

Installation Instructions for ViewTite™ Nut-Side Self-Indicating Washers

ViewTite™ DTIs are the latest of numerous innovations from TurnaSure LLC. ViewTite DTIs are manufactured to ASTM F959/F959M and are suitable for use in bolted structural steel framing connections in accordance with AISC-360.

ViewTite DTIs can be installed in 3 simple steps:

1. Install Structural Bolting Assemblies with the ViewTite DTI on the 'nut side' of the connection with the bumps facing outward. Place an F436 hardened washer on top of the ViewTite DTI, and place a hardened 2H or DH nut over the hardened washer. (See Figure 1 below)
2. Snug tighten the connection to draw the plies together into firm and near continuous contact.
3. Final tighten each bolting assembly until the polymer in the 'horse-shoe' bumps extrudes and becomes noticeably visible around the periphery of the ViewTite DTI.

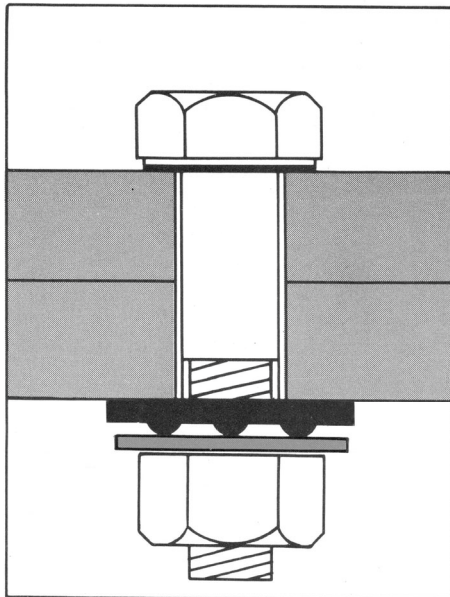


Figure 1. ViewTite Bolting Assembly

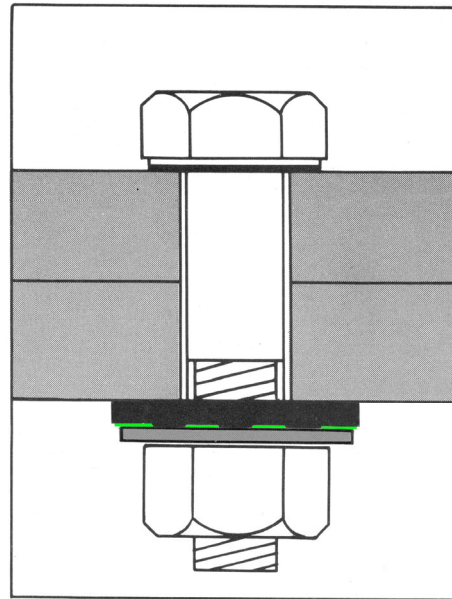
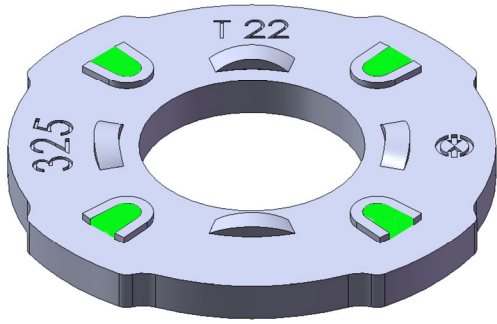


Figure 2. Tightened ViewTite Bolting Assembly

Final inspection of assemblies may be performed visually. Detailed Installation Instructions for all TurnaSure DTIs may be downloaded from our website.



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Supplemental Specification for Use of ViewTite™ Self-Indicating Washers

ViewTite™ DTIs are the latest of numerous innovations from TurnaSure LLC. ViewTite (VT) DTIs are a unique form of visually indicating washers based on ASTM F959/F959M. VT DTIs are suitable for use in bolted structural steel framing connections in accordance with AISC-360 and Section 2.6.2 of the Research Council on Structural Connections (RCSC) *Specification for Structural Joints Using High-Strength Bolts*.

ViewTite (VT) DTIs may be tested, installed, and inspected as follows:

Pre-Installation Verification Testing —

1. For each lot test three structural bolting assemblies in a bolt tension calibrator with the VT DTIs placed under the 'nut' side with the bumps facing out. Place a hardened F436/F436M washer on top of the VT DTI. Place a hardened 2H or DH nut over the hardened washer.
2. Tighten the structural bolting assembly until the VT DTI provides a visually obvious green indication on the tabs around the perimeter (outside diameter) of the VT DTI.
3. Read and record the tension reported on the bolt tension calibrator.
4. Compare the achieved tensions to the minimum tension requirements of Table 7.1 of the RCSC Specification.

Installation —

1. Install structural bolting assemblies assembled as above into steel framing and snug-tighten each connection in accordance with Section 8.1 of the RCSC Specification. Remove and replace any assembly which displays visually obvious green indication at the tabs around the perimeter (outside diameter) during snug-tightening.
2. Systematically fully tighten structural bolting assemblies progressing from the most rigid part of the joint to the free edges of the steel plies until each VT DTI provides a visually obvious green indication on the tabs.

Inspection —

1. Observe the pre-installation verification testing, and routinely observe snug-tightening operations per Section 8.1
2. Using routine observation, verify that fully tightened structural bolting assemblies provide a visually obvious green indication at the tabs around the perimeter (outside diameter) of the VT DTIs. Per Section 9.2.4, no further evidence of conformity is required, and a pretension that is greater than that specified in Table 8.1 shall not be cause for rejection.