VIPIN N. TOLAT, P.E.
Consulting Engineer

15123 Lantern Creek Lane,
Houston, TX. 77068-3831
TEL: 281-444-9183
Fax: 281-444-9184
Email: vtolat@sbcglobal.net

Engineering - Inspections
& Product Approvals

October 7th, 2012.

Mo Madani, Manager, Tech unit, FBC
mo.madani@dbpr.state.fl.us

Joe Bigelow, Building Structural TAC,
Joe.bigelow@dbpr.state.fl.us

Re: Simpson Approval # FL 11473 (Attachment A)

Dear Mo and Joe,

You have been copied of all the Email correspondence initiated by me with Ted Berman on 3/5/12. It has been almost 6 months and still my complaint of improper use of Titan screws in FL 11473 has not been resolved. Ted advised me on 9/28/12 to file a formal complaint with your office so that it can be placed on POC agenda for resolution.

FBC 2010 section 1716 describes test standards for joist hangers and connectors. Section 1716.1.2.1, sub section 4 states "The **sum of the allowable design loads for nails or other fasteners utilized to secure joist hanger to the wood members and allowable bearing loads that contribute to the capacity of the hanger."**

It has been my understanding that **design load = ultimate load/3** from tests is compared with wood fastener capacity per NDS 2005 standard for the portion of the strap attached to wood and for the portion of the strap attached to concrete masonry, it is compared to Simpson published data for titan concrete screws. (**See attachment B**). The published data says that in order to use full shear capacity of 250 lbs, critical spacing has to be 3", meaning that if reduced spacing is used, shear capacity should be proportionately reduced. In FL 11473, 1" spacing was used and still full shear value of 250 lbs. was used instead of reducing it to 250/3= 83.33 lbs. With 4 ¼" titan screws, connector capacity should have been 83.33X4=333 lbs. instead of assigned value of 875 lbs. or 755 lbs. for MTSM 16 and 20. Same argument applies to other connectors shown on table 1 of FL 11473.

Just as nail values for attachment to wood are required to be used per NDS which is based on multitude of tests for nails and other wood fasteners, similarly values for concrete fasteners should also be required to be used based on manufacturers published data based on multitude of tests. Simpson's argument that for concrete fasteners, they would ignore their own published data and use **loads as tested** for MTSM 16 and 20 based on three meager tests, should not be acceptable. This may not have been clearly addressed in FBC 2010, but nevertheless becomes necessary to be enforced.

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I consulted with Jaime Gascon, Miami-Dade Product Control Section Supervisor and he agrees with me. See his attached Email reply of 7/11/12. (**Attachment C).** For similar straps of my client NuVue Industries of Miami, FL., we were required by Miami-Dade to use ITW's Published data and product approval issued for Tapcon concrete screws requiring reduced values for reduced spacing. **(Attachment D).** Tapcons are very similar to Simpson's Titans. Miami-Dade has issued a product approval for Tapcons describing full and reduced values for reduced spacing and edge distance. (**See attachment D).** I am not sure if a Product approval has been issued for Titans.

I would like to address Simpson's argument to use **loads as tested** for Titans fastened to concrete masonry instead of their own Published data. I agree with Jaime Gascon's response (**Attachment C)** in his second paragraph that loads as tested will be ok for straps embedded in concrete but not for straps attached to concrete masonry with Titan concrete screws.

I sincerely hope that POC will consider my request and take an appropriate action.

Sincerely Yours,

V.N. Tolat

VIPIN N. TOLAT
LICENSE
No. 12847
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

Vipin N. Tolat, P.E.

CC: Ted Berman, P.E.
Jaime Gascon, P.E. Miami-Dade, NuVue Industries.

(A)

FL11473

Florida Building Code, Residential 2007 Edition

R101.2.1	Scope
R4407	HVHZ Masonry
R4408	HVHZ Steel
R4409	HVHZ Wood

11. ALLOWABLE LOADS:

The tables that follow reference the allowable loads for the aforementioned products.

TABLE 1 ALLOWABLE LOADS AND FASTENERS FOR TRUSS TO MASONRY OR CONCRETE WALL CONNECTORS

Model No.	Ga	Length (in.)	Fasteners			Allowable Uplift Loads (160)	
			Truss/Rafter	CMU (Titen)	Concrete (Titen)	Southern Pine/Douglas Fir-Larch	Spruce-Pine-Fir
MTSM16	16	16	7-10d	4-¼×2¼	4-¼×1¾	875	755
MTSM20	16	20	7-10d	4-¼×2¼	4-¼×1¾	875	755
HTSM16	14	16	8-10d	4-¼×2¼	4-¼×1¾	1175	1010
HTSM20	14	20	10-10d	4-¼×2¼	4-¼×1¾	1175	1010
HM9[2]	18	-	4-SDS¼X1½	5-¼×2¼	5-¼×1¾	805	690
HGAM10[3,5]	14	-	4-SDS¼X1½	4-¼×2¼	4-¼×2¼	850	850

* 333 lbs

Notes:

1. Loads include a 60% load duration increase on the fastener capacity for wind loading where allowed by the Florida Building Code. Loads do not include a stress increase on the strength of the steel. No further increases are permitted. Reduce loads where other loads govern.
2. HM9 allowable F1 load shall be 635 lbs (DFL/SYP) & 545 lbs (SFP), and allowable F2 load shall be 200 lbs (DFL/SYP) & 170 lbs (SPF).
3. HGAM10 allowable F1 load shall be 1005 lbs (DFL/SYP) & 870 lbs (SFP), and allowable F2 load shall be 1105 lbs (DFL/SYP) & 950 lbs (SPF).
4. Allowable loads for the HGAM10 are for one connector. A minimum rafter thickness of 2 ½" must be used when framing anchors are installed on each side of the joist or truss.

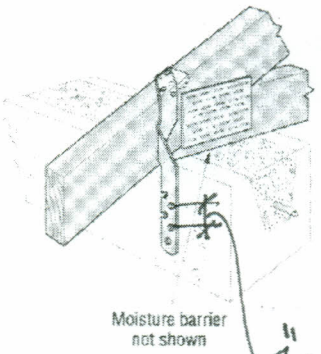


Figure 1
Typical MTSMM/HTSM Application

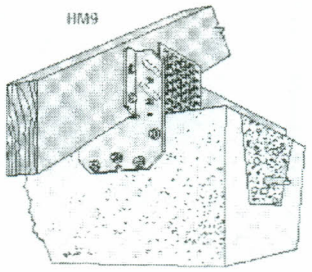


Figure 2
Typical HM9 Installation

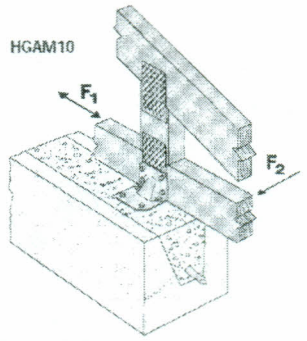


Figure 3
Typical HGAM10 Installation

11 per Simpson catalog page 163

SIMPSON Strong-Tie

2012 Catalog

MTSM/HTSM *Twist Straps*

The MTSM and HTSM offer high strength truss to masonry connections.

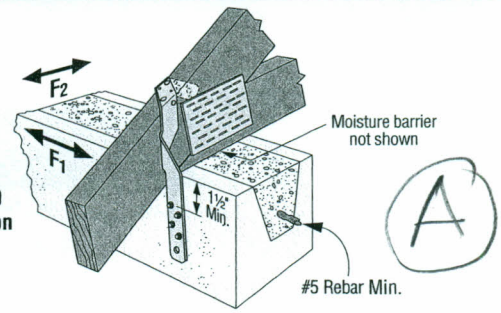
MATERIAL: MTSM–16 gauge; HTSM–14 gauge

FINISH: Galvanized. See Corrosion Information, page 18-19.

INSTALLATION:

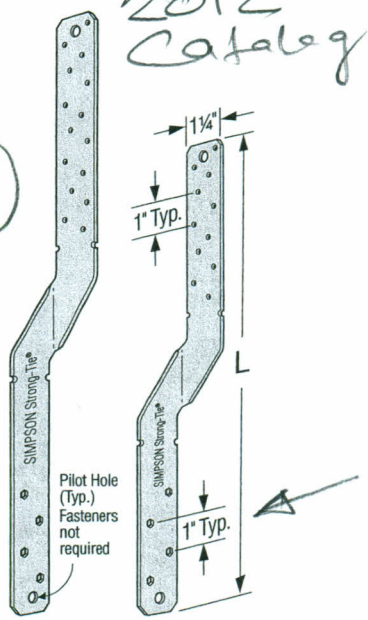
- Use all specified fasteners. See General Notes.
- Installs with hex head Titen® screws.
- Attach to either side of grouted concrete block with a minimum one #5 rebar horizontal.

CODES: See page 20 for Code Reference Key Chart.



Typical MTSM20 Installation

A



MTSM20 **MTSM16**

Model No.	L	Fasteners[2]			DF/SP Allowable Uplift Loads[1]		SPF/HF Allowable Uplift Loads[1]		Allowable Lateral Loads (DF/SP/SPF/HF)		Code Ref.
		Truss	CMU	Concrete	10d (160)	10dx1½ (160)	10d (160)	10dx1½ (160)	F_1 (160)	F_2 (160)	
MTSM16	16	7-10d	4-¼x2¼ Titen	4-¼x1¾ Titen	860	860	750	750	235[8]	90[8]	F27
MTSM20	20	7-10d	4-¼x2¼Titen	4-¼x1¾ Titen	860	860	750	750			
HTSM16	16	8-10d	4-¼x2¼ Titen	4-¼x1¾ Titen	1175	1175	1020	1020			
HTSM20	20	10-10d	4-¼x2¼Titen	4-¼x1¾Titen	1175	1175	1020	1020			

FLI1473

1. Loads have been increased for wind or earthquake loading with no further increase allowed. Reduce where other loads govern.
2. Twist straps do not have to be wrapped over the truss to achieve the allowable load.
3. Minimum edge distance for Titen screw is 1½".
4. See page 155 for Titen screw information.
5. Table allowable loads were determined using test ultimate/3 or fastener calculation values.
6. Products shall be installed such that the Titen screws are not exposed to the weather.
7. Minimum f'_m = 1500 psi and f'_c = 2500 psi.
8. Lateral loads apply when on the wall side Titen screws are installed into the first four hexagonal holes from the bend line and on the truss/rafter the first seven nail holes near the bend line are filled. Any other fasteners required can be installed in any open hole.
9. **NAILS:** 10d = 0.148" dia. x 3" long, 10dx1½ = 0.148" dia. x 1½" long. See page 24-25 for other nail sizes and information.

MGT/HGT *Girder Tiedowns*

The MGT and HGT series are girder tie downs for moderate to high load applications that are typically installed prior to roof sheathing. The MGT wraps over the heel and is anchored on one side of the truss. The HGT straddles the heel and anchors on both sides of the truss. The HGT is field adjustable, making it suitable for trusses with top chord slopes up to 8/12. The HGT is available in sizes for 2-, 3- and 4-ply widths.

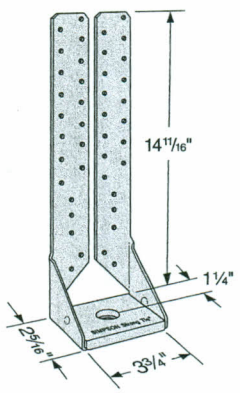
MATERIAL: MGT—12 gauge; HGT—7 gauge

FINISH: MGT— Galvanized; HGT—Simpson Strong-Tie® gray paint

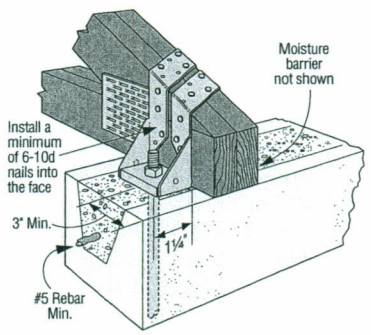
INSTALLATION: • Use all specified fasteners. See General Notes.

- When the HGT-3 is used with a 2-ply girder or beam, shimming is required and must be fastened to act as one unit.
- Attach to grouted concrete block with a minimum one #5 rebar horizontal in the top lintel block.
- See page 178 for wood applications.

CODES: See page 20 for Code Reference Key Chart.



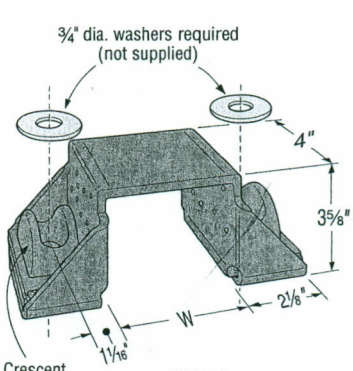
MGT



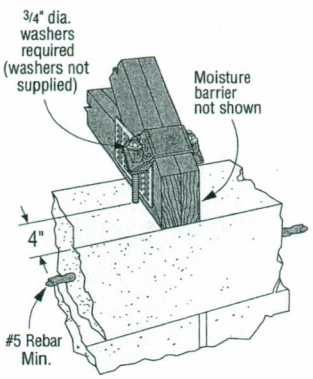
Typical MGT Installation

Model No.	W	O.C. Dim Between Anchors	Fasteners		*DF/SP Allowable Uplift Loads (160)	SPF/HF Allowable Uplift Loads (160)	Code Ref.
			Concrete/ CMU	Girder			
MGT	3¾	—	1-⅝	22-10d	3965	3330	F26
HGT-2	3 5/16	5¾	2-¾	16-10d	10980	6485	I20, F19
HGT-3	4 15/16	7⅜	2-¾	16-10d	10530	9035	
HGT-4	6 9/16	9	2-¾	16-10d	9250	9250	

1. Attached members must be designed to resist applied loads.
2. Minimum f'_m = 1500 psi and f'_c = 2500 psi.
3. To achieve the loads listed for the MGT and HGT, anchorage into a 8" wide concrete tie-beam or grouted and reinforced CMU tie-beam can be made using Simpson Strong-Tie® SET Epoxy-Tie® adhesive with a minimum embedment depth of 12". Vertical reinforcement may be required to transfer the loads per Designer.
4. Allowable loads have been increased for wind or earthquake loading with no further increase allowed; reduce where other loads govern.
5. The MGT can be installed with straps vertical for full table load provided all specified nails are installed to either a solid header or minimum double 2x6 web.
6. Table allowable loads were determined using tested lowest ultimate/3 or fastener calculation values.
7. **NAILS:** 10d = 0.148" dia. x 3" long. See page 24-25 for other nail sizes and information.



HGT-2
(HGT-3 and HGT-4 similar)



Typical HGT-2 Installation into Concrete

Titen® *Concrete and Masonry Screws*

SIMPSON Strong-Tie

2012/13 catalog

Titen® screws are 3/16" and 1/4" diameter hardened screws for attaching all types of components to concrete and masonry. Available in hex and phillips head designs in three colors. Use with appropriately sized Titen drill bits included with each box.

Warning: Industry studies show that hardened fasteners can experience performance problems in wet or corrosive environments. Accordingly, use these products in dry, interior and non-corrosive environments only.

MATERIAL: Heat-treated carbon steel

FINISH: Zinc plated with a baked on ceramic coating

CODES: Florida FL 2355.1

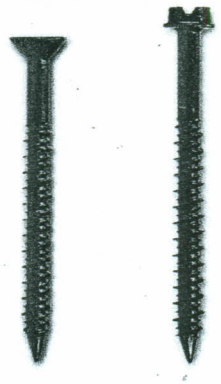
INSTALLATION:

Caution: Industry studies show that hardened fasteners can experience performance problems in wet or corrosive environments. Steps must be taken to prevent inadvertent sustained loads above the listed allowable loads. Overtightening and bending moments can initiate cracks detrimental to the hardened screw's performance. Use the Simpson Strong-Tie installation tool kit as it has a bit that is designed to reduce the potential for overtightening the screw.

Caution: Oversized holes in the base material will reduce or eliminate the mechanical interlock of the threads with the base material and will reduce the anchor's load capacity.

- Drill a hole in the base material using the appropriate diameter carbide drill bit as specified in the table. Drill the hole to the specified embedment depth plus 1/2" to allow the thread tapping dust to settle and blow it clean using compressed air. Overhead installations need not be blown clean. Alternatively, drill the hole deep enough to accommodate embedment depth and dust from drilling and tapping.
- Position fixture, insert screw and tighten using drill and installation tool fitted with a hex socket or phillips bit.

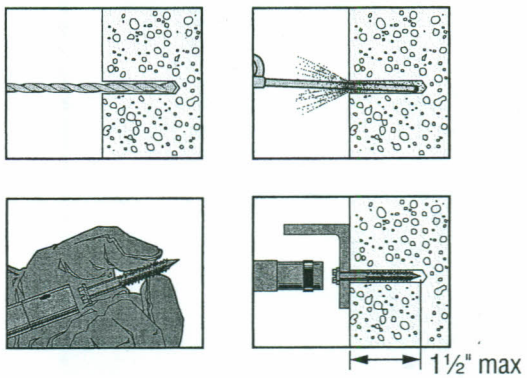
Preservative-treated wood applications: Suitable for use in non-ammonia formulations of CCA, ACQ-C, ACQ-D, CA-B, SBX/DOT and zinc borate. Use in dry, interior environments only. Use caution not to damage ceramic barrier coating during installation. Recommendations are based on testing and experience at time of publication and may change. Simpson Strong-Tie cannot provide estimates on service life of screws. Contact Simpson Strong-Tie for additional information.



Titen® Phillips flat head screw (PF)

Titen® Hex head screw (H)

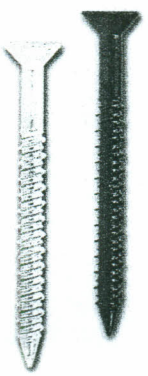
Installation Sequence



Titen® Tension and Shear Load Values in Normal-Weight Concrete

Titen Dia. in. (mm)	Drill Bit Dia. in.	Embed. Depth in. (mm)	Critical Spacing in. (mm)	Critical Edge Dist. in. (mm)	Tension Load				Shear Load	
					$f'_c \geq 2000$ psi (13.8 MPa) Concrete		$f'_c \geq 4000$ psi (27.6 MPa) Concrete		$f'_c \geq 2000$ psi (13.8 MPa) Concrete	
					Ultimate lbs. (kN)	Allowable lbs. (kN)	Ultimate lbs. (kN)	Allowable lbs. (kN)	Ultimate lbs. (kN)	Allowable lbs. (kN)
3/16 (4.8)	5/32	1 (25.4)	2 1/4 (57.2)	1 1/8 (28.6)	500 (2.2)	125 (0.6)	640 (2.8)	160 (0.7)	1,020 (4.5)	255 (1.1)
3/16 (4.8)	5/32	1 1/2 (38.1)	2 1/4 (57.2)	1 1/8 (28.6)	1,220 (5.4)	305 (1.4)	1,850 (8.2)	460 (2.0)	1,670 (7.4)	400 (1.8)
1/4 (6.4)	3/16	1 (25.4)	3 (76.2)	1 1/2 (38.1)	580 (2.6)	145 (0.6)	726 (3.2)	180 (0.8)	900 (4.0)	225 (1.0)
1/4 (6.4)	3/16	1 1/2 (38.1)	3 (76.2)	1 1/2 (38.1)	1,460 (6.5)	365 (1.6)	2,006 (8.9)	500 (2.2)	1,600 (7.1)	400 (1.8)

1. Maximum anchor embedment is 1 1/2" (38.1 mm).
2. Concrete must be minimum 1.5 x embedment.



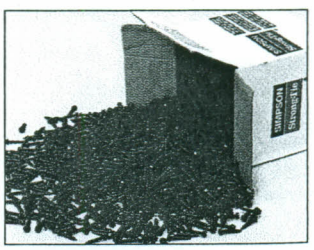
Titen® Phillips head screw available in white and standard blue.

Titen® Tension and Shear Load Values in Face Shell of Hollow and Grout-Filled CMU

Titen Dia. in. (mm)	Drill Bit Dia. in.	Embed. Depth in. (mm)	Critical Spacing in. (mm)	Critical Edge Dist. in. (mm)	Values for 6" or 8" Lightweight, Medium-Weight or Normal-Weight CMU			
					Tension Load		Shear Load	
					Avg. Ult. lbs. (kN)	Allow. lbs. (kN)	Avg. Ult. lbs. (kN)	Allow. lbs. (kN)
3/16 (4.8)	5/32	1 (25.4)	2 1/4 (57.2)	1 1/8 (28.6)	542 (2.4)	110 (0.5)	1,016 (4.5)	205 (0.9)
1/4 (6.4)	3/16	1 (25.4)	3 (76.2)	1 1/2 (38.1)	740 (3.3)	150 (0.7)	1,242 (5.5)	250 (1.1)

1. The tabulated allowable loads are based on a safety factor of 5.0 for installations under the IBC and IRC.
2. Maximum anchor embedment is 1 1/2" (38.1 mm).

*See page 13 for an explanation of the load table icons



Bulk packaging available for large-volume applications

Vipin Tolat

From: Gascon, Jaime (RER) <Gascon@miamidade.gov>
Sent: Wednesday, July 11, 2012 11:51 AM
To: Vipin Tolat
Subject: RE: Vipin Complaint FL11473.20

C

Vipin,

Based on the published rating for the ¼" Titen Screws in CMU at 3" o.c., the overall capacity of 4 screws at 1"centers would be drastically overstressed; 333.3 lbs. allowable shear for four screws vs. approved allowable uplift load for strap of 755 lbs. Based on the approved table Note 1 indicates to "Reduce loads where other loads govern." Therefore, I would reduce accordingly, but I agree with you that the loads as stated are misleading.

Further, an argument to use "loads as tested" into a concrete substrate would be O.K. if the strap were embedded in the concrete. In this case it is not; it is fastened with Titen screws at a spacing less than that needed for full load rating of the screws' published literature. Screw capacity should have been checked; we do for our approvals and limit loads accordingly.

Regards,

Jaime D. Gascon, P.E.
Supervisor, Product Control Section
Miami-Dade County Department of Regulatory and Economic Resources
11805 SW 26 St, Suite 208
Miami, Florida 33175-2474
Office: 786-315-2590
http://www.miamidade.gov/development/
"Delivering Excellence Every Day"

From: Vipin Tolat [mailto:vtolat@sbcglobal.net]
Sent: Tuesday, July 10, 2012 2:24 PM
To: Gascon, Jaime (RER)
Subject: FW: Vipin Complaint

Jaime,

This is the response from Simpson with which I totally disagree. I need your comments. Thanks.

Vipin

From: Ted Berman, P.E. [mailto:ted@tedbermanllc.com]
Sent: Thursday, July 05, 2012 8:25 AM
To: Vipin Tolat
Cc: Mo Madani; Suzanne Davis; TBA
Subject: Fwd: Vipin Complaint

ITW Buildex TAPCON®
CONCRETE & MASONRY ANCHOR

GENERAL NOTES:

1. THIS PRODUCT HAS BEEN DESIGNED & TESTED IN ACCORDANCE WITH THE 2007 FLORIDA BUILDING CODE(HIGH VELOCITY HURRICANE ZONE) AND THE FOLLOWING STANDARDS: ASTM E488, ASTM G85, & TAS 114.
2. ANCHORS ARE MANUFACTURED FROM HEAT-TREATED STEEL WITH AN ALTERNATING HIGH-LOW THREAD FORM AND SHALL HAVE CORROSION-RESISTANT COATINGS AS DESCRIBED BELOW:
   - ULTRASHIELD OR WHITE ULTRASHIELD OR
   - BLUE OR SILVER CLIMASEAL OR
   - CLIMASHIELD
3. ANCHOR INSTALLATION SHALL BE MADE IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS AND THIS NOTICE OF ACCEPTANCE.
4. CONCRETE SHALL CONFORM TO ACI 301 SPECIFICATIONS, WITH STRENGTH PROPERTIES AS SPECIFIED HEREIN. HOLLOW AND GROUT-FILLED CONCRETE BLOCK SHALL CONFORM TO ASTM C-90.
5. REFERENCE THE FOLLOWING TEST REPORTS:
   - HURRICANE ENGINEERING & TESTING, INC.
     #HETI-00-4160 (10/25/2000)
     #HETI-00-4092 (02/25/2000)
     #HETI-00-4153 (10/25/2000)
     #HETI-00-4072 (02/25/2000)
     #HETI-01-5029 (05/07/2001)
     #HETI-01-5027 (05/07/2001)
     #HETI-01-C109 (01/16/2001)
   - PRI ASPHALT TECHNOLOGIES, INC.
     #PRI 01078 (08/27/2001)
     #PRI 01079 (08/27/2001)
   - APPLIED RESEARCH LABORATORIES
     #ARL 30291 (01/22/2002)
     #ARL 30292 (01/29/2002)
     #ARL 30299 (01/30/2002)
     #ARL 30294 (01/30/2002)
   - CENTER FOR APPLIED ENGINEERING, INC.
     #MTS 25-7654-PS (06/03/1996)
   - CELOTEX CORPORATION TESTING SERVICES
     #MTS 520614-PS (06/14/2000)

SLOTTED HEX WASHER HEAD | PHILLIPS FLAT HEAD | MAXI-SET HEX WASHER HEAD | SCOTS STAINLESS STEEL HEAD WITH WASHER

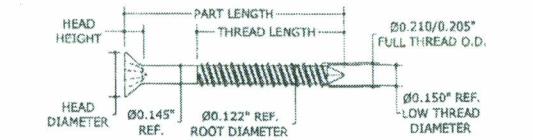
CARBON STEEL HEAD MARKINGS:

410 SS HEAD MARKINGS:

1/1 3/16" OR 1/4" HEAD STYLES N.T.S.

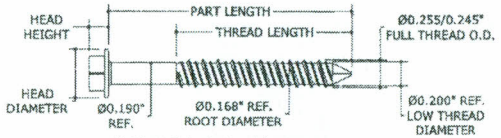
BUTTON HEAD | FLAT HEAD | HEX WASHER HEAD | PHILLIPS FLAT HEAD

2/1 5/16" XL HEAD STYLES N.T.S.



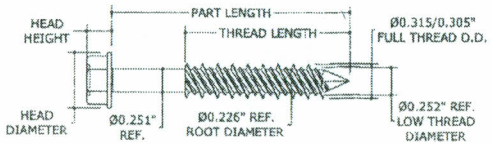
1. PILOT HOLE SHALL BE 1/4" LONGER THAN EMBEDMENT WITH 0.171" DIAMETER.
2. ALLOWABLE LOADS ARE BASED ON AVERAGE ULTIMATE TEST LOAD DIVIDED BY 4.
3. CENTER TO CENTER DISTANCE OF 2-1/4" IS NECESSARY FOR 100% CAPACITY AND 1-1/8" FOR 50% CAPACITY.
4. REFERENCE SHEET 2 FOR ADDITIONAL ANCHOR DIMENSIONS.

3/1 3/16" TAPCON 1'-0" = 1'-0" SIDE VIEW



1. PILOT HOLE SHALL BE 1/4" LONGER THAN EMBEDMENT WITH 0.200" DIAMETER.
2. ALLOWABLE LOADS ARE BASED ON AVERAGE ULTIMATE TEST LOAD DIVIDED BY 4.
3. CENTER TO CENTER DISTANCE OF 3" IS NECESSARY FOR 100% CAPACITY AND 1-1/2" FOR 50% CAPACITY.
4. REFERENCE SHEET 2 FOR ADDITIONAL ANCHOR DIMENSIONS.

4/1 1/4" TAPCON 1'-0" = 1'-0" SIDE VIEW



1. PILOT HOLE SHALL BE 1/4" LONGER THAN EMBEDMENT WITH 0.263" DIAMETER.
2. ALLOWABLE LOADS ARE BASED ON AVERAGE ULTIMATE TEST LOAD DIVIDED BY 4.
3. CENTER TO CENTER DISTANCE OF 3-3/4" IS NECESSARY FOR 100% CAPACITY AND 1-7/8" FOR 50% CAPACITY.
4. REFERENCE SHEET 2 FOR ADDITIONAL ANCHOR DIMENSIONS.

5/1 5/16" TAPCON 1'-0" = 1'-0" SIDE VIEW

3/16" CARBON STEEL TAPCONS

	EMBEDMENT	EDGE DISTANCE	TENSION (LB)	SHEAR (LB)
HOLLOW BLOCK	1-1/4"	1-1/8"	94	112
		2-5/8"	99	197
CONCRETE (3192 PSI MIN)	1"	1-1/8"	128	147
		2-5/8"	128	157
	1-3/4"	1-1/8"	354	160
		2-5/8"	354	229

1/4" TAPCONS

	EMBEDMENT	EDGE DISTANCE	CARBON STEEL TENSION (LB)	CARBON STEEL SHEAR (LB)	STAINLESS STEEL TENSION (LB)	STAINLESS STEEL SHEAR (LB)
HOLLOW BLOCK	1-1/4"	1"	117	94	148	197
		2-1/2"	195	264	160	279
CONCRETE (3192 PSI MIN)	1"	1"	209	115	166	148
		2-1/2"	212	297	166	275
	1-3/4"	1"	510	115	466	189
		2-1/2"	575	384	547	472

5/16" CARBON STEEL TAPCON XL

	EMBEDMENT	EDGE DISTANCE	TENSION (LB)	SHEAR (LB)
HOLLOW BLOCK	1-3/4" †	4"	261 LB	578 LB
CONCRETE (2899 PSI MIN)	1-1/4"	1-9/16"	262	333
		2-3/16"	301	431
		3-1/8"	301	543
	1-3/4"	1-9/16"	505	382
		2-3/16"	563	826
		3-1/8"	583	827
	2-1/4"	1-9/16"	713	489
		2-3/16"	780	812
		3-1/8"	788	852
GROUT FILLED BLOCK	1-3/4"	4"	487	706
	2-1/4"		942	765
THRU 2x WOOD BUCK (G=0.36 MIN) TO 3KSI MIN CONCRETE	1-3/4" ††	1-3/4"	---	312

† EMBEDMENT IS THROUGH 1-1/4" FACE SHELL OF HOLLOW BLOCK

†† EMBEDMENT DEPTH IS INTO 3KSI CONCRETE, WITH THE WOOD BUCK LOCATED BETWEEN CONCRETE AND SIDE MEMBER

PRODUCT RENEWED as complying with the Florida Building Code
Acceptance No. 07-1126.10
Expiration Date 02/20/2013
By Miami-Dade Product Control Division

NOA 07-1126.10 Exp 2/20/2013

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03/10/2008
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TAPCON MASONRY FASTENERS
MIAMI-DADE NOTICE OF ACCEPTANCE

REMARKS	DRWN	CHKD	DATE
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