Inspections Division
Date: 04/27/16

Installation Options for Deck Lateral Load Connections

Allowable Loads

Model No.	℄	Anchor Diam. or Type	Fasteners	Allowable Tension Load (lbs.) (160)			
				Dry		Wet	
				DF/SP	SPF/HF	DF/SP	SPF/HF
DTT1Z	¾"	⅜" or SDWH[5]	6-SD #9x1½"	840	840	840	755
			6-10dx1½"	910	640[4]	795	640[4]
			8-10dx1½"	910	850	910	850
DTT2Z/DTT2SS	13/16"	½"	8-SDS ¼"x1½"	1825	1800	1825	1615

1. Allowable loads have been increased 60% for short-term loading with no further increase allowed.
2. Dry values are applicable to installations into wood with a moisture content that does not exceed 19%.
3. Wet values are applicable to installations into wood with a moisture content greater than 19% at time of installation or in service. Values include an NDS wet service factor for the fasteners.
4. DTT1Z installations with allowable loads below 750 lbs. do not satisfy the 2015 IRC requirements for deck-to-house lateral load connections.
5. DTT1Z installed with the Strong-Drive SDWH Timber-Hex HDG screw with a min. of 3" thread penetration achieves the lesser of the table load or 855 lbs. SDWH installed with 3" of thread penetration into dry lumber has an allowable withdrawal load (160) of 1380 lbs. into SP, 1225 lbs. into DF and 1020 lbs. into SPF/HF.
6. Load values are valid if the product is flush with the end of the framing member or installed away from the end.
7. FASTENERS: SD #9x1½ (model SD9112) = 0.131" dia. x 1½", 10dx1½ = 0.148" dia. x 1½" long.

Conditions Not Shown in the IRC

The IRC details describe particular methods that are appoved and do not represent all common framing conditions. When these are encountered, alternate methods of construction may need to be approved by the building official to ensure they satisfy the intent of the code and are at least equivalent to the prescribed method. Several alternate construction methods are shown here.

Figure 4

DTT1Z – 750-Pound Assembly

Condition 1 – Holdown Cannot Be Installed Flush with Wall Sheathing

Unlike some holdowns, the DTT1Z seat is not required to bear on sheathing or framing and can be installed away from the wall to account for non-structural siding, joist hanger interference or other conditions. Longer screw anchors may be required to ensure a minimum of 3" thread penetration by a fully threaded lag screw or Strong-Drive® SDWH Timber-Hex HDG screw into the wall framing.

Condition 2 – Top of Wall Plate Does Not Align with Bottom of Deck Joist

The 2015 IRC detail shows a holdown installed on the bottom of the joist. However, the DTT1Z was tested and developed using 1½" fasteners into either the narrow edge or wide face of a 2x member, allowing the DTT1Z to be installed at any location along the depth of the joist.

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