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Attn: Structural Engineer  
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RESEARCH REPORT: RR 25485  
(CSI #03151,03410,03430)

Expires: May 1, 2012  
Issued Date : April 1, 2010  
Code: 2008 LABC

**GENERAL APPROVAL** – Renewal- Thermomass Connectors for sandwich panels with styrofoam insulation.

**DETAILS**

Thermomass connectors are components in the construction of insulated concrete sandwich panels. The connectors fasten two concrete layers through an insulation layer. Applications include horizontally cast or vertically cast panels. Horizontally cast applications include plant-cast precast panels and site-cast tilt-up panels. Vertically cast applications include plant-cast modular precast units and formed-in-place structures. See attached sketches for construction details.

**The approval is subject to the following conditions:**

1. Complete design and calculation shall be prepared by an engineer licensed in the State of California and approved by the Structural Plan Check. The design strength for Thermomass Connectors is provided in Table No. 1.
2. Fabrication of Thermomass Connectors shall be in a shop of a fabricator licensed by the City of Los Angeles Building & Safety Department, in accordance with the Manufacture Standards submitted to the Department.
3. For field installation, continuous inspection by Deputy Inspectors shall be provided for verifying reinforcement, concrete and connector placement.

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Re: Thermomass Connectors for sandwich panels with Styrofoam Insulation.

4. Both wythes, acting independently, can be used to resist horizontal wind loads. The  $I$  (moment of inertia) used for calculation shall be limited to the sum of both wythes. Only one wythe should be used to resist vertical loading (such as roof or floor loading).
5. Connectors shall bear the name of the manufacturer, the product name and LARR 25485.

## DISCUSSION

The report is in compliance with 2008 LABC.


The approval is based on load tests with a factor of safety of four.

Addressee to whom this Research Report is issued is responsible for providing copies of it, complete with any attachments indicated, to architects, engineers and builders using items approved herein in design or construction which must be approved by Department of Building and Safety Engineers and Inspectors.

This general approval of an equivalent alternate to the Code is only valid where an engineer and/or inspector of this Department has determined that all conditions of this Approval have been met in the project in which it is to be used.



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RR25485 Word2003  
R03 23 10  
7G3 7G4 1901

Attachment: Sketches for Construction Details (5 pages).

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Re: Thermomass Connectors for sandwich panels with Styrofoam Insulation.

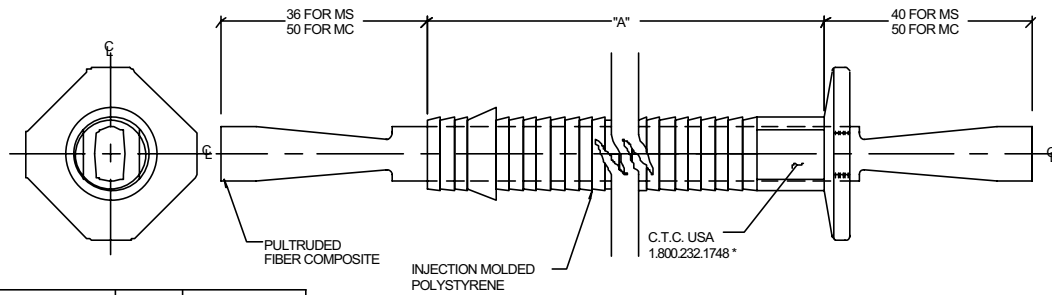
**TABLE NO. 1**

**DESIGN STRENGTHS FOR THERMOMASS CONNECTORS IN NORMAL-WEIGHT CONCRETE**

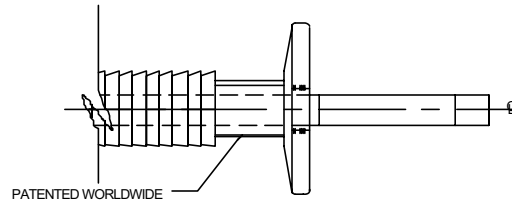
Embedment (inch)	f'c (psi)	Tension Load (lbf)	Shear Load (lbf)
1 ½	4,000	410	128

<sup>1</sup> Special Inspection in accordance with Section 91.1704 of the 2008 Los Angeles City Building Code shall be provided for all anchor installations.

# FIBER COMPOSITE CONNECTOR

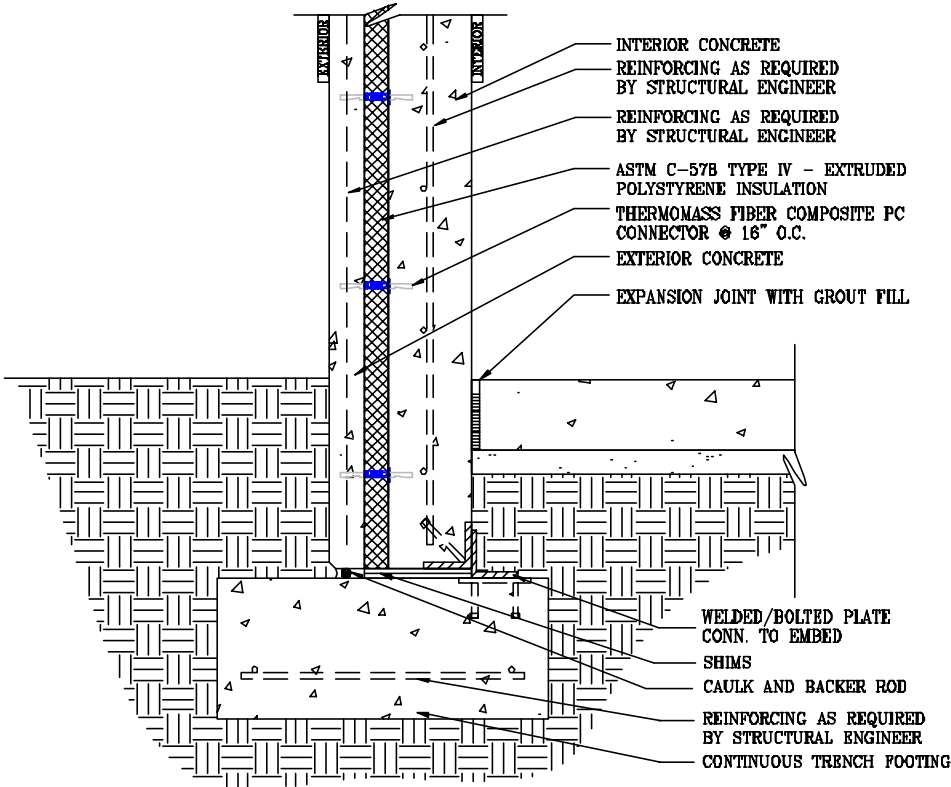


PART NUMBER	DIM "A"	INSUL THICKNESS
MS/MC 1025	25 mm	1 1/25 mm
MS/MC 30	30 mm	30 mm
MS/MC 1540	40 mm	1 1/2 140 mm
MS/MC 2050	50 mm	2 1/50 mm
MS/MC 2560	60 mm	2 1/2 160 mm
MS/MC 70	70 mm	70 mm
MS/MC 3075	75 mm	3 7/5 mm
MS/MC 80	80 mm	80 mm
MS/MC 3590	90 mm	3 1/2 190 mm
MS/MC 40100	100 mm	4 1/100 mm
MS/MC 45115	115 mm	4 1/2 115 mm
MS/MC 120	120 mm	120 mm
MS/MC 50130	130 mm	5 1/30 mm
MS/MC 55140	140 mm	5 1/2 140 mm
MS/MC 60150	150 mm	6 1/50 mm
MS/MC 65165	165 mm	6 1/2 165 mm
MS/MC 70180	180 mm	7 1/80 mm
MS/MC 75190	190 mm	7 1/2 190 mm
MS/MC 80200	200 mm	8 1/200 mm
MS/MC 85215	215 mm	8 1/2 215 mm
MS/MC 10254	254 mm	10 2/54 mm
MS/MC 10.5265	265 mm	10 1/2 265 mm

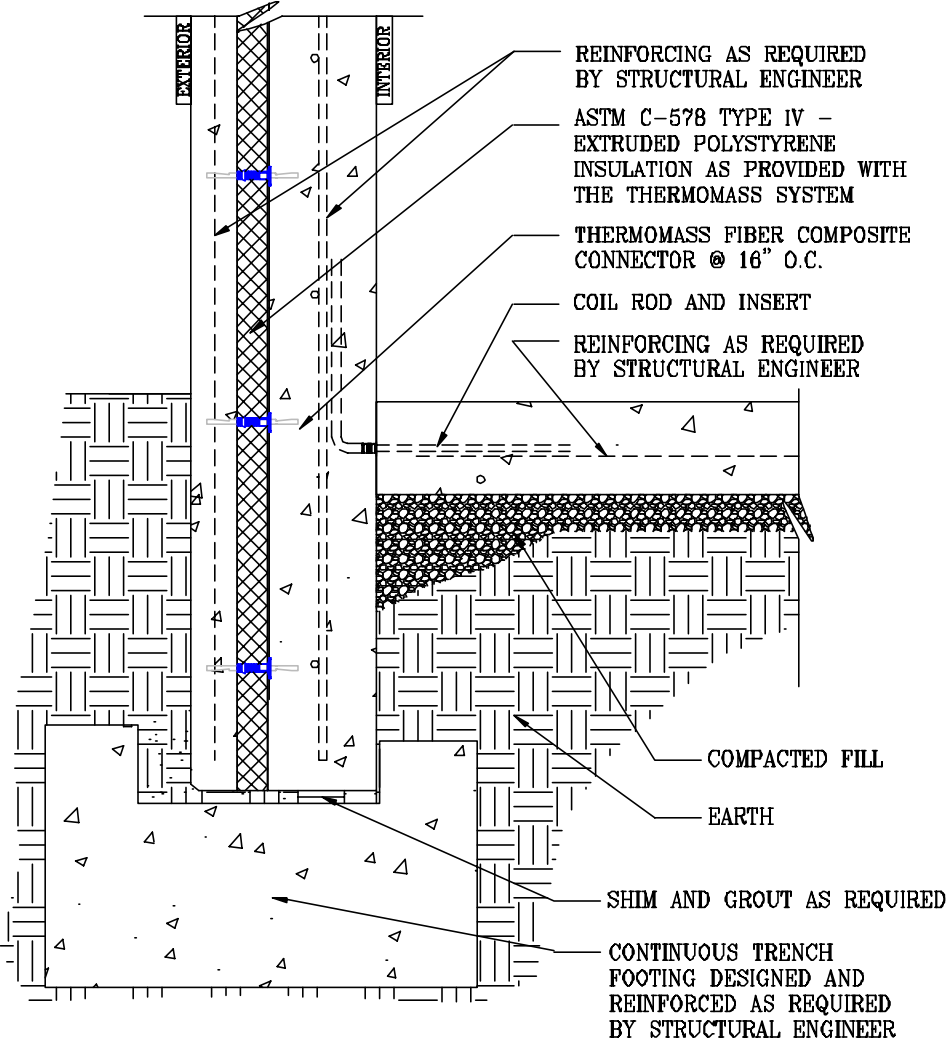


NOTES:  
 ALL DIMENSIONS IN mm  
 \* EXISTING STOCK MAY INDICATE  
 \*AMES, IA 1 (515) 232-1748\*

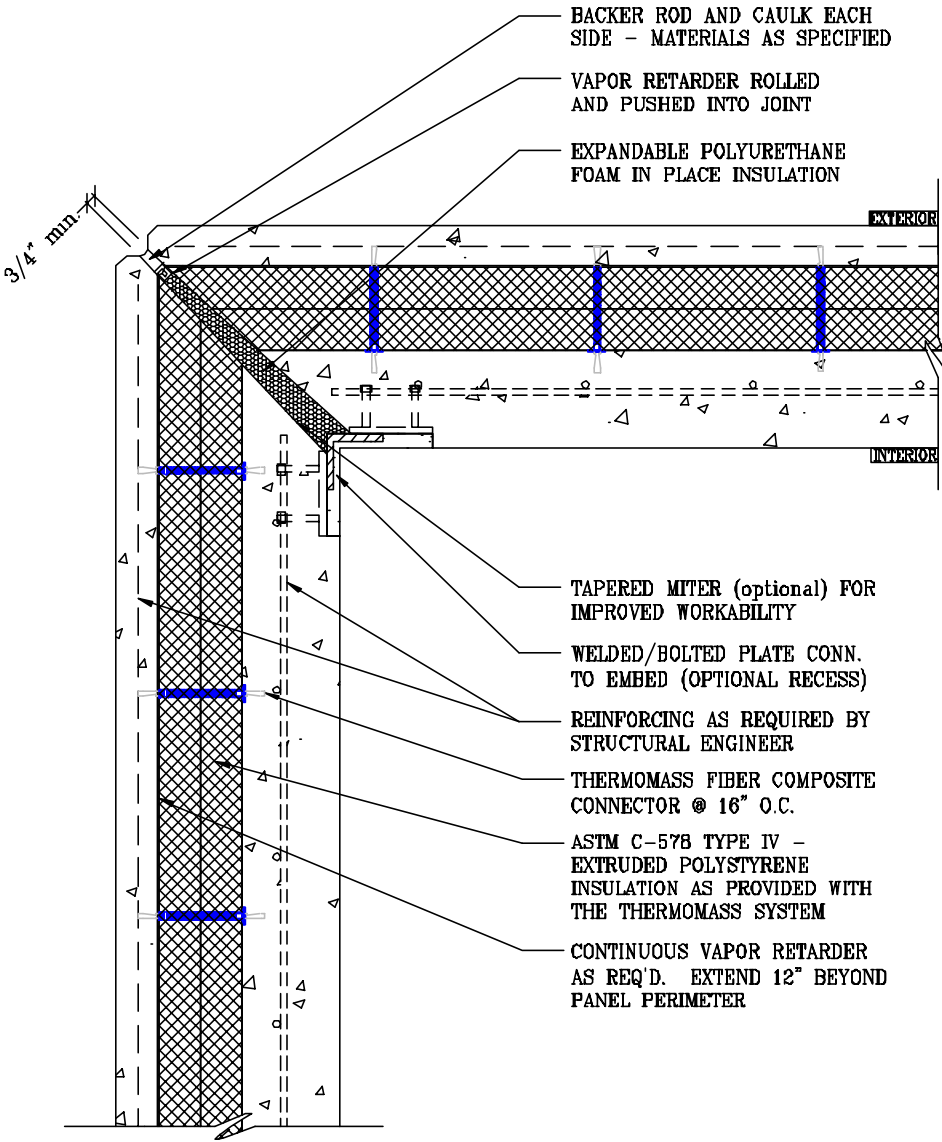
# TU2-F10



# TU2-F30



# TU6-C10



# TU6-C20

