2009 International Residential Code Table R602.3(1) Fastening Schedule for Structural Members - Wall Construction

CONNECTION	TrueSpec Brite-Hot Galv	NUMBER (count)	FASTENING a,m	Location
1. Blocking between joists or rafters to top plate	3 E	3	2 1/2" x 0.113	
2. Ceiling joists to plate, toenail	3 E	3	2 1/2" x 0.113	Toenail
3. Ceiling joists not attached to Parallel rafter, laps over partitions	3 F3	3	3" x 0.131	Face nail
4. Collar tie rafter	3 F3	3	3" x 0.131	Face nail or 1 1/4 x 20gage ridge strap
5. Rafter to plate	5 K	2	3 1/2" x 0.135	Toenail
6. Roof rafters to ridge, valley or hip rafters:	5 K	4	3 1/2" x 0.135	Toenail
	5 K	3	3 1/2" x 0.135	Face nail
7. Built-up corner stud	3 F3	24" o.c	3" x 0.131	
8. Built-up header two pieces with 1/2" spacer	5 K	16" o.c	3 1/2" x 0.135	Along each edge
9. Continued header, two pieces	5 K	16" o.c	3 1/2" x 0.135	Along each edge
10. Continuous header to stud	3 E	4	2 1/2" x 0.131	Toenail
11. Double studs	3 F3	24" o.c	3" x 0.131	Face nail
12. Double top plates	3 F3	24" o.c	3" x 0.131	Face nail
13, Double top plates, minimum 48" offset of end joints	5 K	8	3 1/2" x 0.135	Face nail in lap
14. Sole plate to joist or blocking	5 K	16" o.c	3 1/2" x 0.135	Face nail
15. Sole plate to joist or blocking at braced wall panels	5 K	16" o.c	3 1/2" x 0.135	
16. Stud to sole plate	3 E	3	2 1/2" x 0.131	Toenail
	5 K	2	3 1/2" x 0.135	
17. Top or sole plate to stud	5 K	2	3 1/2" x 0.135	End nail
18. Top plates, laps at corners and intersections	3 F3	2	3" x 0.131	Face nail
19. 1" brace to each stud and plate	3 E	2	2 1/2" x 0.131	Face nail
20. 1" x 6" sheathing to each bearing	3 E	2	2 1/2" x 0.131	Face nail
		2	2 1/2" x 0.131	
21. 1" x 8" sheathing to each bearing	3 E3	2	2 1/2" x 0.131	Face nail
		3	2 1/2" x 0.131	
22. Wider than 1" x 8" sheathing to each bearing	3 E	3	2 1/2" x 0.131	Face nail
		4	Staples 1 3/4"	

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CONNECTION	TrueSpec Brite-Hot Galv	NUMBER (count)	FASTENING a,m	Location
Floor				
23. Joist to sill or girder	3 E3	3	2 1/2" x 0.131	Face nail
24. 1" x 6" subfloor or less to each joist	3 E3	2	2 1/2" x 0.131	Face nail
		2	Staples 1 3/4"	
25. 2" subfloor to joist or girder	5 K	2	3 1/2" x 0.135	Blind and face nail
26. Rim joist to top plate (roof applications also)	3 E	6" o.c	2 1/2" x 0.131	Toenail
27. 2" planks (plank&beam - floor&roof)	5 K	2	3 1/2" x 0.135	At each bearing
28. Built-up girders and beams, 2" lumber layers	3 F3	32" o.c	3" x 0.131	At top and bottom staggered and,2 nails at each end and at each splice
29. Ledger strip supporting joists or rafers	5 K	3	3 1/2" x 0.135	At each joist or rafter

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CONNECTION	TrueSpec Brite-Hot Galv	FASTENING a,m	Location Edges (Inches) i	Intermediate (inches) c e
Wood structural panels, subfloor, roof and interior wall sheathing to framing and particle board wall sheathing to framing				
30. 3/8"- 1/2"	3 D	2" x 0.113 j 2 1/2" x 0.131	6	12 g
31. 5/16" - 1/2"	3 D	6d common (2" x 0.113) 2 1/2" x 0.131 f	6	12 g
32. 19/32' - 1"	3 D	2 1/2" x 0.131	6	12 g
33. 1 1/8" - 1 1/4"	4 F4 3r	3" x 0.148 deformed 2 1/2" x 0.131	6	12
Other wall sheathing				
34. 1/2" structural cellusosic fiberboard sheathing		1 1/2" galv roofing nail 7/16" or 1" crown staple (1 1/4")	3	6
35. 25/32 structural cellusosic fiberboard sheathing		1.75" galv roofing nail 7/16" or 1" crown staple (1 1/2")	3	6
36. 1/2" gypsum sheathing d		1 1/2" galv roofing nail 7/16" or 1" crown staple (1 1/2") 1 1/4" screw (type W or S)	7	7
37. 5/8" gypsum sheathing d		1 3/4" galv roofing nail 7/16" or 1" crown staple (1 5/8) 1 5/8" screw (type W or S)	7	7
Wood structural panels				
38. 3/4" and less	3 E	deformed 2" x 0.120 2 1/2" x 0.131	6	12
39. 7/8" - 1"	3 E	2 1/2" x 0.131 2 1/2" x 0.120	6	12
40. 1 1/8" - 1 1/4"	4 F4	3" x 0.148 deformed 2 1/2" x 0.120	6	12

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s; 1ksi = 6.895 Mpa.
a. All nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections shall have a minimum average bending yeail strengths as shown: 80ksi for shank diameter of 0.192 inch (23d common), 90ksi for shank diameters larger than 0.142 inch but not larger than 0.177 inch, and 100ksi for shank diameters of 0.142 inch or less.