

The FERRO V-Tie is the leading wire-tie available. Its proprietary "V" shape is engineered to maximize mortar engagement, leading to greater pullout and push through capacity from the mortar bed. This generally results in at least 25% better performance. The FERRO V-Tie provides an easier shape to loop into plates, resulting in faster installation. FERRO V-Ties are available in a large assortment of sizes to suit any cavity space.

The FERRO V-Tie™ is manufactured from 0.19in (4.76 mm) diameter wire and is available in both hot-dip galvanized finish and stainless steel. The weight of the hot-dip galvanized finish is not less than 460 g/m² (1.5 oz/ft²), and satisfies the requirements of CSA A370 (which references ASTM A123), ACI 530.1/ASCE 6/TMS 602 (which references ASTM A153, Class B), and the International Building Code (IBC) (which reference ASTM A153, Class B).

The FERRO V-Tie™ is available in a variety of standard lengths to accommodate different thicknesses of masonry veneer and design widths of air space. The design length of V-Tie™ should be selected so its legs are suitably positioned within the masonry veneer (or other masonry member) being anchored. Varying lengths of V-Tie™ can be appropriately selected by the mason on the jobsite to facilitate in-situ adjustment normal to the structural backing (where needed to accommodate construction tolerances). Standard lengths of V-Tie™ include 2.4" (60mm), 3.1" (80mm), 3.9" (100mm), 4.7" (120mm), 5.5" (140mm), 6.3" (160mm), 7.1" (180mm), 7.9" (200mm), 8.9" (225mm) and 9.8" (250mm). By selecting the appropriate length of wire V-Tie™, cavity widths of 15 mm (0.59") to 200 mm (8") can be accommodated. Specify the V-Tie™ size as the distance between the exterior face of the structural backing to the required centreline of engagement of its legs within the masonry member or veneer.

For solid masonry walls, the legs of the FERRO V-Tie™ must be placed at the centreline of the wall in full mortar bed joints (within permissible construction tolerances). For hollow masonry walls, the legs of the FERRO V-Tie™ must be placed at the centreline of the exterior face shell of the masonry unit. For increased pullout capacity, the legs of the FERRO V-Tie™ can be mortared or grouted into the cores of the hollow masonry units.

The unique configuration of the V-Tie™ (see Figure 3) intended for use with FERRO Engineered Masonry Connectors and the Cat-Tie offers greater pullout and push through capacity from the masonry mortar bed than do other proprietary and conventional ties. The area of mortar effective in resisting tie pullout for the V-Tie™ and for alternative ties embedded in a masonry veneer is illustrated in Figure 4. A comparison of the pullout capacities of these various tie types is presented in Table 1.



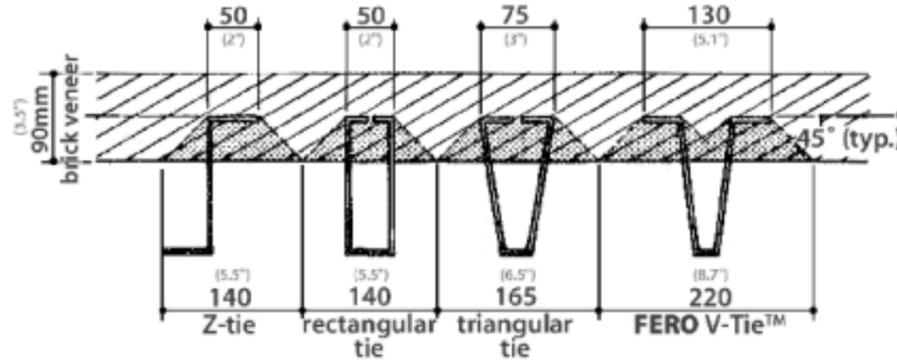
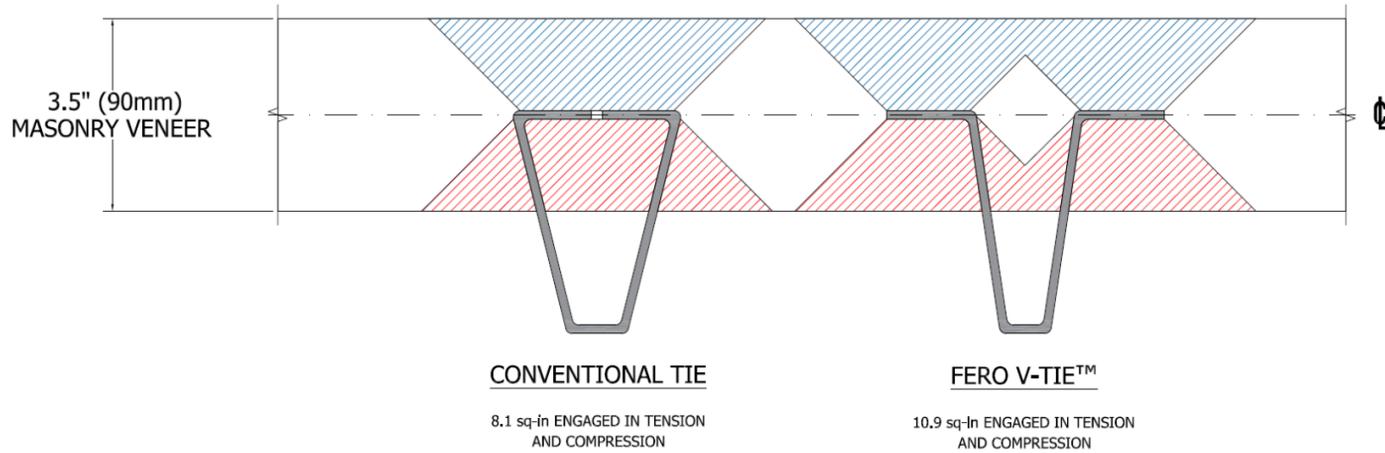


Figure 4 Effective Mortar Joint Area Pullout Resistance

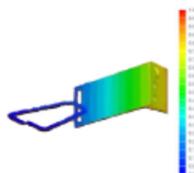
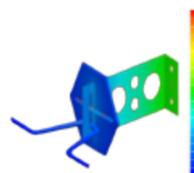
Table 1 Comparison of Tie Pullout Capacity in 90 mm (3.5") Brick Application

| Tie Type | Effective Mortar Area mm ² (in ²) | % of V-Tie™ Pullout Capacity |
|-----------------|--|------------------------------|
| FERRO V-Tie™ | 7250 (11.24") | 100 |
| Z-Tie | 4275 (6.63") | 59 |
| Rectangular Tie | 4275 (6.63") | 59 |
| Triangular Tie | 5400 (8.37") | 74 |



COMPARE: Why Choose FERRO Thermal Ties?

The comparison table below demonstrates how FERRO's Thermal Ties outperform on every level.

| | TIES WITH COMPOSITE COMPONENTS - STAINLESS STEEL | TYPICAL GALVANIZED STEEL MASONRY TIE | FERRO THERMAL RAP-TIE™ - STAINLESS STEEL |
|---|--|---|---|
| Masonry Tie Thermal Performance Comparison ² |  |  |  |
| Energy Efficiency ³ (lower is better) | -7% reduction in effective R-Value | -24% reduction in effective R-Value | -4% reduction in effective R-Value |
| Effective R-Value ft ² h °F/Btu (m ² K/W) (higher is better) | R-19.6 (3.44) | R-16.1 (2.83) | R-20.2 (3.60) |
| Assembly Thermal Transmittance Btu/h ft ² °F (W/m ² °K) (lower is better) | 0.051 (0.29) | 0.062 (0.35) | 0.050 (0.278) |
| Type of Thermal Break | Plastic/Composite | None | Structural Thermal Break |
| Cost | Increased labour and material construction costs as more ties required | Less performance for similar costs of FERRO Thermal Tie | Decreased materials and construction costs with fewer ties due to increased spacing |
| Factored Tie Resistance kN (lb-F) ⁴ | 1.11 (250) | 0.79 (178) | 1.51 (331) |

*See page 4 for all footnotes.

V-Tie:
Carbon Steel (ø3/16") ASTM A82
Stainless Steel (ø3/16") ASTM A580 Type 304

Hot-Dip Galvanizing:
Min. 460 g/m²/side
ASTM A123, ASTM A153 Class B

LEED/Recycled Content:
Steel: 87.6% post-consumer content; 6.8% pre-consumer content
Plastics: 100% post-consumer

All FERRO products include complete documentation with descriptions, technical illustrations and images. Installation requirements and methods are clearly detailed. Satisfies requirements of CSA A370, ACI 530.1/ ASCE 6/ TMS 602, IBC, ASTM A123, ASTM A153, Class B.