

Division 3

Manufacturer:

Thermomass

1000 Technology Drive
PO Box 950
Boone, Iowa 50036 USA

Toll free: (800) 232-1748
Int'l: (515) 433-6075
Fax: (515) 433-6088

Web: www.thermomass.com

Product Description

The Thermomass MS-T Series wythe connector is a modified MS Series connector, designed with a patented threaded overmold so it can be installed (drilled) through the insulation and into the fascia concrete layer without the use of pre-punched insulation sheets.

Just like the MS Series, it is a non-conductive, non-corrosive, alkaline resistant, fiber-composite connector designed for the construction of non-composite concrete sandwich wall panels.

The MS-T connector has two distinct ends: one with a typical dovetail and the other with a threaded tip. The serrated, molded collar typical of the MS Series has been replaced by molded threads, and the top of the molded collar now features a hexagon socket mount for easy installation.

When combined with rigid insulation, Thermomass MS-T Series connectors provide an integral insulation system for

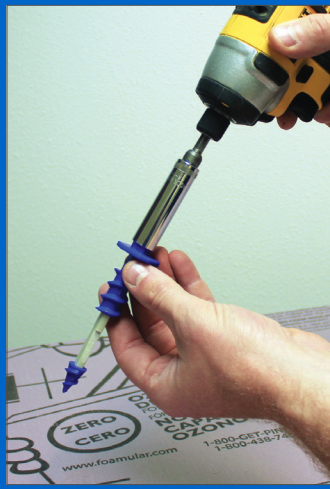
concrete walls and a connection between two wythes, (or layers), of concrete to transfer loads to the structural wythe.

Composition & Materials

MS-T Series connectors include a structural portion composed of E-CR glass fiber and cured vinyl ester resin, as well as a unique threaded thermoplastic molded sealing collar. The vinyl ester matrix impregnates the fiber strands, creating a composite material that has been tested and proven to be resistant to chemical attack and possess the same coefficient of thermal expansion as concrete.

The patented, threaded overmold design allows the connector to be installed in insulation that has not been pre-drilled. The collar (stop) ensures proper embedment depth into the exterior wythe of concrete.

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Types & Sizes

The MS-T Series connector provides for 1½" (40mm) of embedment in the interior, structural wythe of concrete and 2¾" (55 mm) in the exterior wythe of concrete. The connectors are designed specifically for sandwich walls that have an exterior wythe of 2½" (63mm) or thicker. The overall connector lengths are based on the insulation thickness and minimum concrete wythe thickness.

Installation & Application

The MS-T Series connectors are designed for use in both site-cast tilt-up and plant pre-cast applications. For either construction method, the connectors are installed with any 6 or 12 point, 12 mm deep well socket, 2½" (63mm) in depth or greater.

For complete installation instructions, please contact Thermomass.

Technical Data

Thermomass MS-T Series connectors are tested in accordance with ICC-ES AC308, Acceptance Criteria for Fiber-Reinforced Composite Connectors Anchored in Concrete. The connectors exhibit the properties and characteristics indicated in Table 1 when tested as represented.

- ASTM C581 Standard Practice for Determining Chemical resistance of Thermosetting Resins Used in Glass-Fiber-Reinforced Structures Intended for Liquid Service
- ASTM D790 Standard Test Methods

Table 1: Physical Properties of Thermomass MS-T Series Connectors

Property & Test	Concrete Strength	Result
Tensile strength of connector rod, ASTM D3039/D3039M	N/A	126,000 psi (869 MPa)
Flexural strength of connector rod, ASTM D790	N/A	116,000 psi (800 MPa)
Ultimate tension (pull out) capacity, ASTM E488	6,000 psi 4,000 psi	2,432 lb (10,818 N) 1,358 lb (6,040 N)
Ultimate shear capacity, ASTM E488	6,000 psi 4,000 psi	416 lb (1,850 N) 402 lb (1,788 N)
Alkali resistance of rod, ASTM C581	N/A	93.0% retained strength after 3,000 hours of immersion in pH12 solution.

for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

- ASTM D3039/D3039M Standard Test Method for Tensile Properties of Polymer Matrix Composite Materials
- ASTM E488 Standard Test Methods for Strength of Anchors in Concrete and Masonry Elements
- ASTM E119 Standard Test Methods for Fire Tests of Building Construction and Materials.

Warranty

Thermomass warrants that the connectors will not vary by more than 10% from performance specifications specified herein. All other warranties, expressed or implied,

including the warranty of merchantability and fitness for a particular purpose, are excluded. No endorsement or promotion of any particular panel system or fabricator is intended.

Thermomass makes no representation as to the performance of any panel fabricated using Thermomass MS-T Series fiber-composite connectors. The concrete wall panel fabricator is solely responsible for the performance of all building system panels.

For further warranty information, contact a Thermomass representative.

