Code ✓Check® Building Fifth Edition

By DOUGLAS HANSEN, SKIP WALKER & REDWOOD KARDON
Illustrations by Paddy Morrissey, Kaia Mathewson & Douglas Hansen

 ISBN 978-1-64155-207-3

Based on Chapters 1–11 of the 2021 edition of the International Residential Code® including annotated changes from the 2018 edition

Code Check Building 5th edition is a condensed guide to codes used for light-frame residential construction. The primary references are the building portions of the *2021 International Residential Code (IRC)* and the *2021 International Building Code (IBC)*. The IRC is used for 1- & 2-family dwellings and townhouses, while the IBC is used for structural issues beyond the scope of the IRC, and for multifamily and commercial buildings.

This book can also be used in areas where the 2018 model codes are still in effect. Significant changes from the 20[illegible] the code citation and a comment on t[illegible] particular code line does not have thos[illegible] Check with the local building departm[illegible] used in your area and for local code an[illegible] model codes for each state can be fou[illegible]

The inside cover lists the codes and standards that are used in the book, along with examples of the shorthand conventions that are used.

TABLE 1	REFERENCED DESIGN DOCU
Organization	
AAMA	AAMA/WDMA/CS[illegible] Fenestration Standards/S[illegible]
ACI	ACI 318–19 Building C[illegible]
AISI	AISI S230–18 Standard for Cold-Formed Steel Framing—Prescriptive Method for 1&2FD
ANSI	ANSI A108 American National Standard Specifications for the Installation of Ceramic Tile Material & Installation Standards
ASCE	ASCE 7-16 with Supplement 1—Minimum Design Loads and Associated Criteria for Buildings and other Structures
ASHRAE	ASHRAE 62.2–2019 Ventilation & Acceptable Indoor Air Quality in Residential Buildings
ASTM	ASTM C926–21 Standard Specification for Application of Portland Cement-Based Plaster
ASTM	ASTM C1063–22 Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement Plaster
AWC	NDS–2018 National Design Specification for Wood Construction
AWC	WFCM–2018 Wood Frame Construction Manual for One- and Two-Family Dwellings
ICC	2021 International Building Code
ICC	2021 International Residential Code
NFPA	NFPA 13D Standard for the Installation of Sprinkler Systems in 1- & 2-Family Dwellings
NFPA	NFPA 72 National Fire Alarm and Signaling Code
NFPA	NFPA 211 Standard for Chimneys, Fireplaces, Vents & Solid Fuel-Burning Appliances
SBCA	BCSI—2018 Building Component Safety Information Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate-Connected Wood Trusses
TMS	TMS 402–16 Building Code Requirements for Masonry Structures
TMS	TMS 602–16 Specifications for Masonry Structures
TPI	TPI 1–2014 National Design Standard for Metal Plate-Connected Wood Truss Construction

KEY TO USING THIS BOOK

Each line that starts with a checkbox ends with a code reference. The code being referenced is shown in the top of the column at the right side. The following example is from ***p. 13:***

☐ Min. 1 egress door required each dwelling unit _____ 311.2

This line tells us that each dwelling requires an egress door, and the IRC code reference is section 311.2. The actual reference is R311.2, and we drop the R in [illegible] Not all of the code references are from [illegible]ces used in this book.

[illegible]eans that an exception to the code rule [illegible] from ***p. 4*** regarding work that does not

[illegible]s ≤ 200-sq.-ft. floor area EXC_ 105.2#1
_____ 105.2#1²
*[illegible]ot required for accessory structures up [illegible] shelters, which do require permits. The [illegible]he superscript "2", indicating it is code [illegible]ained at the bottom of **p.4**.*

[illegible]es. They are referenced in the text as in

_____ 502.8.1
This line tells us that the limits for notching and boring of joists are found in table 16 and illustrated in figure 42.

Abbreviations are used to save space, as in this example from ***p. 7:***

☐ L&L fire-rated boxes (plastics) allowed in walls AMI **F2** _____ 302.4.2X2

*This line tells us that "listed and labeled" (L&L) electrical boxes are allowed in rated wall membranes if installed "in accordance with manufacturer's instructions" (AMI) and as shown in figure 2. The "X" in the code citation references an exception in the code, i.e., it refers here to exception 2 to section 302.4.2. The abbreviations are explained on **p. 1**. Specialized terms used in the book are found in the glossary on **p. 49**.*

The information in this book is believed to be accurate; however, it is not intended as a substitute for the full text of the referenced codes. Publication by the The Taunton Press, ICC, and the authors should not be considered by the user to be a substitute for the enforceable interpretation of the local building department.

Benjamin Franklin was chosen as the main character in our illustrations for a number of reasons. His insatiable curiosity, scientific genius, and civic-mindedness drove him to promote fire safety, public sanitation, heating methods that improved efficiency and reduced pollution, safe exits, and, of course, electricity. Franklin made major contributions to each of the four main disciplines of building inspection: Building, Plumbing, Mechanical, and Electrical.

CODE CHECK
"YOUR KEY TO THE CODES."

For updates, additional tables & information on the Building & Residential Codes, visit:
www.codecheck.com

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This book can also be used in areas where the 2018 model codes are still in effect. Significant changes from the 2018 code editions have a different color in the code citation and a comment on the change at the bottom of the page. If a particular code line does not have those features, it also applied in the 2018 IRC. Check with the local building department to determine which model codes are used in your area and for local code amendments. A quick reference guide to the model codes for each state can be found at www.codecheck.com.

TABLE 1 REFERENCED STANDARDS & ALTERNATIVE DESIGN DOCUMENTS USED IN THIS BOOK

Organization	Document Name
AAMA	AAMA/WDMA/CSA 101/I.S.2/A440–17 North American Fenestration Standards/Specifications for Windows, Doors & Skylights
ACI	ACI 318–19 Building Code Requirements for Structural Concrete
AISI	AISI S230–18 Standard for Cold-Formed Steel Framing—Prescriptive Method for 1&2FD
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☐ Min. 1 egress door required each dwelling unit _____ 311.2

This line tells us that each dwelling requires an egress door, and the IRC code reference is section 311.2. The actual reference is R311.2, and we drop the R in order to save space throughout the book. Not all of the code references are from the IRC; see Table 1 (T1) for other references used in this book.

When a line ends with the letters EXC, it means that an exception to the code rule follows in the next line, as in this example from *p. 4* regarding work that does not require a building permit:

☐ 1-story detached accessory structures ≤ 200-s
• Storm shelters

This line tells us that building permits are not requir to 200 sq. ft. of floor area except for storm shelters. code line ends with a different color and the super change #2, and that change is further explained at

This book has 86 illustrations and 61 tables. They this example from *p. 26*:

☐ Notching & boring per T16 & F42 _____

This line tells us that the limits for notching and bo 16 and illustrated in figure 42.

Abbreviations are used to save space, as in this ex

☐ L&L fire-rated boxes (plastics) allowed in walls AN

This line tells us that "listed and labeled" (L&L) elec wall membranes if installed "in accordance with ma and as shown in figure 2. The "X" in the code citat the code, i.e., it refers here to exception 2 to sect are explained on p. 1. Specialized terms used in the on p. 49.

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ABBREVIATIONS

1FD = single family dwelling
1&2FD = 1- & 2-family dwellings
AAMA = American Architectural Manufacturers Association
ABW = alternate braced wall
ACH = air changes per hour
ACI = American Concrete Institute
AFF = above finished floor
AISI = American Iron & Steel Institute
AMI = in accordance with manufacturer's instructions
AMM = Alternative Materials, Designs & Methods
ANSI = American National Standards Institute
ASCE = American Society of Civil Engineers
ASHRAE = American Society of Heating, Refrigeration & Air Conditioning Engineers
ASTM = ASTM International (formerly American Society for Testing & Materials)
AWC = American Wood Council
BFE = base flood elevation
BIPV = building-integrated photovoltaic
BO = building official
BUR = built-up roofing
BV-WSP = WSP w/ stone/masonry veneer
BWL = braced wall line
BWP = braced wall panel
CMU = concrete masonry unit
CPSC = Consumer Product Safety Commission
CS = continuous sheathing (wall bracing)
CS-G = CS-WSP adjacent garage openings
CS-PF = continuously sheathed portal frame
CS-SFB = CS structural fiberboard
CS-WSP = CS wood structural panel
DFE = design flood elevation
DWB = diagonal wood boards
EERO = emergency escape & rescue opening
EXC = except, exception
FM = FM Approvals (factory mutual)
FRT = fire-retardant treated
FSD = fire separation distance
ft. = foot / feet
ga = gauge
GB = gypsum board
HPS = hardboard panel siding
hr., hrs. = hour, hours
IBC = International Building Code
ICC = International Code Council
IRC = International Residential Code
ICF = insulating concrete form
in. = inch(es)
L&L = listed & labeled
lav = lavatory basin
lb. = pound(s)
LIB = let-in bracing
LL = lot line
LVL = laminated veneer lumber
max. = maximum
MEP = mechanical, electrical & plumbing
MFR = manufacturer
mil = thousands of an inch
min. = minimum
mph = miles per hour
NRCA = National Roofing Contractors Association
NDW = naturally durable wood
NFPA = National Fire Protection Association
NP = not permitted
NRTL = Nationally Recognized Testing Laboratory
o.c. = on center
OSB = oriented strand board
p. = page, as in "see p. 5"
PBS = particleboard sheathing
PCP = Portland cement plaster
PFG = portal frame at garage
PFH = portal frame w/ hold-downs
PPT = pressure-preservative treated
psf = pounds per square foot
psi = pounds per square inch
PT = preservative treated
PV = photovoltaic
RSRS = roof sheathing ring shank (nail)
SBCA = Structural Building Components Assoc.
SDC = Seismic Design Category
SDC D = Seismic Design Categories D_w D, & D_1 inclusive
SFB = structural fiberboard sheathing
SHGC = solar heat gain coefficient
spec = specification
sq. = square, as in sq. ft.
T&G = tongue & groove
temp = temperature
TMS = The Masonry Society
TPI = Truss Plate Institute
UDWS = ultimate design wind speed
UL = UL (formerly Underwriters Laboratories)
w/ = with
w/o = without
WC = water closet (toilet)
WRB = water-resistive barrier
WSP = wood structural panel
X = in code citation, refers to "exception"
Zi = zinc, galvanized

The tabs at the bottom of every page allow quick access to each topic

The print edition has 86 illustrations and 61 tables. These are referenced in the text along with the code number that applies to them.

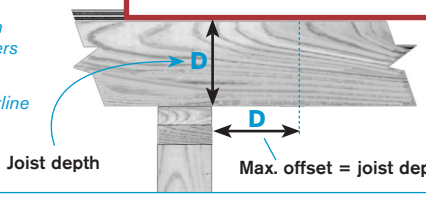
Additional tables for rafter spans and girder/header spans are downloadable.

FIG. 39

Bearing Wall Sup

Bearing walls should not offset more than 1 joist depth from parallel supporting girders or walls below the floor.

Measure centerline-to-centerline for walls of unequal width.

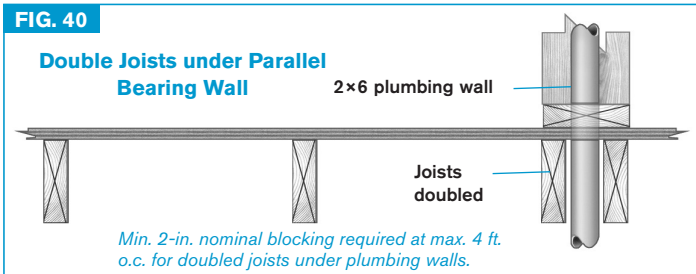


Joists — 21 IRC

- ☐ Joists & subfloor min. 18 in. above earth if not PT or NDW **F38** _____ 317.1
- ☐ Size & span for sleeping areas & attics w/ stairs per **T17** _____ 502.3.1
- ☐ Size & span for other areas w/ live loads ≤ 40 psf per **T18** _____ 502.3.2
- ☐ Cantilever spans OK ≤ joist depth EXC _____ 502.3.3
  - • If supporting light-frame bearing wall & roof per T502.3.3(1) ____ 502.3.3
- ☐ Double joists under parallel bearing walls **F40** _____ 502.4
- ☐ End bearing min. 3 in. when direct on concrete or masonry; 1½ in. OK on sill plate w/ min. nominal bearing area 48 sq. in. _____ 502.6
- ☐ Bearing OK on 1 × 4 ribbon strip & nailed to adjacent stud _____ 502.6
- ☐ Joints into side of wood girder approved joist hangers or 2 × 2 ledger 502.6.2
- ☐ Min. floor joist lap across girder 3 in. & min. 3 10d face nails **F41** ___ 502.6.1
- ☐ Notching & boring per **T16** & **F42** _____ 502.8.1

FIG. 40

Double Joists under Parallel Bearing Wall



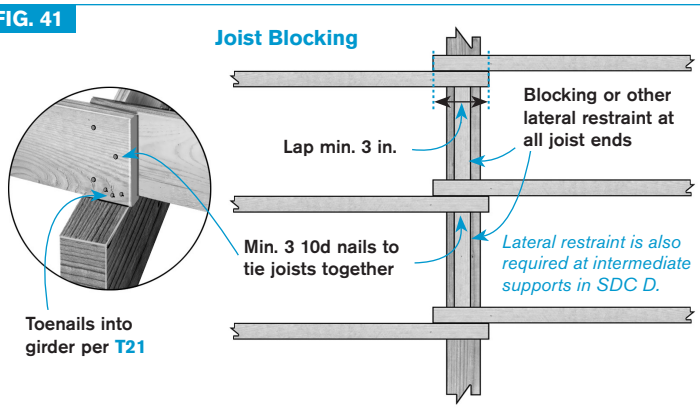
Min. 2-in. nominal blocking required at max. 4 ft. o.c. for doubled joists under plumbing walls.

Joist Blocking & Bridging — 21 IRC

- ☐ All joist ends require lateral restraint: blocking, attachment to rim joists or full depth header, or attachment to adjoining stud **F41** _____ 502.7
- ☐ Blocking min. 2× material & full depth of joist **F41** _____ 502.7
- ☐ Blocking also required at intermediate supports in SDC D _____ 502.7X2
- ☐ Lateral restraint of engineered lumber AMI _____ 502.7X1
- ☐ Joists >2 × 12 require bridging or continuous 1-in. × 3-in. strip across bottom of joists at max. 8-ft. intervals _____ 502.7.1

FIG. 41

Joist Blocking



21 IRC

- ☐ trimmers _____ 502.10
- ☐ sts allowed max. 4-ft. span __ 502.10
- ☐ Single trimmers carrying single headers max. 3 ft. to trimmer bearing _ 502.10
- ☐ Double trimmers for openings >3 ft. from trimmer bearing points ____ 502.10
- ☐ Double headers & trimmers when header span >4 ft. _____ 502.10
- ☐ Headers & trimmers require bearing support or approved joist hangers 502.6
- ☐ Combustible framing min. 2 in. from masonry chimneys ***(see p. 47)*** _ 1003.18

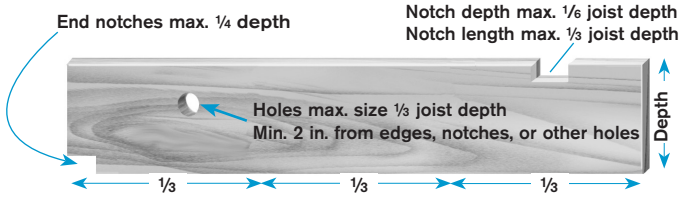
TABLE 16 NOTCHING & BORING JOISTS & GIRDERS ◆ 502.8.1

Nominal[A] Dimension Joist or Girder	Max. Diameter Bored Hole	Max. Notch Length	Max. Notch Depth Outer ⅓	Max. Depth End Notch
6	1½ in.[B]	1 13/16 in.	7/8 in.	1⅜ in.
8	2⅜ in.	2⅜ in.	1 3/16 in.	1 13/16 in.
10	3 1/16 in.	3 1/16 in.	1½ in.	2 5/16 in.
12	3¾ in.	3¾ in.	1⅞ in.	2 13/16 in.

A. Table numbers based on actual (not nominal) dimensions: typically 5½, 7¼, 9¼, and 11¼.
B. Though ⅓ depth would be 1 13/16 in., a hole that size would be <2 in. from the edge in 5½-in. material.

FIG. 42

Notching & Boring Joists & Girders



No notching in middle ⅓ (holes OK)
No notching at bottom if > 4× lumber, except at ends

Engineered Wood Products & Floor Trusses — 21 IRC

- ☐ Cuts, notches & holes only AMI by MFR or where specified & considered in design by a registered design professional **F43,44** ___ 502.8.2
- ☐ Metal plate–connected wood trusses per ANSI/TPI 1 & require design drawings by a registered design professional _____ 502.11.1
- ☐ Truss drawings to include bracing requirements _____ 502.11.2
- ☐ No truss alterations or repairs w/o approval of registered design professional _____ 502.11.3
- ☐ Truss design drawings must be submitted & approved by BO prior to installation & design drawings to be provided w/ shipment to job site 502.11.4
- ☐ Design drawings to include same types of information as required for roof trusses—see ***p. 37*** _____ 502.11.4

FIG. 43

Manufactured I-Joist Web Stiffener

Follow manufacturer instructions for allowed spans and for details such as squash blocks and web stiffeners.

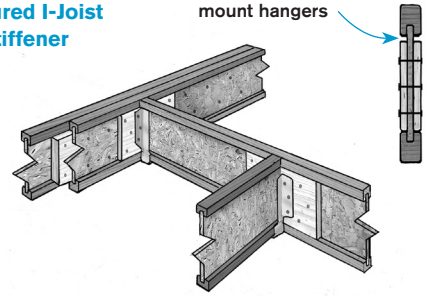
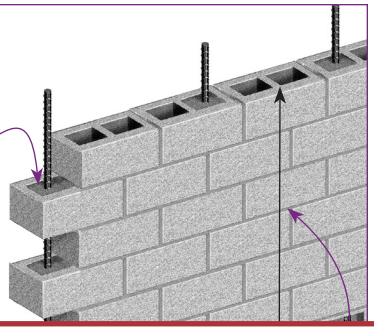


FIG. 33

CMU Walls



Ledgers

- ☐ Beam
- ☐ Joist s
- ☐ Bolt e

Floor &

- ☐ WSP
- ☐ WSP
- ☐ Secure to CMU walls in accordance w/ F606.11(1-3) _____ 606.12.1

The section on Concrete includes requirements from ACI 318 and the International Building Code

CONCRETE

As an alternative to the prescriptive requirements of the IRC, concrete foundation walls can be designed to ACI 318 or ACI 332. Those references also contain information on construction techniques and allowable tolerances that apply even without a complete adoption of them as an alternative code. Examples of the need for those documents include areas where soluble sulfates in the soil will be in contact with concrete or where adverse environmental conditions exist. ACI documents provide guidelines for admixtures to deal with these conditions. Slab-on-grade construction of single-family homes and townhouses is sometimes done with post-tensioned concrete, which then falls under the requirements of the IBC and ACI 318-19.

Materials & Placement — 21 IRC

- ☐ Materials & testing to conform to ACI 318 & ACI 332 **T1** _____ 402.2
- ☐ Min. compressive strength 2,500 psi & per **T14** _____ 402.2 & 404.1.3.3.1
- ☐ Cements per ASTM C150, C595 & C1157 _____ 402.2.1 & 608.5.1.1
- ☐ Mixing & delivery per ASTM C94 & C685 _____ 402.2.1 & 608.5.1.2
- ☐ Max. aggregate size ⅕ distance between forms or ¾ distance between reinforcement bars or between bar & side of form __ 404.1.3.3.3 & 608.5.1.3
- ☐ Max. slump if removable forms 6 in. **F34** _____ 404.1.3.3.4 & 608.5.1.4
- ☐ Slump w/ stay-in-place forms >6 in. per ASTM C143 404.1.3.3.4 & 608.5.1.4
- ☐ Thoroughly work around rebar & into corners _____ 404.1.3.3.5 & 608.5.1.6
- ☐ Immersion-vibrate stay-in-place forms (ICF) _____ 404.1.3.3.5 & 608.5.1.6
- ☐ Cold joint reinforcement min. 12 in. each side of joint 404.1.3.3.7.8 & 608.5.5

Preparation — ACI 318-19

- ☐ Remove debris & ice prior to placement of concrete _____ 26.5.2.1(a)
- ☐ Standing water removed (unless tremie is to be used) _____ 26.5.2.1(b)
- ☐ No pumping concrete through aluminum or aluminum alloy pipes _ 26.5.2.1(d)
- ☐ Select materials, methods, delivery, handling, placement & curing within specified temperature limits (max. temp of concrete 95°) _ 26.5.4.2 & 26.5.5.2

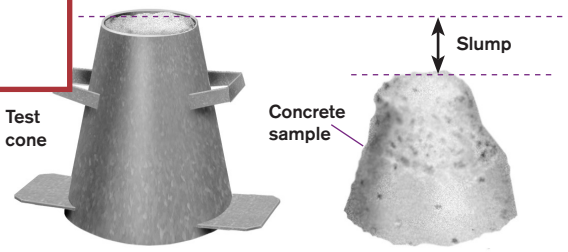
Curing

- ☐ Maintain concrete at min. 50°F & in moist condition 7 days EXC __ 26.5.3.2(a)
  - • High-early-strength concrete 3 days OK _____ 26.5.3.2(b)
  - • Accelerated curing at direction of licensed design professional _ 26.5.3.2(c)

FIG. 34

Slump Test: ASTM C143

old and place on flat nonabsorbent rigid surface. Hold mold in place by oot pieces (preferred) or by clamping to a base plate.
3 layers from concrete sample, each approximately ⅓ cone volume. Third d above the top of the mold.
ayer with strokes of tamping rod, uniformly distributed over cross section Rod each layer to its depth, barely penetrating the underlying layer. Heap e mold for top layer; keep excess of concrete above top.
ss concrete off surface by screeding and rolling motion of the tamping rod. y remove mold with smooth vertical lift. Complete entire test from start of val of mold without interruption within elapsed time of 2½ minutes.
tance between top of mold and displaced center of slumped concrete is l reported to the nearest ¼ in.



If a decided falling away or shearing off of a portion of concrete or portion of the mass occurs, disregard test and make a new test on another sample. Two consecutive failed tests are grounds to reject the concrete.

In general, concrete >2,500 psi requires special inspections and tests conducted by an approved agency, except for concrete that supports light-frame construction ≤3 stories above grade plane. The IRC does not address testing for areas requiring >2,500 psi concrete in **T14**, and pumped concrete will be >2,500 psi. Environmental, climate, or soils issues may necessitate testing even for buildings within the scope of the IRC, and testing is required for commercial construction. A design professional will specify which tests are needed, and building jurisdictions typically have a list of approved agencies qualified to perform special testing. ICC provides certification for special inspectors of concrete work.

Special Inspections — 21 IBC

- ☐ Approved agency to be independent of contractor performing work _ 1703.1.1
- ☐ Special inspections of concrete required EXC _____ 1705.3 & 1901.6
  - • Fully supported footings supporting ≤3 stories above grade plane of light-frame construction, prescriptively designed & based on specified compressive strength ≤2,500 psi _____ 1705.3X2
  - • Nonstructural slabs supported directly on the ground _____ 1705.3X3
  - • Prescriptive concrete foundation walls per IBC T1807.1.6.2 _____ 1705.3X4
  - • Patios, sidewalks & driveways on grade _____ 1705.3X5
- ☐ No welding of reinforcing bars w/o special inspection _____ 1705.3.1

Deck Footings & Posts 21 IRC

- ☐ Concrete footing or other approved structural system required EXC___ 507.3
  - • Freestanding decks of joists directly supported on grade _________ 507.3X1
  - • Freestanding decks of joists bearing directly on concrete pier blocks, max. area 200 sq. ft., max. 20 in. above grade within 36 in. ______ 507.3X2[53]
- ☐ Footings min. 12 in. below undisturbed ground surface ____________ 507.3.2
- ☐ Min. footing size per T507.3.1 ________________________________ 507.3.1[54]
- ☐ Post min. size per T507.4 _____________________________________ 507.4[55]
- ☐ Posts bearing on footings require lateral restraint from manufactured connectors or min. embedment of 12 in. in soils or concrete EXC___ 507.4.1
  - • Expansive or other questionable soils not OK for lateral support___ 507.4.1X

Deck Beams

- ☐ Beam plies fastened w/ 2 rows 10d nails 16 in. o.c each edge _______ 507.5
- ☐ Beam spans per T507.5 _______________________________________ 507.5[56]
- ☐ Beams permitted to cantilever at each end to ¼ of beam span _______ 507.5
- ☐ Ends of beams require min. 1½ in. bearing on wood or metal _______ 507.5.1
- ☐ Multiple-span beams bearing on intermediate post must have each ply bearing on the post ______________________ 507.5.1
- ☐ Deck beam connections must resist horizontal displacement _________ 507.5.2
- ☐ MFR connectors AMI, bolts require washers under head & nut ______ 507.5.2

Deck Joists

- ☐ Joist spans, cantilevers & spacing per T507.6 & **T48** ___
- ☐ Ends of joists require min. 1½ in. bearing on wood or metal ___
- ☐ Joists bearing on top of multiple-ply beam or ledger can be nailed
- ☐ Mechanical connection if bearing on top of single-ply beam or ledg
- ☐ Joists bearing into side of beam or ledger require joist hangers ___
- ☐ Ends & bearing locations require lateral restraint ___
- ☐ Blocking & joist hangers min. 60% of joist depth ___
- ☐ Rim joist secured to each joist w/ min. 3 10d nails or 3 in. screws

TABLE 48 MAX. O.C. JOIST SPACING IN INCHES[58] ◆

Wood Size	Decking Perpendicular to Joist		Decking Diagonal[A]	
	Single Span[B]	Multiple Span[B]	Single Span[B]	Multiple Span[B]
1¼ in. thick	12	16	8	12
2 in. thick	24	24	18	24

A. Max. angle 45° from perpendicular.
B. Support by 2 joists considered single span. Support by ≥ 3 joists considered multiple span.

Decking 21 IRC

- ☐ Max. joist spacing **T48** ___________________________________ 507.7
- ☐ Min. 2 8d threaded nails or screws attachment to joists ______________ 507.7
- ☐ Max. spacing for joists for plastic composite decking AMI ____________ 507.7

Hold-Down Tension Devices to Restrain Lateral Deck Load

- ☐ Per F507.9.2(1) within 24 in. of each end of deck. Min. 1,500-lb. capacity each hold-down (used when floor joists parallel to deck joists) ______ 507.9.2
- ☐ Per F507.9.2(2) at 4 evenly distributed locations. Min. 750-lb. capacity each hold-down (used when floor joists perpendicular to deck joists) 507.9.2

Deck Guards

- ☐ Guards must transfer loads w/ continuous path to deck joists ______ 507.10.1[59]
- ☐ Where guard is connected to side of joist or beam, connection to adjacent joist or beam required to prevent rotation __________ 507.10.1.1[59]
- ☐ Connections relying on fasteners in end-grain prohibited _________ 507.10.1.1[59]
- ☐ 4-in. × 4-in. posts supporting guard loads not to be notched at connection to supporting structure ____________________ 507.10.2[59]

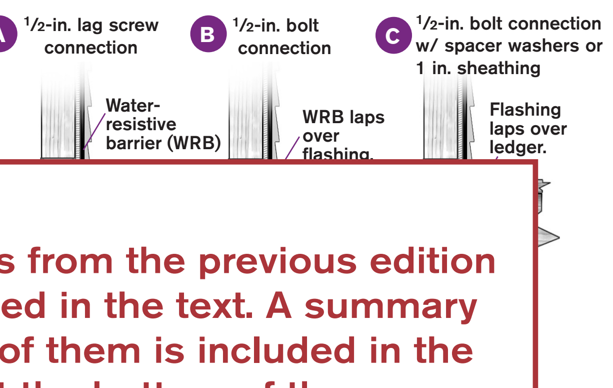
53. New inclusion of decks-on-grade, similar to requirements for permits for such decks.
54. The table now includes smaller tributary areas, resulting in allowances for smaller footings than the previous lower limit of 12 in. × 12 in. In some cases, 8-in.-round footings or 7-in.-square footings are now allowed. The column for 2,500 psf soil bearing was eliminated. Since interpolation is allowed, eliminating that column is not significant.
55. The new table for post heights is significantly expanded from the simple version that was in the 2018 code, and now includes adjustments for the tributary area supported by each post and for ground snow loads. Posts w/ small tributary areas are now allowed taller heights than in 2018.
56. The beam span table was expanded for ground snow loads and the lines for NDW are now separate from those that are PT. The "effective joist span" supported by beams includes a factor based on the amount of joist cantilever. Previous table was a half page; new table is 4 pages.
57. The joist span table was expanded for ground snow loads. Cantilevers are now based upon the actual back span.
58. The joist spacing table was expanded to include both single-span and multiple-span conditions.
59. Entire section on deck guards is new in 2021.

Ledgers 21 IRC

- ☐ Attachment to exterior wall requires positive anchoring for vertical & lateral loads—no toenails or nails subject to withdrawal ______ 311.5 & 507.8
- ☐ If positive attachment cannot be verified, deck must be self-supporting 507.8
- ☐ Ledgers min. 2 × 8 nominal PPT or NDW #2 grade _____________ 507.9.1.1
- ☐ Flashing required to prevent water entry ________________________ 703.4
- ☐ Ledgers not OK to support loads from beams or girders ___________ 507.9.1.1
- ☐ Ledgers cannot be supported on stone/masonry veneer_ 507.9.1.1 & 703.8.3
- ☐ Band joists supporting ledger min. 2 in. nominal (or engineered wood) 507.9.1.2
- ☐ Band joists must fully bear on primary structure (no cantilever) ____ 507.9.1.2
- ☐ Ledger attachment per **T49**, **F68,69** or approved equivalent _____ 507.9.1.3[60]
- ☐ Lateral loads must transfer to ground or through structure to ground _ 507.9.2

FIG. 68

Ledger Bolts



Code changes from the previous edition are highlighted in the text. A summary explanation of them is included in the footnotes at the bottom of the page.

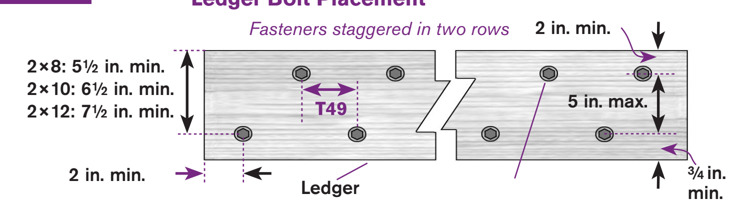
...9.1.3(1)

							…6	18
							(in.)	
40 psf live load	½-in. lag screw w/ ½-in. max. sheathing[A] F68 A	30	23	18	15	13	11	10
	½-in. bolt w/ ½-in. max. sheathing[A] F68 B	36	36	34	29	24	21	19
	½ -in. bolt w/ 1-in. max. sheathing[B] F68 C	36	36	29	24	21	18	16
50 psf ground snow load	½-in. lag screw w/ ½-in. max. sheathing[A] F68 A	29	22	17	14	12	11	9
	½-in. bolt w/ ½-in. max. sheathing[A] F68 B	36	36	33	27	23	20	18
	½-in. bolt w/ 1-in. max. sheathing[B] F68 C	36	35	28	23	20	17	15
60 psf ground snow load	½-in. lag screw w/ ½-in. max. sheathing[A] F68 A	25	18	15	12	10	9	8
	½-in. bolt w/ ½-in. max. sheathing[A] F68 B	36	35	28	23	20	17	15
	½-in. bolt w/ 1-in. max. sheathing[B] F68 C	36	30	24	20	17	15	13
70 psf ground snow load	½-in. lag screw w/ ½-in. max. sheathing[A] F68 A	22	16	13	11	9	8	7
	½-in. bolt w/ ½-in. max. sheathing[A] F68 B	36	31	25	20	17	15	13
	½-in. bolt w/ 1-in. max. sheathing[B] F68 C	35	26	21	17	15	13	11

A. WSP sheathing or solid-sawn lumber.
B. WSP, SFB, GB, lumber, foam. Up to ½-in. of stacked washers permitted w/ WSP or lumber.

FIG. 69

Ledger Bolt Placement



60. The table was expanded for ground snow loads.