

Anchor Bolt Embedment Notes

- Anchor Bolt Embedment Design:**
- Anchor Bolt Embedment Design conforms to the 2007 California Building Code (CBC) and the 2009 International Building Code (IBC).
 - Required loads and system requirements per Final Shear Wall Layout Structural Plan Set, dated 07/17/2008.
 - Concrete Strength is 4,000 psi min. Drawings are not to scale.
 - Fabrication shall meet the requirements and specifications per structural plan general notes.
- Anchor Bolt Installation:**
- Contractor/installer shall verify anchor bolt size, thread pitch and material for correct location per structural plans and AutoTight holdown run layout sheet(s).
 - Anchor Bolt location relative to the end of the shear wall shall be per AT1.0 Details 4 and 6.
 - Anchor bolt shall be 6" minimum above concrete slab (U.N.O.).
(Excess exposure will impact lift-over heights on floors above. Less exposure will not leave enough thread for coupler.)
- Holdown System Design:**
- For system design see Holdown Run Details (AT1.0), Holdown Run Elevations (AT1.1) and Structural Drawing 202.2
 - Fabrication shall meet the requirements and specifications per structural plan general notes.

Shop Drawing Disclaimer

Engineering has been provided by Zbinden-Carter-Souders Engineering and 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 Zbinden-Carter-Souders Engineering and 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.

Abbreviations

A,B	Anchor bolt per plan or schedule		
Alt	Alternate option		
AutoTight	AutoTight take-up device (installed with 7/8 & 7/8-2.5 (5/8" or 3/4" rod) 100 (7/8" or 1" rod) 125 (1 1/8" or 1 1/4" rod)		
CAT	Commings AutoTight		
CN(HS)	Coupler nut (HS are notched)		
CN(H)	Coupler nut reducer (HS are notched)		
Dia	Diameter		
DPL	Douglas Fir-Larch		
HF	Hemlock Fir		
HS	High strength		
LXX	Bearing plate, 6x wall only		
Min	Minimum		
Max	Maximum		
N(HS)-XX	Nut (HS have stamp grade ID)		
O/C	On center		
R-XX(HS)	Threaded rod, (HS rod is black)		
S/SF	Standard strength (STD rod is zinc plated)		
STD	Standard strength (STD rod is zinc plated)		
S/SF	Southern Pine		
SXX	Bearing plate, 4x or 6x wall		
Typ	Typical		
U.N.O.	Unless noted otherwise		
W-XX	SAE Washer		
	Rod, Nut & Washer Size		
-5	5/8"	-9	1-1/8"
-6	3/4"	-10	1-1/4"
-7	7/8"	-12	1-1/2"
-8	1"	-14	1-3/4"

Structural Engineer of Record

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Anchor Bolt Allowable Loads

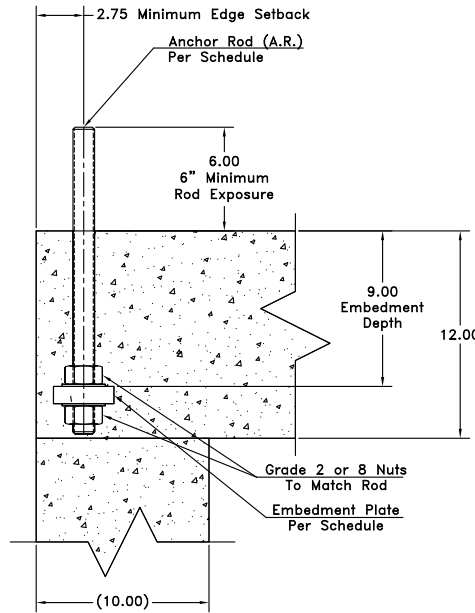
Table 2b
2009 International Building Code (IBC)

Allowable Load 2009 IBC (lbs.)	Anchor Bolts		
	CAT Rod	Dia.*Thread	Material
6,903	R5A307	5/8"-11 NC	A307
9,940	R6A307	3/4"-10 NC	A307
13,530	R7A307	7/8"-9 NC	A307
17,671	R8A307	1"-8 NC	A307
22,365	R9A307	1-1/8"-7 NC	A307
27,612	R10A307	1-1/4"-7 NC	A307
14,381	R5B7	5/8"-11 NC	A193-B7
20,709	R6B7	3/4"-10 NC	A193-B7
28,187	R7B7	7/8"-9 NC	A193-B7
36,816	R8B7	1"-8 NC	A193-B7
48,595	R9B7	1-1/8"-7 NC	A193-B7
57,524	R10B7	1-1/4"-7 NC	A193-B7
68,029	R10A354	1-1/4"-7 NC	A354-BD

Threaded Rod, Couplers, Nuts and AT Shrinkage Device Notes:

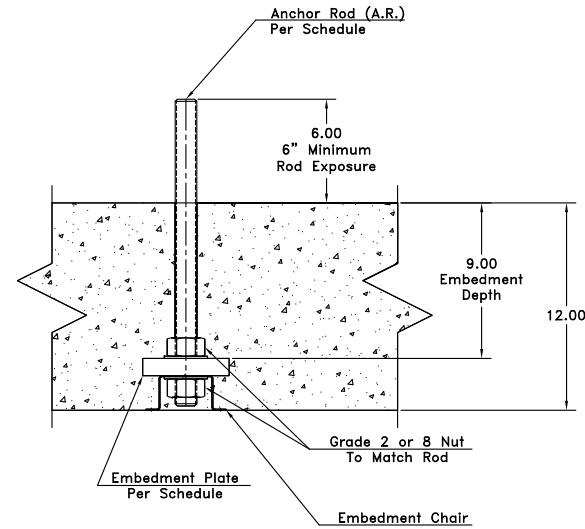
1. Rod Alloy is incorporated in the rod part name. See AT1.0 Holdown Run Details for data on other rod alloys.
2. All threaded rod is Uniform National Coarse (UNC) threaded.
3. High Strength rod is usually marked with Red paint. Consult Factory for additional information.
4. Standard couplers conform to ASTM A-563 grade A (SAE Grade 2).
High strength (HS) couplers conform to ASTM A563 Grade C (SAE Grade 8) and are notched for identification.
5. Standard nuts conform to ASTM A-563 grade A (SAE Grade 2).
High strength (HS) nuts conform to ASTM A563 Grade C (SAE Grade 8) and are stamped for identification.
6. Automatic (AT) Take-Up Device & Rod & Bearing Plates by Commings Manufacturing Inc. per ICC ESR report ESR-1344 issued November 1, 2007.

Slab Edge Anchor



Concrete and Rebar
per Structural Plans

Slab Interior Anchor



Concrete and Rebar
per Structural Plans

AutoTight Anchor Bolt Embedment Schedule

Run #	Location	Rod	Plate Size Slab Interior	Embedment Depth	Quantity
1-E	Slab Edge	R6A307	3 1/2" x 7 1/2" x 1"	9"	14
2-E	Slab Edge	R9B7	3 1/2" x 7 1/2" x 1"	9"	2
3-E	Slab Edge	R8A307	3 1/2" x 7 1/2" x 1"	9"	0
4-E	Slab Edge	N.A.	Steel Beam Start	N.A.	N.A.

AutoTight Anchor Bolt Embedment Schedule

Run #	Location	Rod	Plate Size Slab Interior	Embedment Depth	Quantity
1-I	Slab Interior	R6A307	5" x 5" x 1"	9"	50
2-I	Slab Interior	R9B7	5" x 5" x 1"	9"	6
3-I	Slab Interior	R8A307	5" x 5" x 1"	9"	5
4-I	Slab Interior	N.A.	5" x 5" x 1"	N.A.	N.A.

Run names are the same as structural drawing with the addition of -E for Slab Edge runs and -I for Slab Interior runs.

The Sample Project 1 of 1, 12/09/2010

See calculations prepared by Zbinden-Carter-Souders, Inc. Dated N.A.

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DRAFT

No	Revision	Date

CAT ID 75-19846
The Sample Project
760 Guard Street
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Drawn: TB Check: [] Date: 10/28/10

Anchor Bolt
Details
AT1.2