIGHTING GUIDE

NFPA 70 National Electrical Codes

Branch Circuit/Continuous Load/Grounded Conductor/Grounding Conductor/In Sight
From/Raceway/Voltage, Nominal/Over 600 Volts, Nominal

Tom Henry Index		NFPA 70 NEC		Article	Keyword(s)
2017	2020	2017	2020		
2	2	27	32	100 DEF	Ampacity
13	14	35	34	100 DEF	Coordination selective
29	31	38	37	100 DEF	In-site from, within site
40	44	39	38	100 DEF	Overcurrent
49	54	40	40	100 DEF	Separately derived system
54	59	41	40	100 DEF	Surge arresters definition
56	62	42	41	100 DEF	Thermal protection
59	64	44	47	110.12(A)	Unused Opening, cabinet recess metal plugs. Where metallic plugs or plates are used with nonmetallic enclosures, what is the required recess from the outer surface? a) 1/16" b) 1/8" c) 1/4" d) 3/8"
28	30	45	48	110.15	High-leg, feeder orange color. On a 4-wire, delta-connected system where one phase winding is grounded, only the conductor or busbar having the higher phase voltage to ground shall be permanently marked by shall be permanently marked with what color?
61	67	47	50	110.26(A)(3)	Working Space 600 Volts, Nominal or less Clear & extend a height 6-1/2' above grade floor Note: The two exceptions.

Tom Henry Index 2017 2020		NFPA 70 NEC 2017 2020		Article	Keyword(s)
28	28	55	58	200.6 (A)(1&2)	Grounded Conductors, Identification white or gray strip
25	27	59	62	210.8(A)	GFCI, dwelling units bathroom, garages, & outdoors. Note: Exceptions (3) & (5)
7	7	60	63	210.11	Branch Circuits Required (C) two or more 20 amp circuit
59	65	61	65	210.19(A)	Voltage drop, branch circuits I.N. #4 (not exceeding 3%)
6	7	62	66	210.20(A)	Branch circuits, continuous & noncontinuous rating not of overprotection device less than the noncontinuous load plus 125% of the continuous load.
46	50	62	66	210.21 (B)(1)	Receptacles, individual (b) small-appliance branch
6	7	63	67	210.23 (A1 & A2)	Branch circuit, cord-plug 80%, fixed appl. 80%
14	15	64	68	210.52(C)	Countertop space 24" along wall for counters wider 12" Note: Exception not required behind range.
21	23	67		215.2 (A)(1)(a)	Feeders Min. size not more than 1000
6	7	70	74/75	220.10	Branch-Circuits Feeders & Service calculations T220.12 pg.68/71
25	27	70	75	220.12	General Lighting Loads by Occupancy T220.12 pg. 68/71
25	27	72	76	220.42	General Lighting demand factors T220.42 pg. 70/72
21	23	75	79	220.61(B)	Feeder, demand kitchen equip. (B) Reductions 70%
15	23	74	78	Table 220.55	Demand Factors & Loads for Household Electric Ranges
40	43	79	83	225.10	Outside Branch Circuits/Feeders 225.10 Wiring Bldg.
10	10	80	84	225.19(A-E)	Clearances from signs Buildings not over 1,000 Volts Nominal 8' above roof & 3' from edge of roof. From signs, chimneys, tv antennas, dish, tanks etc. less than? a) 1' b) 2' c) 3' d) 6'

Tom Henry Index 2017 2020		NFPA 70 NEC 2017 2020		Article	Keyword(s)
16	17	81	86	225.36	Disconnect, means, snap switch
50	55	84	88	230.2(B)	Services: number allowed (B) Min. Sizes
50	54	88	92	230.50(A)	Service-entrance, cables, protection
49	54	88	92	230.51(A)	Service cables, supports Table 230.51(C)
25	28	91	96	230.95(C) # 3	GFCI, of Equipment (A) Setting
40	44	94	99	240.4(D)	Overcurrent Protection(D)Small Conductors (1-7)
26	28	107	114	250.24(A)(1-5)	Grounded service connections
43	47	111	119	250.34(A) & (B)	Portable & Generators, or Vehicle-Mounted
27	28	112	120	250.50	Grounding electrode system
48	28	113	121	250.53(A)(4)	Grounding electrodes in soil 8'
26	6	109	127	250.102(C)(1)	Bonding Jumper size Table 250.102(c)(1)
			121	250.53(c)	Bonding Jumper (Rebar shall be used)
26	28	123	133	250.122	Grounding conductor size Table 250.122
54	59	132	110	242.52	Surge-Arrester grounding elec. 6 AWG grounding
TOC	TOC	134	140	T.300.1 (C)	Metric Designator & Trade Sizes
38	42	135	141	300.4(A)(1)(2)	Notches in wood, or Bored Holes
58	38	137	143	300.5 (A)	Underground Installation or Minimum cover T300.5
31	34	140	146	300.14	Length of Free Conductors at box, 6" length
17	18	142	148	300.22 (B)	Ducts or Plenums Wiring Methods

Tom Henry Index 2017 2020		NFPA 70 NEC 2017 2020		Article	Keyword(s)
11	12	143	149	300.34	Conductor, bending radius hi-voltage
	18		157	T310.12	Single Phase Dwelling Feeders
2	2	147	159	T 310.15 (B)(2)(a)	Ampacity temp. correction factor
12	12	170	167	311.12(C)	Conductors, shall be stranded
12	13	170	167	311.12(A)	Conductors, minimum size Table- 311.12
7	8	173	182	312.11(A)(3)	Cabinets & cutout boxes, depth
6	6	175	182	314	Boxes
40	43	179	187	314.27 (A)(2)	Outlet boxes, support 50#; Note: Exception 6#
3	3	182	190	320.10	Armored cable, uses permitted
23	25	184	192	322.10 (1-4)	Flat cable assemblies, use permitted
186	32	187	195	326	Integrated gas spacer cable T 326.80 (cable to Amps)
34	37	187	165	311.2	Medium voltage cable definition
34	37	187	195	330.2	Metal-Clad Cable definition
35	38	189-190	197	332.2	Mineral insulated cable definition
35	38	190	197	332.24 1&2	MI Cable, bends
38	42	191	198	334	Nonmetallic-Sheathed Cable "ROMEX"
58	63	193	200	336.10 (1-7)(A-F)	Tray Cable (power & control, Uses Permitted)
50	54	194	202	338.2	Service-entrance cable definition / use cable
58	64	195	204	340	Underground feeder

Tom Henry Index 2017 2020		NFPA 70 NEC 2017 2020		Article	Keyword(s)
30	32	196	204	342.2	Intermediate metal conduit
48	52	198	206	344.20	Rigid metal conduit, size (Min. Trade size ½; Max 6)
16	17	198	206	344.14 (1)-(3)	Dissimilar metal, alum. & steel
23	25	200	208	348.30(A) & (B)	Flexible metal conduit, support intervals @ every 4-1/2'
32	35	200	209	350.2	Liquid tight flexible conduit, definition
48	52	202	210	352.2	Rigid nonmetallic conduit (PVC conduit), definition
27	29	204	213	353.20(A)	HDPE, Conduit size (Minimum size metric designator size 16) (Maximum size metric designator size ½)
32	35	208	217	356.2	Liquid tight, nonmetallic flexible (1-3)
18	19	210	218	358.1	Electrical metallic tubing (EMT)
19	20	210	219	358.20(B)	EMT raceway, maximum trade size 4
18	19	212	219	362.2	Electrical nonmetallic tubing, definition
4	4	214	223	366.30	Auxiliary gutters, support @5ft. Max
7	8	216	224	368.17(A-D)	Busway, overcurrent protection
8	9	218	226	370.10(1)	Cablebus, exposed work
9	9	218	227	372.1	Cellular concrete floor raceway
9	9	219	223	374.1	Cellular metal floor raceway
61	67	221	229	376.30(A) & (B)	Wireways (metal), supports
38	42	221	230	378.2	Nonmetallic wireways, definition
38	42	223	232	382.2	Nonmetallic extensions, definition

Tom Henry Index 2017 2020		NFPA 70 NEC 2017 2020		Article	Keyword(s)
53	58	225	234	T. 384.22	Strut-type channel raceway, conductor fill
54	59	226	235	386.12	Surface metal raceways, voltage (1-5)
45	49	227	236	390.15 (A)-(D)	Underfloor Raceways, flat-top, half-round
8	8	228	237	392.2	Cable tray system, definition
31	33	236	246	394.1	Knob and tube wiring, general
34	37	237	247	396.2	Messenger supported wiring, definition (1-4)
39	43	238	248	398.10	Open wire systems on insulators industrial or agriculture
22	24	251	260	402	Fixture wires
22	24	254	263	T402.5	Fixture wire Ampacity
22	24	254	260	402.6	Fixture wires, minimum size 18 AWG
54	60	254	263	404.2	Switches, 3-way & 4-way connections
46	50	234	266	406	Receptacles Child Care Facility Outlet Box Hood
54/41	60/45	54 or 41	271	408	Switchboards or Panelboards
29	32	265	275	409.1	Industrial control panel, scope
31 or 10	34/11	267	277	410.2	Lamp holders or closet storage space (fig.410.2)
33	36	275	286	411.3	Low-voltage Lighting systems
3	3	276	286	422	Appliances, definition
60	66	277	288	422.13	Water heaters, branch circuit (<120 gallons cont. load)
52	57	280	291	424.3(A)	Space heating, branch circuit non-dwelling 50 Amps max

Tom Henry Index 2017 2020		NFPA 70 NEC 2017 2020		Article	Keyword(s)
36	39	297	308	430	Motors, definitions controller, system isolation, & VAM
46	50	324	335	440.2	Rated-load current, Hermetic refrigerant motor-comp. section 440.6(A) Page 336
25	27	330	341	445.12(C)	Generator, less than 65 V 150% full load rated current
4	4	332	343	450.4(A)	Autotransformer, over current protection (O.C.P.)
42	46	338	349	455	Phase converters, Rotary. Phase conductors
8	9	339	350	460.8(A)	Capacitors, ampacity conductors (not less than 135%)
48	52	340	352	470.3	Resistors & Reactors (space separation to combust.12")
53	58	341	352	480.2	Storage batteries, definitions
19	21	343	355	490	Equipment over 1,000 volts
27	29	349	362	500.5	Hazardous locations
10	10	355	368	501.10(A)(1)	Class 1 Div.1 wiring methods
10	10	364	378	502.5	Class II locations, explosion proof equipment
10	10	369	383	503.5	Class III locations, general
30	33	371	386	504.10(A)	Intrinsically Safe Systems 1 & 2 (Informational notes1 & 2)
11	11	393	409	511.3(A)	Commercial garages Class I Div. 2
16	49	403	419	514.11(A)	Dispensing pump, disconnect
7	7	403	420	515	Bulk storage plants
52	57	407	423	516.1	Spray booth, scope
27	29	419	434	517.2	Health care facilities, definition

Tom Henry Index 2017 2020		NFPA 70 NEC 2017 2020		Article	Keyword(s)
60	66	434	451	517.160(A)6	Wire pulling compounds (informational note 1 & 2)
3	3	435	452	518.2(A, B, & C)	Assembly halls, general classification examples
34	37	451	468-469	545.2	Manufactured Buildings, definitions
1	1	452	470	547.5 (B)	Agricultural Bldg. Wiring, Mounting (4 wall airspace)
1	1	452	472	547.10 (A & B)	Agricultural Bldg. Equipotential plane, poultry, bonding 8 AWG
35	38	455	473-474	550.10	Mobile & Mfg. Homes, Power Supply (A-I)
47	50	403	480	551.2	Rec. Vehicles & Parks, definitions (low voltage 24 volts)
51	17	489	509	600.6(A)(2)	Signs, disconnects lockable padlocks
18 or 29	20	501	521	620.2	Elevators or Escalators, & Chair Lifts, definitions
15	16	526	547	645.5(A)	Data Processing, branch-circuits (ampacity not < 125%)
49	54	532	553	647.4 (C & D)	Sensitive Electronic Equip., Wiring Meth (volts not < 1.5%)
42	46	534	555	650.6(A)	Pipe Organs, Wire size (28 & 26 AWG)
61	67	535	556	660.4(B)	X-Ray Equipment, Definitions for mobile 60 amperes max
30	33	541	562	675.4 (A, & C)	Irrigation Cable, 50 mils insulation supported every 4'
16	17	542	563	675.8(B)	Disconnect, irrigation machines (in-site – lockable)
32	35	542	563	675.15	Lightning protection, irrigation machine
54	59	543	564	680.2	Swimming Pools, definitions
	28		565	680.6 (1)-(7)	Swimming Pool Grounding

Tom Henry Index 2017 2020		NFPA 70 NEC 2017 2020		Article	Keyword(s)
31	34	587	612	701.2	Legally Required Standby Systems (informational note)
31	34	588	613	701.12(A)	Legally Req. Standby Systems, sources of power 60 secs.
9	10	606	631	720.4	Circuits less than 50 volts, conductors min. 12 AWG
10	10	606	632	725.2	Class 1, 2, & 3 Circuits Remote-Control, definitions
29	32	618	644	727.9	Instrument circuit protec., 5 Amps 20 AWG, 3 A 22 AWG
21	23	620	646	760.2	Fire Alarm Systems, definitions
38	42	621	647	760.41(A)(B)	Nonpower-Limited Fire Alarm (NPLFA) Circuits
11	12	638	664	800.2	Communications Circuits, Definitions (Block)
11	12	639	665	800.44 (A1-4)	Communication cond. Pole spacing below power cond.
11	12	640	665	800.47(B)(C)(D)	Communications, Above Roofs Mast between Buildings
45	49	652	680	810	Radio & Television Equipment
11	12	655	684	820	Community antenna TV & Radio
10	11	657	684	820.47 (B)	Coaxial cables buried, separation 12" exceptions 1 & 2
45	9/49	679	695	Table 2 Chapter 9	Radius of bends, conduit
3	3	680	696	Table 4	Area square inch, conduit
3	3	684	700	Table 5	Area square inch, insulated conductors & Fixture Wire
3	3	688	704	Table 5A	Area square inch, compact aluminum Bldg. Wire
3	3	689	705	Table 8	Area circular mils / Resistance DC
48	52	690	706	Table 9	Resistance, AC

29 CFR 1926 OSHA CONSTRUCTION INDUSTRY REGULATIONS

Section #	Keyword(s) or Topic in the INDEX
SECTION – 1926	
.16	The prime contractor is responsible for complete project.
.21	Safety training required
.25	Scrap lumber with nails protruding shall be removed from work areas
.50 (2)	Contents of first aid in a weatherproof container
Safety Equipment	
.102(a)(3)	Use of corrective lenses in spectacles
.102(a)(5)	Table E-1 guide for selection of face/eye protection
.104(d)	Safety belt lanyard, min ½” nylon, no greater than 6ft fall
.105I(1)	Safety nets 8ft beyond, 25ft max. under edge of platform
Fire Protection	
.150 TABLE F-1	Types of fire extinguishers
.154(b)(4)	Heaters at least 10ft from tarpaulins & canvas covers
.200 TABLE G-1	Accident prevention tag colors
Material Storage	
.250(b)(1)	Not stored within 6ft of hole in floor or 10ft of ext. wall
.250(b)(4)	bags stacked by stepping back layers and cross-keyed every 10 bags high
.250(b)(6)	Bricks strapped no higher than 7ft. loose bricks 4ft then tapered
.250(b)(7)	Blocks stacked higher than 6ft tapered back ½ block/tier

Section #	Keyword(s) or Topic in the INDEX
.250(b)(8)	Lumber piles no higher than 20ft, 16ft when stacked manually
Debris Clean-Up	
.252(a)	Waste material dropped more than 20feet must use chute
Small Tools	
.300(d)(3)	Circular saws must have constant pressure switch
.302(b)(4)	Compressors not to exceed 30 psi for cleaning
.302(e)(1)	Powder activated tools operated by trained employees
.304(d)	Circular saws must have guards above/below base plate
Gases and Welding	
.350(a)(9)	Gas cylinders shall always be secured in an upright position
.350(a)(10)	Oxygen cylinders separated from fuel/gas cylinders by 20ft and from oil and grease
.350(a)(11)	Cylinders stored inside, at least 20 feet from combustible materials
.350(d)(1)	Before connecting regulator, valve shall be opened slightly and closed immediately
.350(f)(3)	Fuel/gas hoses shall be inspected at beginning of each shift
.351(d)(3)	Shut off power when welder stops and you leave the area
.353(b)(3)	Welder working in confined spaces must have lifeline
.403 TABLE K1/K2	Min. 30" in front of electrical equipment working area clearance
Scaffolding	
.451(A)(1)	Must support without failure four times intended load

Section #	Keyword(s) or Topic in the INDEX
.451(b)(2)	Each platform or walkway shall be at least 18" wide
.451(b)(3)	Front edge of platform not more than 14" from face of work
.451(b)(3)(i)	Outrigger platforms not more than 3" from face of work
.451(b)(3)(ii)	For plastering, not more than 18" from face of work
.451(b)(4)	Platform must extend min. 6" past the support
.451(b)(5)(i)	Platform less than 10 feet shall not extend more than 12" past the support
.451(b)(5)(ii)	Platform more than 10' shall not extend more than 18" past the support
.451(b)(7)	Platforms overlapping to form a long platform must overlap at least 12" over a support
.451(b)(10)	Scaffold components shall not be intermixed
.451l(2)	Scaffold uprights must be supported on base plates/mud sills
.451(e)(2)(iii)	Scaffolds more than 35' must have rest platforms at least every 35' when using hook-on or attachable ladders
.451(e)(8)	Going from one scaffold to another must not be no more than 14" horizontally and 24" vertically from other surface
.451(g)	On scaffold over 10' above a lower level, must use a personal fall arrest system or guard rails
.451(g)(4)(ii)	Guardrail height 38"-45"
.452(w)(2)	Castors shall be capable of being locked
.501(b)(2)	If constructing a leading edge above 6 feet, must have fall protection
.501(b)(9)(ii)	In overhand bricklaying when reaching more than 10" below the walk platform, must have fall protection or guard rails
.501(b)(14)	Wall openings above 6', lower edge less than 39" need fall protection or guard rails
.502(b)(1)	Guardrail height 42" plus or minus 3"

Section #	Keyword(s) or Topic in the INDEX
.502(b)(2)(iii)	Intermediate vertical members of guardrail not more than 19"
.502(b)(9)	Wire rope guardrails must be flagged at least every 6 feet
.502(4)(i)	Safety nets drop test at least 400 lbs.
.502(d)(8)	Horizontal lifelines must have a safety factor of two
.502(d)(17)	Body harness must be attached in center of wearers back
.502(f)(1)(i)	Mechanical equipment not used, warning line 6 feet from roof edge
.502(f)(2)(ii)	Wire rope warning lines located at least 34" or more than 39" above the working surface
.502(i)	Covers
.502(j)(7)(i)	Roof materials not stored within 6 feet of roof edge
.1501(15)(i)	Min. distance between crane and 50kv or less transmission line is 10'
Excavation and Soils	
.650(B)	Kickout – Accidental release/failure of a crossbrace
.651(2)	Means of egress in trenches more than 4' deep, travel no more than 25'
.651(g)(1)(i)	Excavations more than 4 feet deep where hazardous atmosphere may occur, air tested prior to employees entering trench
.651(j)(2)	Materials not placed/stored within 2 feet of edge of excavation
.652(a)(1)(ii)	Competent person to check excavation less than 5 feet for potential cave-in
Appendix A to Subpart P Type "A" (i)	Soil classifications: Type A is cohesive soil (1.5 tons/sf)
Appendix A to Subpart P, (d)(2)	Observe soil when excavated, clumps-cohesive, if not granular
Appendix B to Subpart P, Fig. B-1	Excavation Slope configuration table

Section #	Keyword(s) or Topic in the INDEX
Steel Construction	
.754(B)(1)	No more than 8 stories between the erection floor and the upper most permanent floor
.754(b)(2)	No more than 4 stories or 48 feet of unfinished bolting or welding above the uppermost permanent floor
.754(b)(3)	Fully planked deck or net required within 2 stories or 30 feet under any erection work
.757(e)(3)	Weight of bundle of joist bridging not more than 1,000 lbs.
Ladders	
.1053(B)(1)	Side rails of ladder shall extend 3 feet above platform
.1053(b)(5)(i)	Bottom of ladder shall be ¼ working length of ladder from wall
.1053(b)(13)	Top rung of ladder shall not be used as a step
.1053(b)(20)	Must face the ladder when ascending or descending
.1903.16	Citations from OSHA shall be posted within 3 days on jobsite
1910.147	LOCKOUT/TAGOUT. To prevent energizing equipment that is being worked on

NASCLA- UGLY'S ELECTRICAL REFERENCES

	2017	2020
OHMS LAW	1	
Series Circuit	2	
Parallel Circuit	5	
POWER FACTOR AND EFFICIENCY EXAMPLE	28	
FULL LOAD CURRENT IN AMPERES: SINGLE PHASE ALTERNATING MOTORS	34	
MOTOR BRANCH- CIRCUIT PROTECTIVE DEVICE: MAXIMUM RATING OR SETTING	38	
FULL-LOAD CURRENT: THREE PHASE ALTERNATING-CURRENT MOTORS	39	
MOTOR AND MOTOR CIRCUIT CONDUCTOR PROTECTION	41	
VOLTAGE DROP EXAMPLES	50, 51	
MISCELLANEOUS WIRING DIAGRAMS (3Way and 4 way switches)	69	
SUPPORTS FOR RIGID METAL CONDUIT	70	
SUPPORTS FOR RIDGED NONMETALLIC CONDUIT	70	
CONDUCTOR PROPERTIES	71	
ALLOWABLE AMPACITIES OF CONDUCTORS RACEWAY,CABLE,OR EARTH	73	
ALLOWABLE AMPACITIES OF CONDUCTORS FREE AIR	74	
ADJUSTMENT FACTORS, For more than 3 current carrying conductors in a raceway or cable	78	
MAXIMUM NUMBER OF CONDUCTORS IN EMT	84, 85	

	2017	2020
MAXIMUM NUMBER OF CONDUCTORS IN NONMETALLIC TUBING	86, 87	
MAXIMUM NUMBER OF CONDUCTORS IN RIDGED PVC, SCHEDULE 40	88, 89	
MAXIMUM NUMBER OF CONDUCTORS IN RIDGED PVC, SCHEDULE 80	90, 91	
MAXIMUM NUMBER OF CONDUCTORS IN RIDGED METAL CONDUIT	93, 93	
MAXIMUM NUMBER OF CONDUCTORS IN FLEXIBLE METAL CONDUIT	94, 95	
MAXIMUM NUMBER OF CONDUCTORS IN LIQUIDTIGHT FLEXIBLE METAL CONDUIT	96, 97	
COMPACT COPPER AND ALUMINUM BUILDING WIRE NOMINAL DIMENSIONS AND AREAS	100	
DIMENSIONS AND PERCENT AREA OF CONDUIT AND TUBING	101, 102, 103	
METAL BOXES	105	
MINIMUM COVER REQUIREMENTS 0-1000 VOLTS, NOMINAL	106	
SPACING FOR CONDUCTOR SUPPORTS	106	
MINIMUM DEPTH OF CLEAR WORKING SPACE AT ELECTRICAL EQUIPMENT (Condition 1,2,3)	107	
MINIMUM CLEARANCE OF LIVE PARTS	108	
MINIMUM SIZE EQUIPMENT GROUNDING CONDUCTORS FOR GROUNDING RACEWAY AND EQUIPMENT	109	
GROUNDING ELECTRODE CONDUCTOR FOR ALTERNATING CURRENT SYSTEM	110	
GENERAL LIGHTING LOADS BY OCCUPANCY	111	112
LIGHTING LOAD DEMAND FACTOR	111	113

	2017	2020
DEMAND FACTORS FOR NONDWELLING RECEPTACLE LOADS	112	113
DEMAND FACTORS FOR HOUSEHOLD ELECTRIC CLOSE DRYERS	112	114
DEMAND FACTORS FOR KITCHEN EQUIPMENT – OTHER THAN DWELLING UNITS	112	114
DEMAND LOADS FOR HOUSEHOLD ELECTRIC RANGES, WALL- MOUNTED OVENS, COUNTER MOUNTED COOKING EQUIPMENT APPLIANCES OVER 1 ¼ KW RATING	113	115
ELECTRICAL SYMBOLS	120, 121, 123	125
NEMA ENCLOSURES TYPES	128, 129, 130, 131, 132	133-136
ELECTRICAL SAFETY DEFINITIONS	172, 173	177
ELECTRICAL SAFETY : LOCKOUT – TAGOUT PROCEDURES	175	179
ELECTRICAL SAFETY: SHOCK PROTECTION BOUNDARIES	176	180
ALTERNATIVE ENERGY	180, 181, 182, 183	

INTERNATIONAL RESIDENTIAL CODE (IRC)

Key Words	2018	2021
Smoke Alarms, R314.3 Location1,2,3,4	75	3-51
Carbon Monoxide Alarms, R315.3 Location	76	3-53
Approval, E3403.1 material, components, and equipment shall be approved	688	34-2
Enclosure Types, Table 3404.4 (see table E3404.4)	689	34-3
Identification of disconnecting means E3404.13	690	34.4
Connection of grounding and bonding equipment, permitted methods 1-8, E3406.14	693	34-7
Equipment Grounding Conductors 1,2,3 E3407.2	693	34-7
Accessible, Electrical DEF	695	35-1
Accessible Readily Electrical DEF	695	35-1
Grounded-Fault Current Path Electrical DEF	697	35.3
Qualified Person, Electrical DEF	698	34-4
Rain Tight. Electrical DEF	698	34-4
Watertight. Electrical DEF	698	34-4
Service Disconnect location E3601.6.2	701	36-1
Ampacity of Underground Conductors E3602.1	701	36-2
Overload Protection, underground conductors shall have overload protection E3603.03	702	36-3
Underground service conductors for accessory building and structures, exemption 1&2 E3603.2	702	36-3
Clearances on building, 3 feet E3604.1	703	36-4

Key Words	2018	2021
Vertical Clearances E3604.2	703	36-5
Above roofs, 8 feet vertical 3 feet from the edge E3604 Circuit inductive Exceptions 1,2,3,4,5 E3604.2.1	703	36-4
Protection of all other services cables E3605.5	705	36-6
Locations exposed to direct sunlight E3608.11	705	36-6
Metal Underground water piping E3608.1.1.1	707	36-8
Interior metal water piping E3608.1.1.1	707	36-8
Concrete- encased electrode 1&2 E3608.1.2	707	36-8
Ground Rings 30in. deep, 20 feet of 2 AWG E3608.1.3	708	36-8
Rod, pipe, and plate electrode requirements E3608.3—shall not be larger than 6 AWG copper	708	36-9
Supplemental Electrode requires (1-5) E3608.4	708	36-9
Aluminum Electrode, shall not be permitted E3608.4	768	36-9
Bonding for Communication Systems (1-6) E3609.3	708	36-9
Threaded Connection, wrench tight E3609.4.2	709	36-10
Securing and Protection against physical damage E3610.2	710	36-10
Raceways and enclosures for grounding electrode conductors E3610.3	710	36-11
Prohibited use E3610.4 Exception	710	36-11
Fifteen- and 20-amp branch circuits E3702.3	714	37-2
Branch circuits inductive and LED Lighting loads total ampere rating E3702.8	714	37-2
Branch Circuits serving room air conditioners (1-4) E3702.12	714	37-2

Key Words	2018	2021
Electric Vehicle branch circuit E3702.13	714	37-3
Table E3704.2(1) Feeder Load Calculation	616	37-4
Adjustments factor for conductor proximity Exceptions	717	37-5
Conductors of Type NM Cable E3705.4.4	718	37-7
Conductors of Type SE Cable E3705.4.5	719	37-7
Location of over current devices is or on premises (1-6) E3705.7	719	37-8
Table E3801.2 allowable wiring methods	721	38-1
In unfinished basements and crawl spaces E3802.4	722	38-1
Raceway in wet locations above grade E3802.8	723	38-3
Table E3801.4 Allowable Applications for wiring methods	722	38-2
Table E3802.1 General Installation and support requirements for wiring methods	723	38-3
Warning Ribbon E3803.2	723	38-4
Table E3803.1 Minimum Cover Requirements, burial in inches	724	38-4
Floor receptacles E3901.2.3	727	39-1
Bathroom E3901.6 36 in from lavatory	729	39-3
Arc-Fault circuit-interrupter protection (1-6) exception E3902.17	730	39-4
Lighting Outlets, additional locations E3903.3	731	39-6
Electrical continuity of metal raceways and enclosures, (Shall be mechanically joined) E3904.1	731	39-6
Flexible Cords, where permitted E3909.1	754	39-29
Table E3909.2 maximum ampere load for flexible cords	754	39-29

Key Words	2018	2021
Receptacles, CO/A2R Receptacles E4000.2	757	40-3
Swimming Pools, Flexible cords (1-5) E4202.2	734	42-2
Table E4202.1	766	42-2
Indoor spas and hot tubs E4203.4.5 (1&2)	768	42-4
GFIC protection in adjacent areas E4203.4.6	768	42-4
Table E4203.6 Overhead Conductor Clearances	768	42-5
Table E4203.7 Underground Wiring	769	42-4
Bonded parts (1&2) E4204.2	769	42-5
Equipment to be grounded (1-6) E4205.1	771	42-7
Flexible Cords, the grounded conductor shall not be larger than 16 AWG E4205.4	772	42-8
Over the low-voltage content limit but not over 150 volts (1-5) E4207.3.2	775	42-12
Within the low voltage conduct limit (1-4) E4207.3.1	775	42-12
Wiring Methods on supple side of class 2 power source E4303.1	779	43-1
E4304.2 Wiring Methods and materials on load side od the class 2 power supply	779	43-1