

Table 2a

2009 International Building Code IBC Bearing Plate Allowable Loads (13th Ed. ASD, 2005 NDS)

Bearing Plate Part #	Plate Dimensions			Hole Dia. (bolt size)	Capacity DFL (lbs)	Wall Size	
	Thickness (in)	Width (in)	Length (in)				
S4	3/16	2 1/2	2 1/2	3/4	4,120	4x & 6x	
S4.5	5/16	2 3/4	2 3/4		5,003		
S5	1/4	3	3		5,964		
S6	1/4	3 1/4	3 1/4		7,002		
S7	3/8	3 1/2	3 1/2		7,963		
S8	3/8		4		8,281		
S10	1/2		5		10,322		
S12	5/8		6		12,360		
S14	3/4		7		13,665		
S16	1		8		15,696		
S8L	3/8	3 1/4	4	1 1/4	7,962	6x	
S10L	1/2		5		10,009		
S12L	5/8		6		12,051		
S14L	3/4		7		13,373		
S16L	1		8		15,404		
S19			9		18,842		
S22	1 1/4		10		21,029		
S24			11		23,217		
S26			12		25,404		
S28			13		27,592		
S32	1 1/2		15	31,967			
S35			16	34,154			
S39			18	38,529			
S44			20	42,904			
L17	1/2	5	5 1/2	3/4	17,282	4x & 6x	
L20	5/8	5 1/2	6		21,016		
L21		5	7		21,029		
L25	3/4	5 1/2	7 1/2		24,936		
L28		5	9		27,279		
L30	1	5 1/2	9		30,092		
L32		5	11		33,529		
SPW6					1 1/4		5,964
SPW8					1		5,705
SPW10					1 1/4		5,377

Table 2b

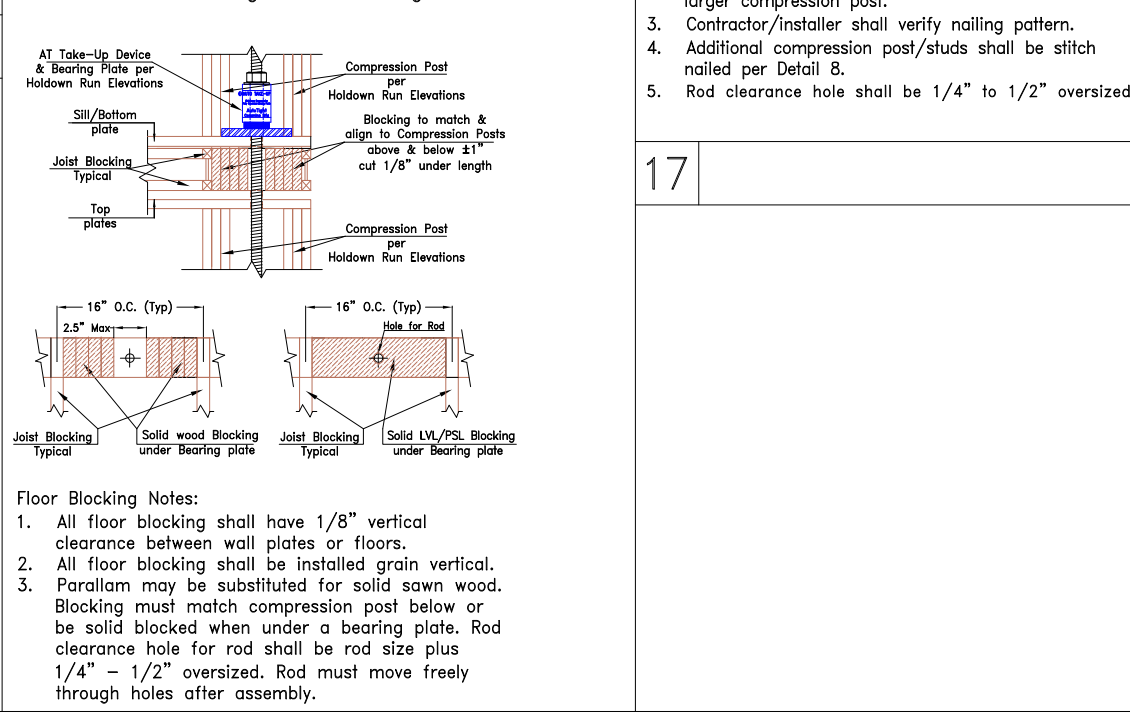
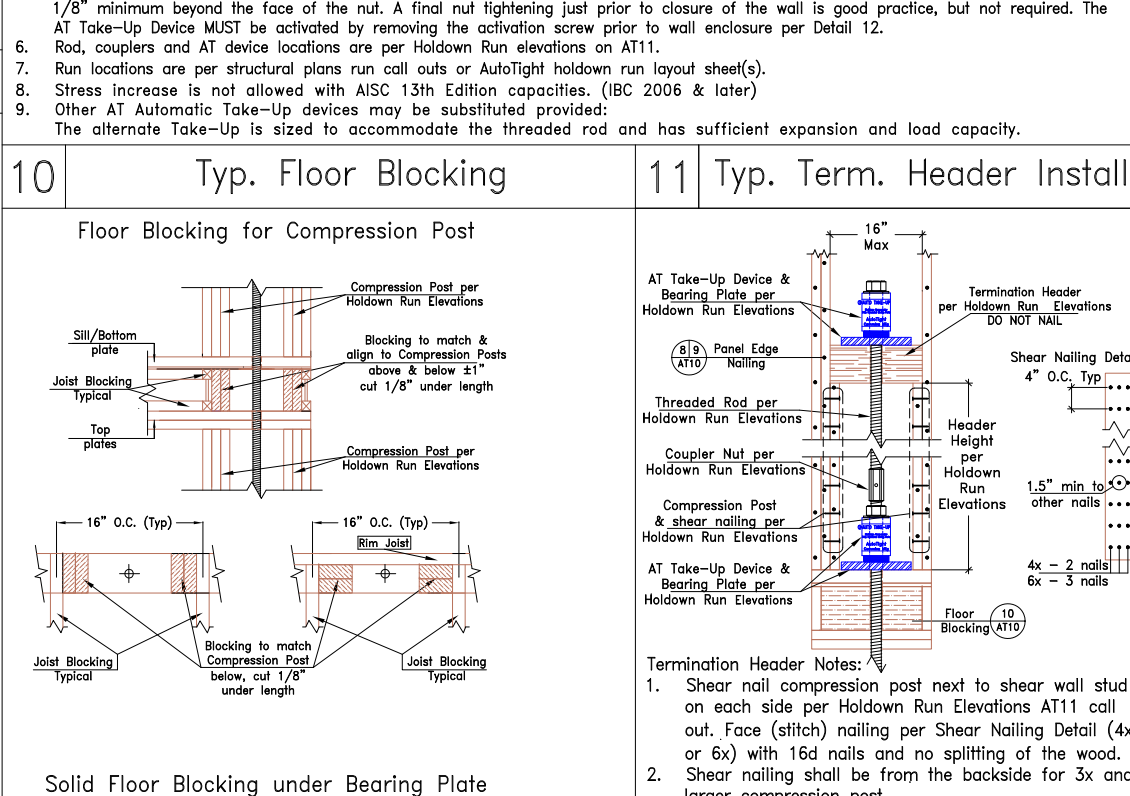
2006 International Building Code (IBC)

Rod Size	Diameter & Thread		Allowable Tension (lbs)					
	Model	"Diameter & Thread"	A36 or F1554 Gr 36	A307	A449 or A325	A108-C1045	A193-B7 or F1554 Gr 105	A354-BD
3/8	R3	3/8"-16 NC	2,400	2,490	4,970	4,970	5,180	6,215
1/2	R4	1/2"-13 NC	4,270	4,420	8,840	8,840	9,200	11,045
5/8	R5	5/8"-11 NC	6,670	6,900	13,810	13,810	14,380	17,255
3/4	R6	3/4"-10 NC	9,610	9,940	19,880	19,880	20,710	24,850
7/8	R7	7/8"-9 NC	13,080	13,530	27,060	27,060	28,190	33,825
1	R8	1"-8 NC	17,080	17,670	35,340	35,340	36,820	44,180
1 1/8	R9	1-1/8"-7 NC	21,620	22,370	39,140	44,730	46,590	55,915
1 1/4	R10	1-1/4"-7 NC	26,690	27,610	48,320	55,220	57,520	69,030
1 3/8	R11	1-3/8"-6 NC	32,300	33,410	58,470	66,820	69,600	83,530
1 1/2	R12	1-1/2"-6 NC	38,440	39,760	69,580	79,520	82,830	99,400
1 3/4	R14	1-3/4"-5 NC	52,310	54,120	81,180	108,240	112,750	135,295

Table 1d

2006 International Building Code (IBC)

Rod Diameter (inches)	Model	Rod Diameter & Thread	Dimensions (inches)		Rated Take-Up (Inches)	Allowable Load Pounds	Average Ultimate Pounds	Δr (inches) Increment	ΔΔ (inches) Deflection at Allowable Load
			Di.	H					
1/2"	AT4A-1.5	1/2"-1/2"	3"	1-1/2"	7,273	24,857	0.000"	0.014	
			4-1/16"	2-1/2"					
			3-3/16"	1-1/2"					
3/4"	AT6A-2.5	3/4"-1/2"	2"	3"	13,579	40,737	0.002"	0.024	
			2"	4"					
			2-1/4"	3-1/8"					
1"	AT 10	1"-1/4"	2-1/4"	3-1/8"	25,300	78,067	0.002"	0.032	
			2-3/4"	3-1/8"					
			3-1/8"	1-1/2"					



1 AutoTight Rod Holdown System Notes

Holdown System Design:
 1. Holdown system conforms to International Building Code (IBC) 2006 per local jurisdiction.
 2. Required loads and system requirements per structural plans dated XX/XX/20XX.
 3. Wood shrinkage is estimated at 1/4" per floor, based on structural plans wood specifications.
 4. Drawings are not to scale. Holdown run elevation (AT11) drawings are for location of run components only and may not reflect the correct number of compression posts. Check Compression Post call outs to the right of the run elevation.
 5. Fabrication shall meet the requirements and specifications per structural plans general notes.
 6. Engineer of Record is to review these drawings and upon approval the drawings will replace the holdown system per structural plans, unless noted otherwise (U.N.O.).

Compression Post Notes:
 1. Compression post shall be species, grade and size per structural plans (U.N.O.).
 2. Compression posts and headers shall have a maximum moisture content of 19%.
 3. Compression post or loads not specified, shall be equal to or exceed the required loads on Structural plans.
 4. Compression post call outs on AT11 are each side of the rod for 4x and 6x wall per holdown run and floor/level (U.N.O.).
 5. Compression posts are in addition to shearwall framing members. (U.N.O.).
 6. Alternate compression post may be acceptable. Consult the factory for possible alternates.
 7. Floor blocking stud lengths shall be 1/8" less than in-between floor height for shrinkage.
 8. Compression post may be notched to exact thickness of steel bearing plate, if required. A plywood shim of the exact thickness of the steel bearing plate may be used, instead of notching. Additional compression post with required nailing shall be added, if exact notching requirements are not possible.
 9. Cutting or notching of compression post is permitted to a depth not to exceed 25% of its width per 2006 IBC - 2308.9.10. Boring of compression post is permitted for a hole not greater than 40% of the width and no nearer than 5/8" to the edge per 2006 IBC - 2308.9.11 See applicable code.

Anchor Bolt Embedments:
 1. Contractor/installer shall verify anchor bolt size, thread pitch and material for correct location per structural plans run call outs or AutoTight holdown run layout sheet(s).
 2. Anchor bolt shall be 6" minimum above concrete slab (U.N.O.).
 3. AutoTight Anchor Bolt Embedments, if used, are called out on AT12.

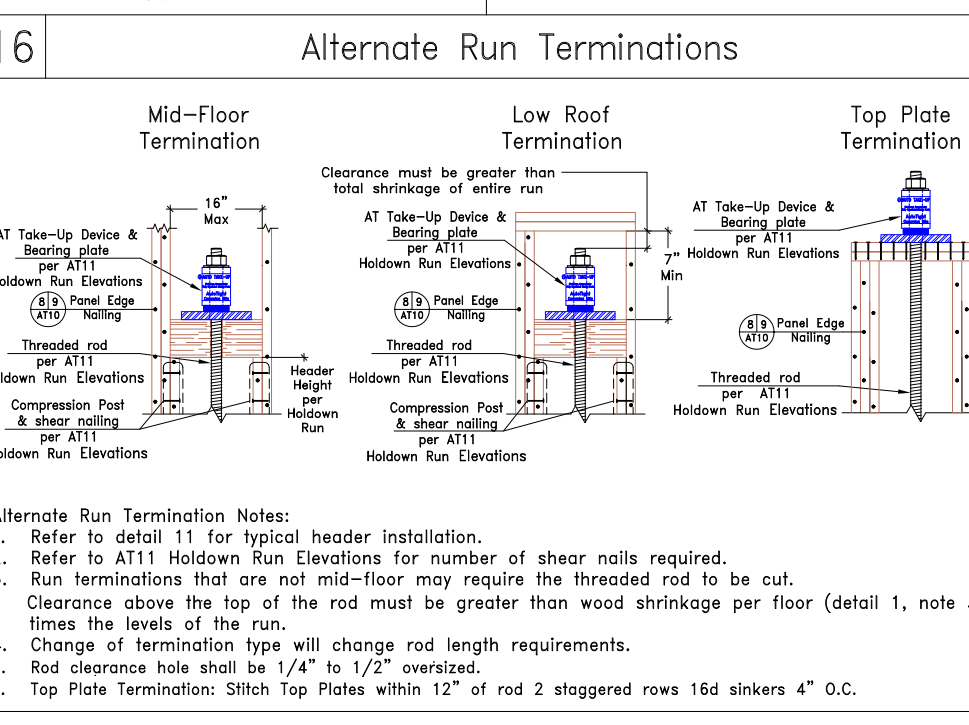
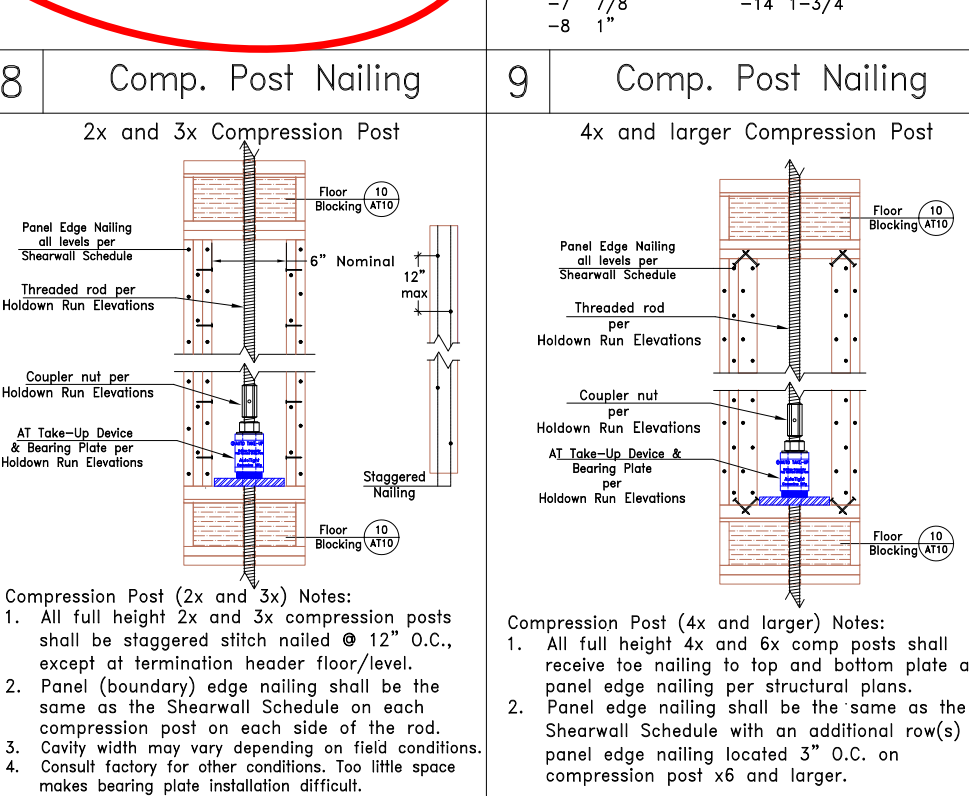
Shop Drawing Disclaimer

Holdown design is by Commins Manufacturing, Inc. for the holdown system described in these shop drawings only. This design uses the construction plans and calculations provided by the Engineer of Record. No attempt has been made on the part of Commins Manufacturing, Inc. to verify the values given in the calculations or design described by the construction drawings.

The Engineer of Record is responsible for the structural design of the building and the ability of the design to transfer loads imparted to the structure by the holdown system.

Structural Engineer of Record

Engineering Firm
 Project Engineer
 Address
 City, State Zip
 Tel:
 Fax:
 Email: @com



Alternate Run Termination Notes:
 1. Refer to detail 11 for typical header installation.
 2. Refer to AT11 Holdown Run Elevations for number of shear nails required.
 3. Run terminations that are not mid-floor may require the threaded rod to be cut.
 4. Clearance above the top of the rod must be greater than wood shrinkage per floor (detail 1, note 3) times the levels of the run.
 5. Change of termination type will change rod length requirements.
 6. Rod clearance hole shall be 1/4" to 1/2" oversized.
 7. Top Plate Termination: Stitch Top Plates within 12" of rod 2 staggered rows 16d sinkers 4" O.C.