

APPENDIX L

ICC INTERNATIONAL RESIDENTIAL CODE ELECTRICAL PROVISIONS/NATIONAL ELECTRICAL CODE CROSS REFERENCE

This appendix is informative and not part of the code.

This table is a cross-reference of the ICC *International Residential Code*, Chapters 33 through 42, and the 2002 *National Electrical Code* (NFPA 70-2002).

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CHAPTER 33 GENERAL REQUIREMENTS

SECTION E3301 GENERAL

E3301.1	Applicability	None
E3301.2	Scope	Sections 90.1 and 90.2
E3301.3	Not covered	Section 90.2
E3301.4	Additions and alterations	None

SECTION E3302 BUILDING STRUCTURE PROTECTION

E3302.1	Drilling and notching	None
E3302.2	Penetrations of fire-resistance-rated assemblies	Section 300.21
E3302.3	Penetrations of firestops and draftstops	Section 300.21

SECTION E3303 INSPECTION AND APPROVAL

E3303.1	Approval	Section 110.2
E3303.2	Inspection required	None
E3303.3	Listing and labeling	Section 110.3

SECTION E3304 GENERAL EQUIPMENT REQUIREMENTS

E3304.1	Voltages	Section 110.4
E3304.2	Interrupting rating	Section 110.9
E3304.3	Circuit characteristics	Section 110.10
E3304.4	Protection of equipment	Section 110.11
E3304.5	Unused openings	Section 110.12(a)
E3304.6	Integrity of electrical equipment	Section 110.12(c)
E3304.7	Mounting	Section 110.13(a)
E3304.8	Energized parts guarded against accidental contact	Section 110.27(a)
E3304.9	Prevent physical damage	Section 110.27(b)
E3304.10	Equipment identification	Section 110.21
E3304.11	Identification of disconnecting means	Section 110.22

SECTION E3305 EQUIPMENT LOCATION AND CLEARANCES

E3305.1	Working space and clearances	Section 110.26
Figure E3305.1	Working space and clearances	Sections 110.26
	Footnote a.	Section 110.26(f)
	Footnote b.	Section 110.26(e)
	Footnote c.	Section 110.26(b)
	Footnote d.	Sections 230.70(a), 240.24(d) and 240.24(e)
	Footnote e.	Section 110.26(d)
E3305.2	Working clearances for energized equipment and panelboards ...	Sections 110.26(a), 110.26(d), and 110.26(f)
E3305.3	Clearances over panelboards	Section 110.26(f)(1)(a)
E3305.4	Location of clear spaces	Sections 110.26(b), 230.70(a) and 240.24
E3305.5	Access and entrance to working space	Section 110.26(c)
E3305.6	Illumination	Section 110.26(d)
E3305.7	Headroom	Section 110.26(e)

SECTION E3306 ELECTRICAL CONDUCTORS AND CONNECTIONS

E3306.1	General	Article 110 and Section 310.1
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E3306.2	Conductor material	Section 110.5
E3306.3	Minimum size of conductors	Section 310.5
E3306.4	Stranded conductors	Section 310.3
E3306.5	Individual conductor insulation	Section 310.2(a) and 310.8
E3306.6	Conductors in parallel	Section 310.4
E3306.7	Conductors of the same circuit	Section 300.3(b)
E3306.8	Aluminum and copper connections	Section 110.14
E3306.9	Terminals	Section 110.14(a)
E3306.10	Splices	Section 110.14(b)
E3306.10.1	Continuity	Section 300.13(a)
	Exception	Section 300.13(a)
E3306.10.2	Device connections	Sections 250.148 and 300.13(b)
E3306.10.3	Length of conductor for splice or termination	Section 300.14

SECTION E3307 CONDUCTOR AND TERMINAL IDENTIFICATION

E3307.1	Grounded conductors	Sections 200.6(a), 200.6(b) and 310.12(a)
E3307.2	Equipment grounding conductors	Sections 250.119 and 310.12(b)
E3307.3	Ungrounded conductors	Section 310.12(c)
	Exception	Section 200.7(c)(2)
E3307.4	Identification of terminals	Section 200.10
E3307.4.1	Device terminals	Section 200.10(a)
E3307.4.2	Receptacles, plugs, and connectors	Section 200.10(b)
E3307.5	Tag marking	Section 310.11(b)(3)

CHAPTER 34 ELECTRICAL DEFINITIONS

SECTION E3401	GENERAL	Article 100, Definitions
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CHAPTER 35 SERVICES

SECTION 3501 GENERAL SERVICES

E3501.1	Scope	Section 230.1
E3501.2	Number of services	Section 230.2
E3501.3	One building or other structure not to be supplied through another	Section 230.3
E3501.4	Other conductors in raceway or cable	Section 230.7
E3501.5	Raceway seal	Section 230.8
E3501.6	Service disconnect required	Section 230.70
E3501.6.1	Marking of service equipment and disconnects	Sections 230.66 and 230.70(b)
E3501.6.2	Service disconnect location	Sections 230.70(a) and 230.72(c)
E3501.7	Maximum number of disconnects	Section 230.71(a)

SECTION E3502 SERVICE SIZE AND RATING

E3502.1	Rating of ungrounded conductors	Section 230.79(c) and (d)
E3502.2	Service load	Section 220.30
Table E3502.2	Minimum service load calculation	Table 220.30
E3502.2.1	Services under 100 amperes	None
E3502.3	Rating of service disconnect	Section 230.79
E3502.4	Voltage rating	Section 220.30(a)

SECTION E3503 SERVICE, FEEDER AND GROUNDING ELECTRODE CONDUCTOR SIZING

E3503.1	Grounded and ungrounded service conductor size	310.15(b)(6)
Table E3503.1	Service conductor and grounding electrode conductor sizing	Table 310.16 and Table 250.66
	Footnote a	Section 250.64(e)
	Footnotes b. and c.	Section 250.64(b)
	Footnote d.	Section 250.66(a) and (b)
E3503.2	Ungrounded service conductors for accessory buildings and structures	Section 230.42(b)
	Exceptions 1, 2, and 3	Section 230.42(b) and 230.79

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E3503.3	Overload protection	Section 230.90
E3503.3.1	Ungrounded conductor	Section 230.90(a)
	Exception	Section 230.90(a), Exception No. 3
E3503.3.2	Not in grounded conductor	Section 230.90(b)
E3503.3.3	Location	Section 230.91
E3503.4	Grounding electrode conductor size	Section 250.66

SECTION E3504 OVERHEAD SERVICE DROP AND SERVICE CONDUCTOR INSTALLATION

E3504.1	Clearance from building openings	Section 230.9
Figure E3504.1	Clearances from building openings	Section 230.9
E3504.2	Vertical clearances	Section 230.24
E3504.2.1	Above roofs	Section 230.24(a)
	Exception 1	Section 230.24(a), Exception No. 1
	Exception 2	Section 230.24(a), Exception No. 2
	Exception 3	Section 230.24(a), Exception No. 3
	Exception 4	Section 230.24(a), Exception No. 4
Figure E3504.2.1	Clearances from roofs	Section 230.24
E3504.2.2	Vertical clearance from grade	Section 230.24(b)
	Items 1, 2, and 3	Section 230.24(b)
E3504.3	Point of attachment	Section 230.26
E3504.4	Means of attachment	Section 230.27
E3504.5	Service masts as supports	Section 230.28
E3504.6	Supports over buildings	Section 230.29

SECTION E3505 SERVICE-ENTRANCE CONDUCTORS

E3505.1	Insulation of service-entrance conductors	Section 230.41
	Exceptions 1 and 2	Section 230.41, Exception
E3505.2	Wiring methods for services	Section 230.43
E3505.3	Spliced conductors	Section 230.46
E3505.4	Protection against physical damage	Section 230.49
E3505.5	Protection of service cables against damage	Section 230.50(a)
E3505.6	Direct sunlight exposure	Section 310.8(D)
E3505.7	Mounting supports	Section 230.51
E3505.8	Raceways to drain	Section 230.53
E3505.9	Overhead service locations	Section 230.54
E3505.9.1	Raintight service head	Section 230.54(a)
E3505.9.2	Service cable, service head or gooseneck	Section 230.54(b)
E3505.9.3	Service head location	Section 230.54(c)
	Exception	Section 230.54(c), Exception
E3505.9.4	Separately bushed openings	Section 230.54(e)
E3505.9.5	Drip loops	Section 230.54(f)
E3505.9.6	Conductor arrangement	Section 230.54(g)
E3505.9.7	Secured	Section 230.54(d)

SECTION E3506 SERVICE EQUIPMENT—GENERAL

E3506.1	Service equipment enclosures	Section 230.62
E3506.2	Working space	Section 110.26
E3506.3	Available short-circuit current	None
E3506.4	Marking	Section 230.66

SECTION E3507 SYSTEM GROUNDING

E3507.1	System service ground	Sections 250.20(b)(1) and 250.24(a)
E3507.2	Location of grounding electrode conductor connection	Section 250.24(a)(1) and (a)(5)
E3507.3	Two or more buildings or structures supplied from a common service	250.32(a)
	Exception	Section 250.32(a), Exception
E3507.3.1	Equipment grounding conductor	Section 250.32(b)(1) and Table 250.122

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E3507.3.2	Grounded conductor.....	Section 250.32(b)(2)
E3507.4	Grounding electrode conductor.....	Section 250.24(c)
E3507.5	Main bonding jumper.....	Section 250.28
E3507.6	Common grounding electrode.....	Section 250.58

SECTION E3508**GROUNDING ELECTRODE SYSTEM**

E3508.1	Grounding electrode system.....	Section 250.50
E3508.1.1	Metal underground water pipe.....	Section 250.50(a), 250.53(D)(1), 250.53(E)
E3508.1.2	Concrete-encased electrode.....	Section 250.50(c)
E3508.2	Made and other electrodes.....	Section 250.52
E3508.2.1	Rod and pipe electrodes.....	Section 250.52(c)(1) and (2)
E3508.2.2	Installation.....	Section 250.52(c)(2)
E3508.2.3	Aluminum electrodes.....	Section 250.52(b)(1)
E3508.3	Resistance of made electrodes.....	Section 250.56
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SECTION E3509**BONDING**

E3509.1	General.....	Section 250.90
E3509.2	Bonding of service equipment.....	Section 250.92(a)
E3509.3	Bonding to other systems.....	Section 250.94
E3509.4	Method of bonding at the service.....	Section 250.92(b)
E3509.4.1	Grounded service conductor.....	Section 250.94(1)
E3509.4.2	Threaded connections.....	Section 250.94(2)
E3509.4.3	Threadless couplings and connectors.....	Section 250.94(3)
E3509.4.4	Other devices.....	Section 250.94(4)
E3509.5	Sizing bonding jumper on supply side of service and main bonding jumper.....	Section 250.102(c)
E3509.6	Metal water piping bonding.....	Section 250.104(a)
E3509.7	Bonding other metal piping.....	Section 250.104(b)

SECTION E3510**GROUNDING ELECTRODE CONDUCTORS**

E3510.1	Installation.....	Section 250.64(a) and (b)
E3510.2	Enclosures for grounding electrode conductors.....	Section 250.64(e)

SECTION E3511**GROUNDING ELECTRODE CONDUCTOR CONNECTION TO GROUNDING ELECTRODES**

E3511.1	Methods of grounding connection to electrodes.....	Section 250.70
E3511.2	Accessibility.....	Section 250.68
E3511.3	Effective grounding path.....	Section 250.68
E3511.4	Protection of ground clamps and fittings.....	Section 250.10
E3511.5	Clean surfaces.....	Section 250.12

CHAPTER 36**BRANCH CIRCUIT AND FEEDER REQUIREMENTS****SECTION E3601****GENERAL**

E3601.1	Scope.....	None
E3601.2	Branch-circuit and feeder ampacity.....	Sections 210.19(A) and 215.2(A)(1)
E3601.3	Selection of ampacity.....	Section 310.15(A)(2)
E3601.4	Multioutlet branch circuits.....	Section 210.19(A)(2)
E3601.5	Multiwire branch circuits.....	Section 210.4

SECTION E3602**BRANCH CIRCUIT RATINGS**

E3602.1	Branch-circuit voltage limitations.....	Sections 210.6(A) and (B)
E3602.2	Branch-circuit ampere rating.....	Section 210.3
E3602.3	Fifteen- and 20-ampere branch circuits.....	Section 210.23(A)
E3602.4	Thirty-ampere branch circuits.....	Section 210.23(b)
E3602.5	Branch circuits serving multiple loads or outlets.....	Section 210.23(A)
E3602.6	Branch circuits serving a single motor.....	Section 430.22(A)
E3602.7	Branch circuits serving motor-operated and combination loads.....	Section 220.4(A)

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E3602.8	Branch-circuit inductive lighting loads	Section 220.4(B)
E3602.9	Branch-circuit load for ranges and cooking appliances	Table 220.19, Note 4
E3602.9.1	Minimum branch circuit for ranges	Section 210.19(A)(3)
E3602.10	Branch circuits serving heating loads	Sections 422.13 and 424.3(A)
E3602.11	Branch circuits for air-conditioning and heat pump equipment	Sections 440.35, 440.4(B), 440.52(A)
E3602.12	Branch circuits serving room air conditioners	Section 440.62(A)
E3602.12.1	Where no other loads are supplied	Section 440.62(B)
E3602.12.2	Where lighting units or other appliances are also supplied	Section 440.62(C)
E3602.13	Branch-circuit requirement—summary	Section 210.24 and 210.25
Table E3602.13	Branch-circuit requirement—summary	Table 210.24

SECTION E3603 REQUIRED BRANCH CIRCUITS

E3603.1	Branch circuits for heating	Section 422.12 Exception
E3603.2	Kitchen and dining area receptacles	Section 210.52(B)(1)
E3603.3	Laundry circuit	Sections 210.23(A), Exception and 210.11(C)(2)
E3603.4	Bathroom branch circuits	Section 210.11(C)(3)
E3603.5	Number of branch circuits	Section 210.11(A)
E3603.6	Branch-circuit load proportioning	Section 210.11(B)

SECTION E3604 FEEDER REQUIREMENTS

E3604.1	Conductor size	Table 310.15(B)(6), Sections 215.2(A)(3), (A)(4), and 220.10(A)
E3604.2	Minimum feeder conductor size	Section 215.2(A)(2)
E3604.3	Feeder loads	Table 220.11
Table E3604.3(1)	Feeder load calculation	Table 220.11, Table 220.30(C), Sections 220.14, 220.15, 220.17, 220.18 and 220.19
Table E3604.3(2)	Demand loads for electric ranges, wall-mounted ovens, counter-mounted cooking units and other cooking appliances over 1 ³ / ₄ kVA rating	Table 220.19
E3604.4	Feeder neutral load	Section 220.22
E3604.5	Lighting and convenience receptacle load	Section 220.3(A), Table 220.3(A)
E3604.6	Ampacity and computed loads	Section 220.10
E3604.7	Feeder and branch-circuit conductors	Section 240.21(A)

SECTION E3605 CONDUCTOR SIZING AND OVERCURRENT PROTECTION

E3605.1	General	310.15(a)
Table E3605.1	Allowable ampacities	Table 310.16 and 240.4(D)
E3605.2	Correction factors for ambient temperatures	Table 310.16
Table E3605.2	Ambient temperature correction factors	Table 310.16, Correction factors
E3605.3	Adjustment for conductor proximity	Section 310.15(B)(2)(a)
Table E3605.3	Conductor proximity adjustment factors	Table 310.15(B)(2)(a)
E3605.4	Temperature limitations	Section 110.14(C)
E3605.4.1	Conductors rated 60°C	Section 110.14(C)(1)(a)
E3605.4.2	Conductors rated 75°C	Section 110.14(C)(b)
E3605.4.3	Separately installed pressure connectors	Section 110.14(C)(2)
E3605.4.4	Conductors of type NM cable	Section 334.8(D) and 334.112
E3605.5	Overcurrent protection required	Table 310.15(B)(6), Sections 240.4, 240.5, 240.21
E3605.5.1	Cords	Section 240.5
E3605.5.2	Overcurrent devices of the next higher size	Section 240.4(B)
E3605.5.3	Small conductors	Section 240.4(D)
E3605.5.4	Air conditioning and heat pump equipment	Section 240.4(G)
E3605.6	Fuses and fixed trip circuit breakers	Section 240.6
E3605.7	Location of overcurrent devices in or on premises	Section 240.24(A)(C)(D)(E)
E3605.8	Ready access for occupants	Section 240.24(B)
E3605.9	Enclosures for overcurrent devices	Section 240.30(A)(B)

SECTION E3606 PANELBOARDS

E3606.1	Panelboard rating	Section 408.13
E3606.2	Panelboard circuit identification	Section 408.4
E3606.3	Panelboard overcurrent protection	Section 408.16(A)

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CHAPTER 37	WIRING METHODS	
SECTION E3701	GENERAL REQUIREMENTS	
E3701.1	Scope	Section 300.1
E3701.2	Allowable wiring methods	Sections 110.8 and 300.3
Table E3701.2	Allowable wiring methods	None
E3701.3	Circuit conductors	Section 300.3(B)
E3701.4	Wiring method applications	Chapter 3 and Section 300.2
Table E3701.4	Allowable applications for wiring methods	Chapter 3 and Section 300.2
SECTION E3702	ABOVEGROUND INSTALLATION REQUIREMENTS	
E3702.1	Installation and support requirements	Chapter 3
Table E3702.1	General installation and support requirements for wiring methods	Chapter 3
E3702.2	Cables in accessible attics	Sections 320.23 and 334.23
E3702.2.1	Across structural members	Section 320.23(A) and 334.23
E3702.2.2	Cable installed parallel to framing members	Section 320.17, 320.23(A), 334.17 and 334.23
E3702.3	Exposed cable	Sections 320.15 and 334.15
E3702.3.1	Surface installation	Section 334.15
E3702.3.2	Protection from physical damage	Section 334.15(B)
E3702.3.3.3	Location exposed to direct sunlight	Section 310.8(D)
E3702.4	In unfinished basements	Section 334.15(C)
E3702.5	Bends	Sections 320.24 and 334.24
SECTION E3703	UNDERGROUND INSTALLATION REQUIREMENTS	
E3703.1	Minimum cover requirements	Section 300.5(A)
Table E3703.1	Minimum cover requirements, burial in inches	Table 300.5
E3703.2	Warning ribbon	Section 300.5(D)(3)
E3703.3	Grounding	Section 300.5(B)
E3703.4	Protection from damage	Section 300.5(D)
E3703.5	Splices and taps	Section 300.5(E)
E3703.6	Backfill	Section 300.5(F)
E3703.7	Raceway seals	Section 300.5(G)
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E3703.9	Single conductors	Section 300.5(I)
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E3801.2	Convenience receptacle distribution	Section 210.52(A)
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E3801.2.2	Wall space	Section 210.52(A)(2)
E3801.2.3	Floor receptacles	Section 210.52(A)(3)
E3801.3	Small appliance receptacles	Section 210.52(B)
E3801.3.1	Other outlets prohibited	Section 210.52(B)(2)
E3801.3.2	Limitations	Section 210.52(B)(3)
E3801.4	Countertop receptacles	Section 210.52(C)
E3801.4.1	Wall counter space	Section 210.52(C)(1)
E3801.4.2	Island counter spaces	Section 210.52(C)(2)
E3801.4.3	Peninsular counter space	Section 210.52(C)(3)
E3801.4.4	Separate spaces	Section 210.52(C)(4)
E3801.4.5	Receptacle outlet location	Section 210.52(C)(5)
E3801.5	Appliance outlets	Section 210.50(C)
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E3801.9	Basements and garages	Section 210.52(G)
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E3802.4	Crawl space receptacles	Section 210.8(A)(4)
E3802.5	Unfinished basement receptacles	Section 210.8(A)(5)
E3802.6	Kitchen receptacles	Section 210.8(A)(6)
E3802.7	Bar sink receptacles	Section 210.8(A)(7)
E3802.8	Boathouse receptacles	Section 210.8(A)(8)
E3802.9	Electrically heated floors	Section 424.44(G)
E3802.10	Exempt receptacles	Section 210.8(A)(2)
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E3804.1	Electrical continuity of metal raceways and enclosures	Section 300.10
E3804.2	Mechanical continuity—raceways and cables	Section 300.12
E3804.3	Securing and supporting	Section 300.11(A)
E3804.4	Raceways as means of support	Section 300.11(B)
E3804.5	Raceway installations	Section 300.18
E3804.6	Conduit and tubing fill	Section 300.17 and Chapter 9, Table 1
Tables E3804.6(1)- E3804.6(10)	Maximum number of conductors in conduit or tubing	Section 300.17 and Chapter 9, Table 1, Note 1
E3804.7	Air handling—stud cavity and joist spaces	Section 300.22(C), Exception
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E3805.1	Box, conduit body, or fitting—where required	Section 300.15
E3805.1.1	Equipment	Section 300.15(B)
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E3805.1.3	Integral enclosure	Section 300.15(E)
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E3805.1.6	Fixtures	Section 300.15(J)
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E3805.3.2	Securing to box	Section 314.17(C)
E3805.3.3	Conductor rating	Section 314.17(C)
E3805.4	Minimum depth of outlet boxes	Section 314.24
E3805.5	Boxes enclosing flush-mounted devices	Section 314.19
E3805.6	Boxes at luminaire (lighting fixture) outlets	Section 314.27(A)
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E3805.10	Conduit bodies, junction, pull and outlet boxes to be accessible	Section 314.29
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E3805.12.1	Box volume calculations.....	Section 314.16(A)
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Table E3805.12.2.1	Volume allowance required per conductor.....	Table 314.16
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E3805.12.2.4	Device or equipment fill.....	Section 314.16(B)(4)
E3805.12.2.5	Equipment grounding conductor fill.....	Section 314.16(B)(5)
E3805.12.3	Conduit bodies.....	Section 314.16(C)
E3805.12.3.1	Splices, taps or devices.....	Section 314.16(C)(2)

SECTION E3806**INSTALLATION OF BOXES, CONDUIT BODIES AND FITTINGS**

E3806.1	Conductors entering boxes, conduit bodies or fittings.....	Section 314.17
E3806.1.1	Insulated fittings.....	Section 300.4(F)
E3806.2	Openings.....	Section 314.17(A), 110.12(A)
E3806.3	Metal boxes, conduit bodies and fittings.....	Section 314.17, 314.17(B)
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E3806.5	In wall or ceiling.....	Section 314.20
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E3806.8.1	Surface mounting.....	Section 314.23(A)
E3806.8.2	Structural mounting.....	Section 314.23(B)
E3806.8.2.1	Nails.....	Section 314.23(B)(1)
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