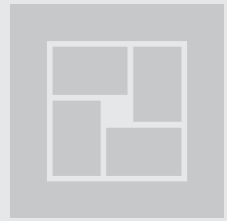
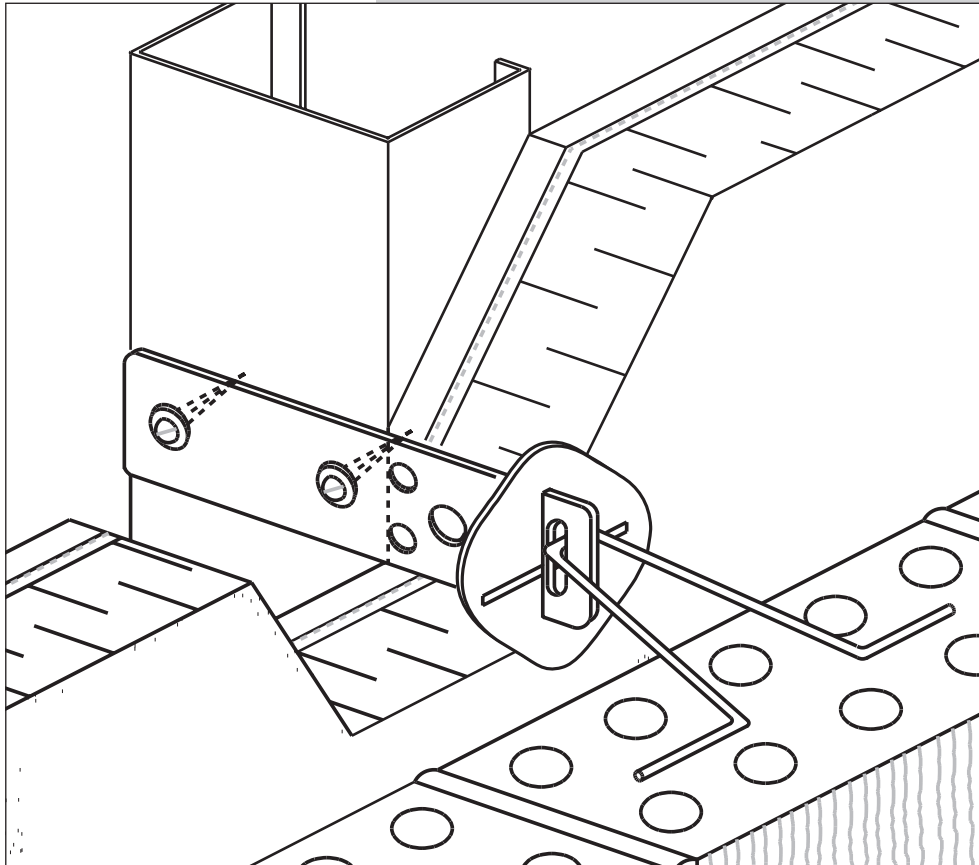


SLOTTED SIDE MOUNTING RAP-TIE



SLOTTED SIDE MOUNTING RAP-TIE APPLICATION



Introduction

The Slotted Side Mounting Rap-Tie system consists of a Slotted Flat-Plate, a V-Tie™ and an Insulation Support (optional), as shown in *Figures 1, 2, and 3* respectively.

Lateral loads applied to the brick veneer are transferred through the V-Tie™ to the Slotted Flat-Plate, which is attached to the backup wall studs with two fasteners, as illustrated in *Figure 4*.

The fasteners transfer the load from the tie to the stud in shear. Note that this shear mode connection is much more desirable than the highly corrosion susceptible tension mode connection.

The vertical orientation of the Slotted Flat-Plate, in conjunction with the slotted connection between the Slotted Flat-Plate and the V-Tie™, results in the ability of the Slotted Side Mounting Rap-Tie to allow for 30 mm (1.2") of vertical construction adjustability and differential movement between the masonry veneer and the structural backup stud wall system.

Description

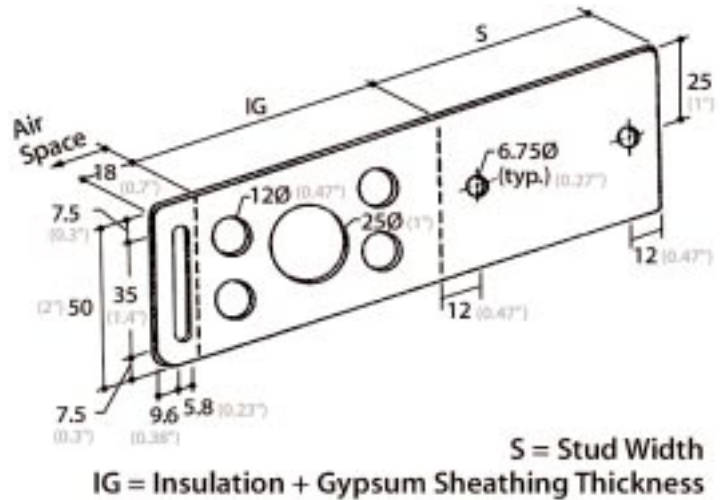


Figure 1 Slotted Flat-Plate



Figure 2 V-Tie™

The Slotted Flat-Plate component is manufactured from 16 gauge (1.61 mm [0.063"] thick) sheet metal conforming to ASTM A570, and is available in hot dipped galvanized finish (conforming to CSA CAN3-A370, ACI/ASCE/TMS/518 and U.B.C. and ASTM A123 requirement of 401 g/m²/side [1.31 oz/ft²/side] of zinc coating), and stainless steel.

The length of the Slotted Flat-Plate can vary to accommodate stud widths (S), of 92 (3.6"), 102 (4"), 152 (6") and 203 mm (8"), and insulation plus membrane plus gypsum sheathing thickness (IG), of 0 (0") to 127 mm (5").

The stud width dimension (S), should be the same as the actual stud width for easy and proper Slotted Flat-Plate placement (i.e., install the end of the Slotted Flat-Plate flush with the interior face of the stud).

Thermal bridging reducing holes are incorporated within the insulation thickness portion of the Slotted Flat-Plate. A 5.8 mm (0.23") wide by 35 mm (1.4") long slot is utilized to attach the V-Tie™ component to the Slotted Flat Plate component.

V-Tie.™ The V-Tie™ is manufactured from 4.76 mm (0.19") diameter wire conforming to CSA Standard G30.3, and is available in hot dipped galvanized finish (conforming to CSA CAN3-A370 and ASTM A153 requirement of 458 g/m²/side [1.5 oz/ft²/side] of zinc coating), and stainless steel. The legs of the V-Tie™ are mortared into place at the centerline of the brick veneer.

Insulation Support. The Insulation Support is manufactured from polyethylene and is optionally used to secure the sheet insulation in place.

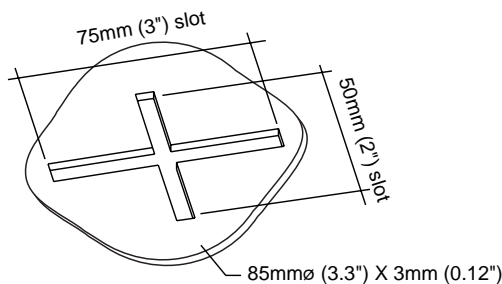


Figure 3 Insulation Support

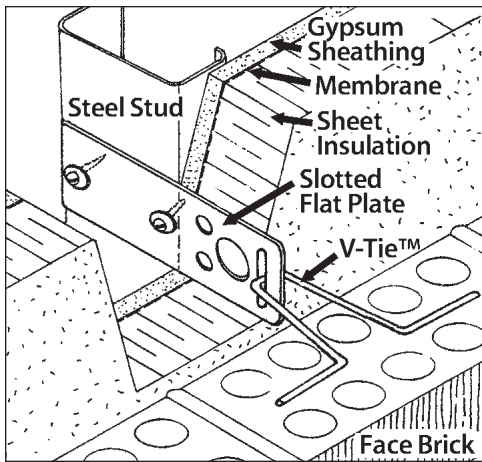


Figure 4
Slotted Side Mounting Rap-Tie System
without Insulation Support

Specification Guidelines

The Slotted Flat Plate specification length (S) refers to the actual thickness of the stud and the specification length (IG) refers to the actual thickness of the insulation plus membrane plus gypsum sheathing.

The 80 mm (3.1") V-Tie™ is utilized in the Slotted Side Mounting Rap-Tie system consisting of 25 mm (1") air space and 90 mm (3.5") brick veneer. Other available V-Tie™ sizes are: 60 (2.4"), 100 (3.9"), 120 (4.7"), 140 (5.5"), 160 (6.3"), 180 (7.1"), 200 (7.9"), 225 (8.9") and 250 mm (9.8").

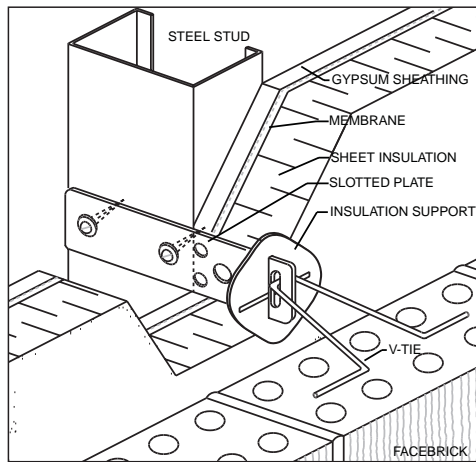


Figure 5
Slotted Side Mounting Rap-Tie
with Insulation Support

Recommended Design Loads and Deflections

1. Free Play (maximum):	1.04 mm (0.041")	
2. 0.45 kN (100 lbs) Deflection		
- free play not included:	0.16 mm (0.0063")	
- including free play:	1.2 mm (max) (0.047")	
3. Recommended Design Load:	1.07 kN (240 lbs)	
4. Recommended Design Load Deflection		
- free play not included:	0.35 mm (0.014")	
5. Maximum Recommended Spacing:	Horizontal:	Vertical:
	800 mm (32")	600 mm (24")

SLOTTED SIDE MOUNTING RAP-TIE

Notes

- i) The design values reflect both the windward and leeward capacity of the Slotted Side Mounting Rap-Tie system, with the governing values listed.
- ii) The tie system recommended design load value was formulated using working stress design following the procedures of CSA CAN3-A370-M94 "Connectors for Masonry," ACI/ASCE/TMS/518 and U.B.C. The value has been corrected to account for test result variation, and reflect a factor of safety of 2.25 (i.e. 75% of 3.0), as per Table 3 (A370).
- iii) The allowable mortar pull-out design load for the V-Tie™ embedded at the centerline of 90 mm (3.5") brick veneer utilizing Type M, S or N mortar, exceeds or equals the recommended design loads listed above.
- iv) The above design values relate to the capacity of the FERRO tie components. A compatible fastener (or fasteners) capable of resisting the design load must be selected.
- v) The above design values are based on test results utilizing a 140 mm (5.5") cavity (25 mm [1"] air space). No insulation or drywall was used. Note that for smaller cavity widths and/or with the addition of insulation sheathing providing lateral tie support, increased tie system design loads and reduced tie system deflections may be realized.
- (vi) Maximum recommended spacing reflects the maximum allowable by CSA-A370-94, ACI/ASCE/TMS/518 and U.B.C. For stud construction, every vertical stud should contain ties. Design will ultimately govern spacing.

