

CITY OF LOS ANGELES

CALIFORNIA



ERIC GARCETTI
MAYOR

BOARD OF
BUILDING AND SAFETY
COMMISSIONERS

VAN AMBATIELOS
PRESIDENT

E. FELICIA BRANNON
VICE-PRESIDENT

JOSELYN GEAGA-ROSENTHAL
GEORGE HOVAGUIMIAN
JAVIER NUNEZ

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

RAYMOND S. CHAN, C.E., S.E.
GENERAL MANAGER

FRANK BUSH
EXECUTIVE OFFICER

Composite Technologies Corporation
1000 Technology Drive
P. O. Box 950 Boone, IA 50036-0950

Attn: Structural Engineer
(515) 433-6075

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

Expires: May 1, 2018
Issued Date: June 1, 2016
Code: 2014 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.
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).

RR 25485
Page 1 of 3

Composite Technologies Corporation
Re: Thermomass Connectors for sandwich panels with Styrofoam Insulation.

5. Connectors shall bear the name of the manufacturer, the product name and LARR 25485.

DISCUSSION

The report is in compliance with the 2014 Los Angeles City Building Code.

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.



QUAN NGHIEM, Chief
Engineering Research Section
201 N. Figueroa St., Room 880
Los Angeles, CA 90012
Phone- 213-202-9812
Fax- 213-202-9943

Qn
QN
RR25485/MSWord2013
R06/9/16
TLB1600125
104.2.6

Attachment: Sketches for Construction Details (5 pages).

Composite Technologies Corporation
Re: Thermomass Connectors for sandwich panels with Styrofoam Insulation.

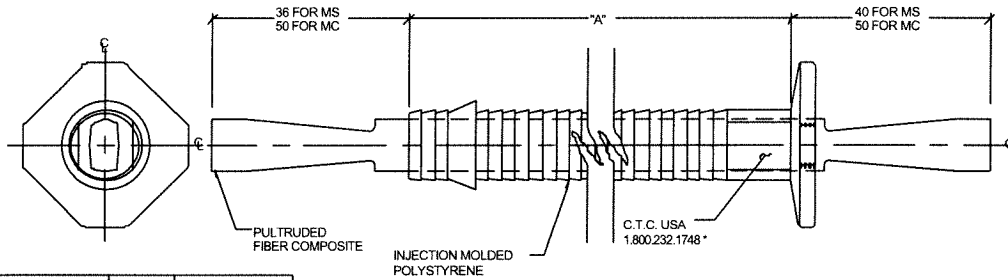
TABLE NO. 1

DESIGN STRENGTHS FOR THERMOMASS CONNECTORS IN NORMAL-WEIGHT CONCRETE

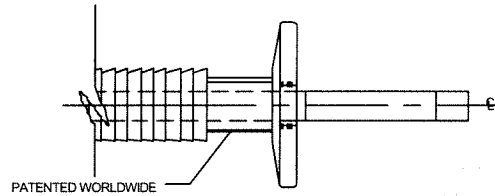
Embedment (inch)	f _c (psi)	Tension Load (1bf)	Shear Load (1bf)
1 ½	4,000	410	128

¹ Special Inspection in accordance with Section 91.1704 of the 2011 Los Angeles City Building Code shall be provided for all anchor installations.

FIBER COMPOSITE CONNECTOR

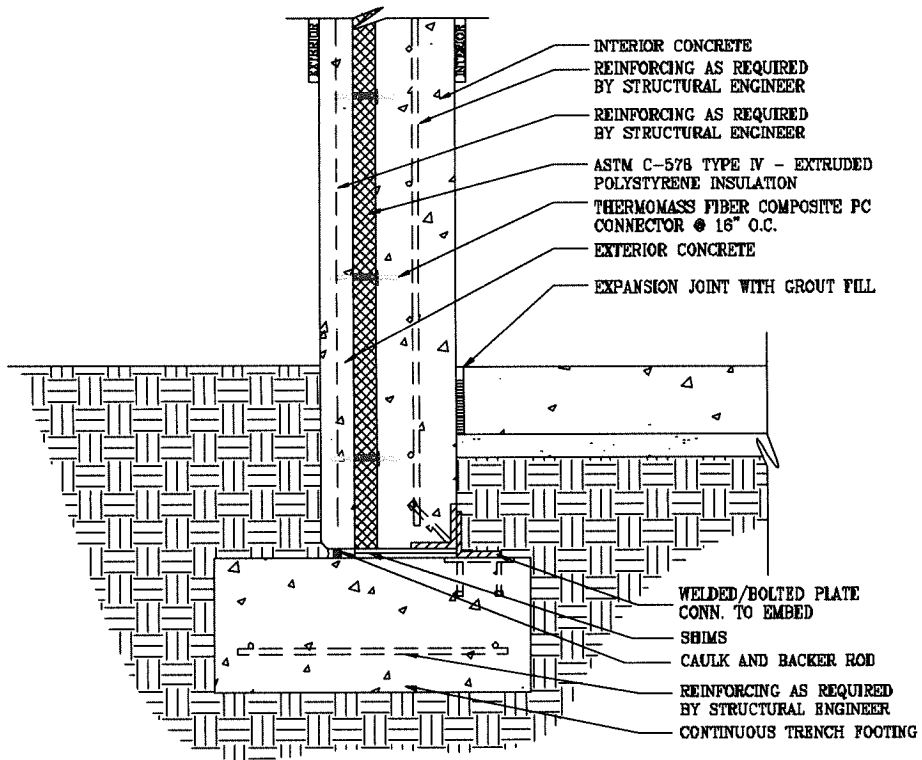


PART NUMBER	DIM "A"	INSUL THICKNESS
MS/MC 1025	25 mm	1/25 mm
MS/MC 30	30 mm	30 mm
MS/MC 1540	40 mm	1 1/2" 40 mm
MS/MC 2050	50 mm	2/50 mm
MS/MC 2560	60 mm	2 1/2" 60 mm
MS/MC 70	70 mm	70 mm
MS/MC 3075	75 mm	3/75 mm
MS/MC 80	80 mm	80 mm
MS/MC 3590	90 mm	3 1/2" 90 mm
MS/MC 40100	100 mm	4/100 mm
MS/MC 45215	115 mm	4 1/2" 115 mm
MS/MC 120	120 mm	120 mm
MS/MC 50130	130 mm	5/130 mm
MS/MC 55140	140 mm	5 1/2" 140 mm
MS/MC 60150	150 mm	6/150 mm
MS/MC 65165	165 mm	6 1/2" 165 mm
MS/MC 70180	180 mm	7/180 mm
MS/MC 75190	190 mm	7 1/2" 190 mm
MS/MC 80200	200 mm	8/200 mm
MS/MC 85215	215 mm	8 1/2" 215 mm
MS/MC 10254	254 mm	10/254 mm
MS/MC 10.5265	265 mm	10 1/2" 265 mm

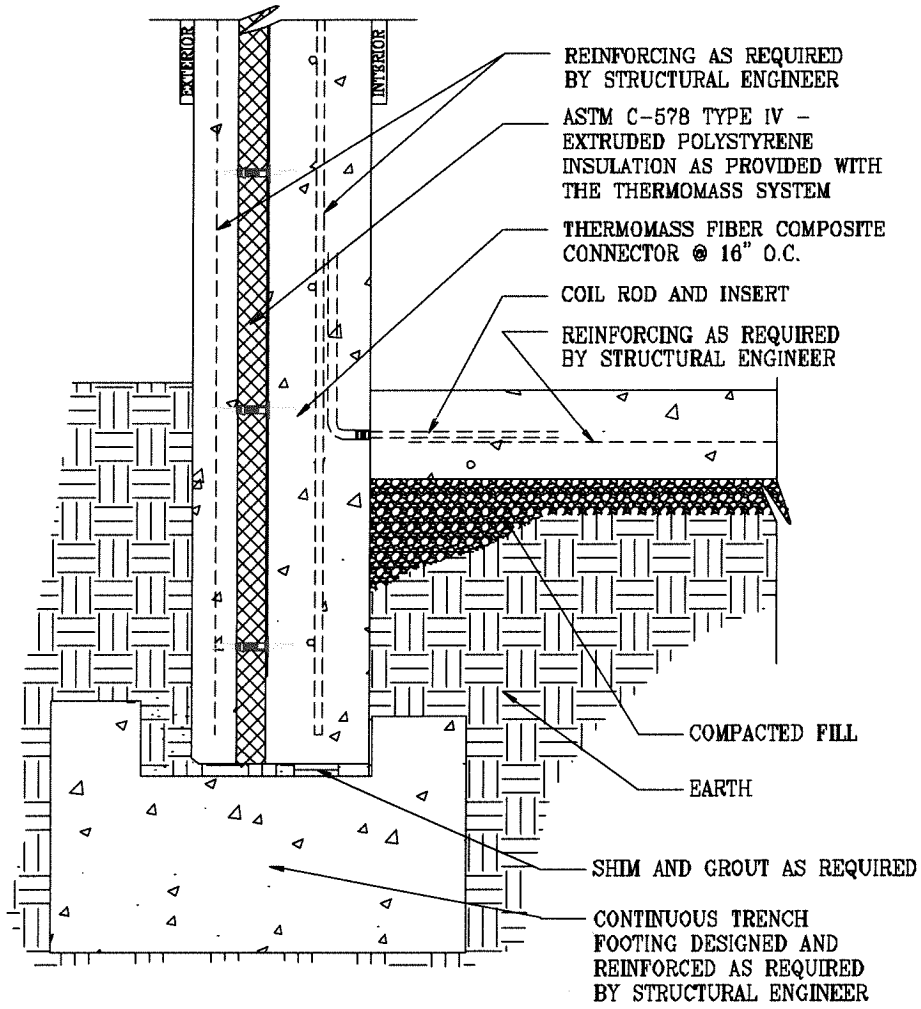


NOTES:
 ALL DIMENSIONS IN mm
 * EXISTING STOCK MAY INDICATE
 *AMES, IA 1 (515) 232-1748

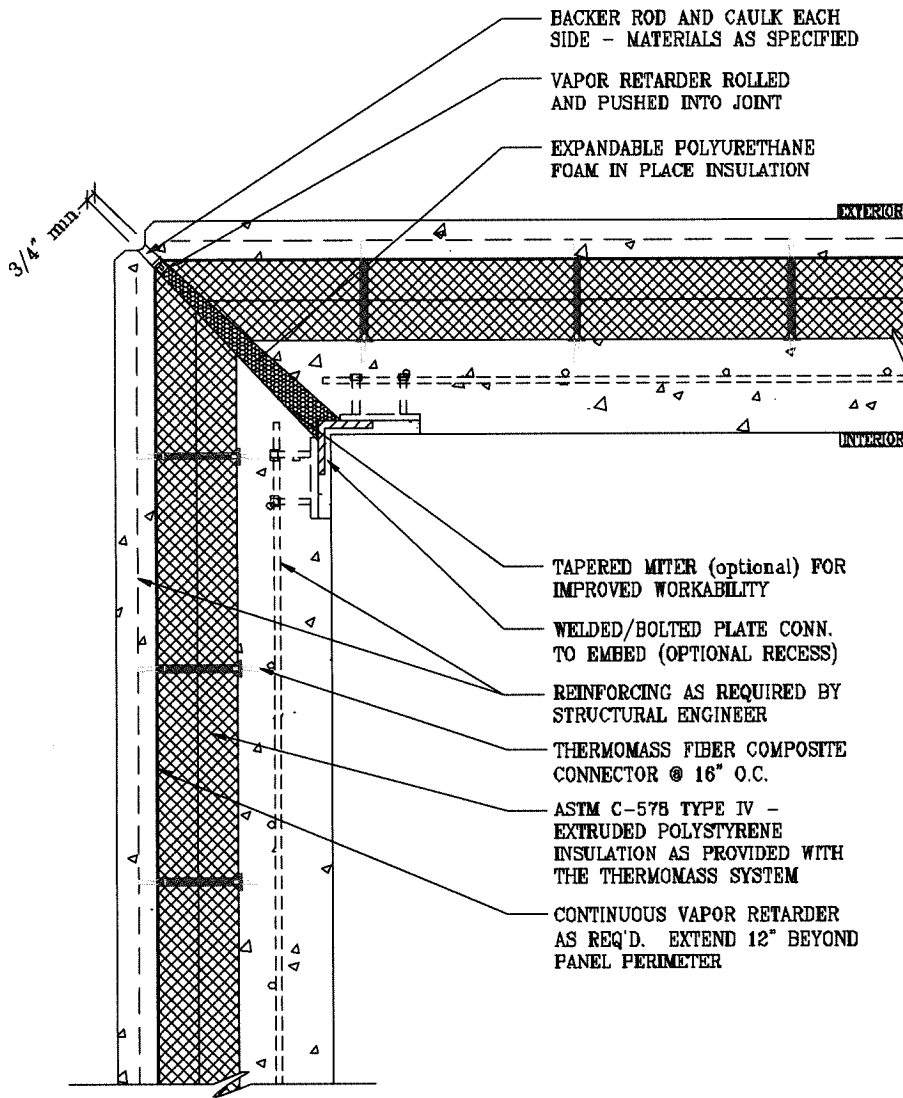
TU2-F10



TU2-F30



TU6-C10



TU6-C20

