

Division 3

Manufacturer:

Thermomass

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Product Description:

Thermomass SL Series fiber-composite connectors are designed for the construction of vertically cast concrete walls and serves two critical purposes. During construction, the connectors locate the insulation within the wall, allowing both concrete layers to be placed to the specified thickness. During transportation and service, they transfer lateral and gravity loads from the fascia concrete layer to the structural concrete layer.

The incredible tensile strength and low thermal conductivity of the patented SL Series allows the insulation to extend edge-to-edge and creates a thermally efficient concrete sandwich wall.

Composition & Materials:

The SL Series includes a connector rod and collar with two retaining buttons. The connectors are comprised of E-CR glass fiber and cured vinyl ester resin, as well as a collar on the connect with a series of inclined teeth. When installed, the buttons slide onto the collar and lock into the teeth, producing a ratchet mechanism.

Once assembled with rigid insulation, the connectors position the insulation between forms during concrete placement.

Types & Sizes:

The SL Series is designed to allow rigid insulation to span the entire wall area with the connectors securely positioned across the full thickness of the wall.

The overall length of the SL Series connector is dependent upon the wall thickness, the individual concrete wythes and the depth of architectural features, such as form liners. The connectors are typically spaced 12 inches (300 mm) on center in the rigid insulation.

While there is practically no limit to the amount of insulation the SL Series connectors works with, the minimum amount of insulation is 2 inches (50 mm). The minimum concrete wythe thickness is 3 inches (75 mm). The maximum concrete thickness is driven by the forming system and is not limited by the SL Series.

Please contact Thermomass for all available connector sizes and insulation types.

Installation & Application:

Thermomass SL Series connectors are appropriate for use in Thermomass System CIP and System MP for cast-in-place and modular precast construction. In either application, the installation process is identical. First, the end of the connector with the enlarged tooth is inserted into a button until it comes to rest against the enlarged tooth.

The connector is then installed through pre-drilled holes in rigid insulation until the button is flush with the insulation. A second button is then installed over each connector by pressing the button down onto the collar until the insulation is slightly compressed.

The buttons on each side of the insulation will now clamp the insulation in place.

For detailed installation instructions and best practice advice, please visit thermomass.com.

Technical Data:

Thermomass SL Series connectors have been exhaustively tested since their introduction in the 1980s.

When tested according to the standards below, the connectors exhibit the properties and characteristics indicated below in Table 1.

- 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 for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
- ASTM D3039/D3039M Standard Test Methods for Tensile Properties of Polymer Matrix Composite Materials.
- ASTM E488 Standard Test Methods for Strength of Anchors in Concrete and Masonry Elements.

Material & Physical Properties	Value
Tensile Strength	869 N/mm ² (120 ksi)
Elongation at Fracture	2.1%
Flexural Strength (Strong Axis)	801 N/mm ² (116.1 ksi)
Compressive Strength (12.7 mm (½") Specimen Long)	465 N/mm ² (67.4 ksi)
Shear Strength	400 N/mm ² (58 ksi)
Flexural Elasticity Modulus	32,800 N/mm ² (4,764 ksi)
Tensile Elasticity Modulus	40,000 N/mm ² (5,800 ksi)
Rockwell Hardness E, minimum	70
Cross Section	5.7 x10 mm (0.22 x 0.39 in)
Cross Sectional Area at Least Section	50.5 mm ² (0.078 in ²)
Moment of Inertia at Least Section	243 mm ⁴ (0.0005858 in ⁴)

Table 1: Physical Properties of Thermomass SL Series wythe connectors

Warranty:

Thermomass warrants that the connectors will not vary by more than 10% from the performance specifications listed herein.

All other warranties, expressed or implied, including the warranty of merchantability and fitness for a particular purpose, are excluded.

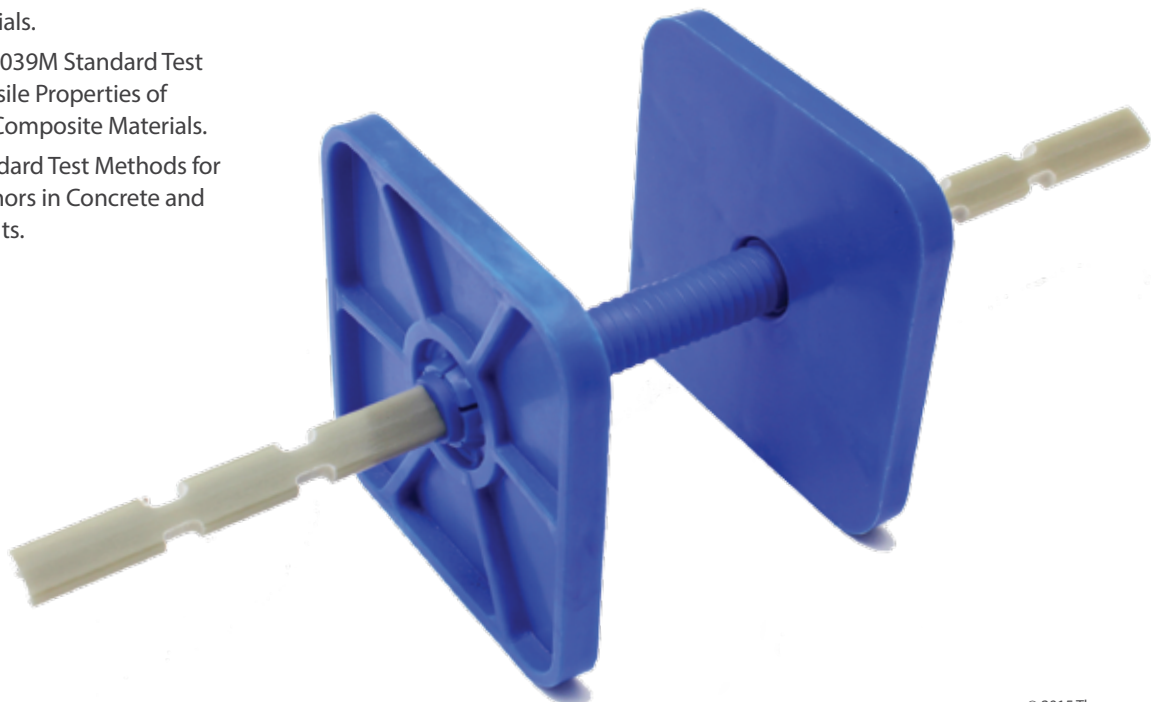
No endorsement or promotion of any particular system or contractor is intended. Thermomass makes no representation as to the performance of any wall constructed using Thermomass SL Series fiber-composite connectors.

For complete warranty information, please contact Thermomass.

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More information:

More more information about Thermomass or its complete line of concrete insulation products, installation guides, or warranty details, please call (800) 232-1748 or visit www.thermomass.com.



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