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Attn: Structural Engineer
(515) 433-6075

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

Expires: July 1, 2024
Issued Date: February, 1 2023
Code: 2020 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).

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

DISCUSSION

The report is in compliance with the 2020 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.

EUGENE BARBEAU, Chief
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EB
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TLB2300003
R01/23/2023
104.2.6

Attachment: Sketches for Construction Details (5 pages).

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TABLE NO. 1

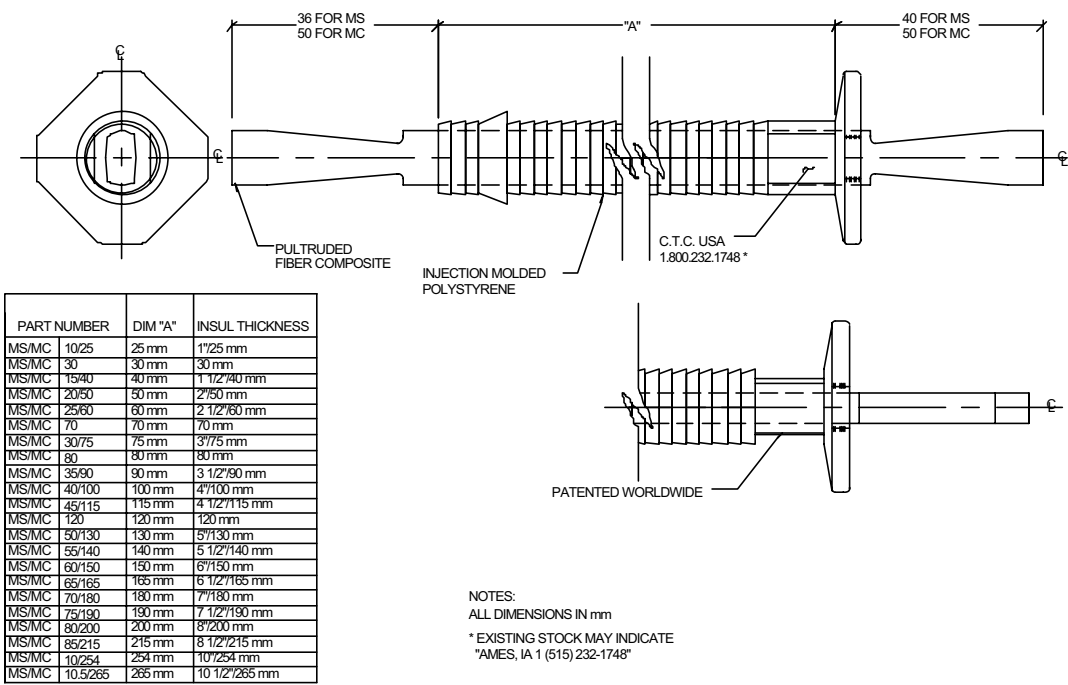
DESIGN STRENGTHS FOR THERMOMASSS CONNECTORS IN NORMAL-WEIGHT CONCRETE

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

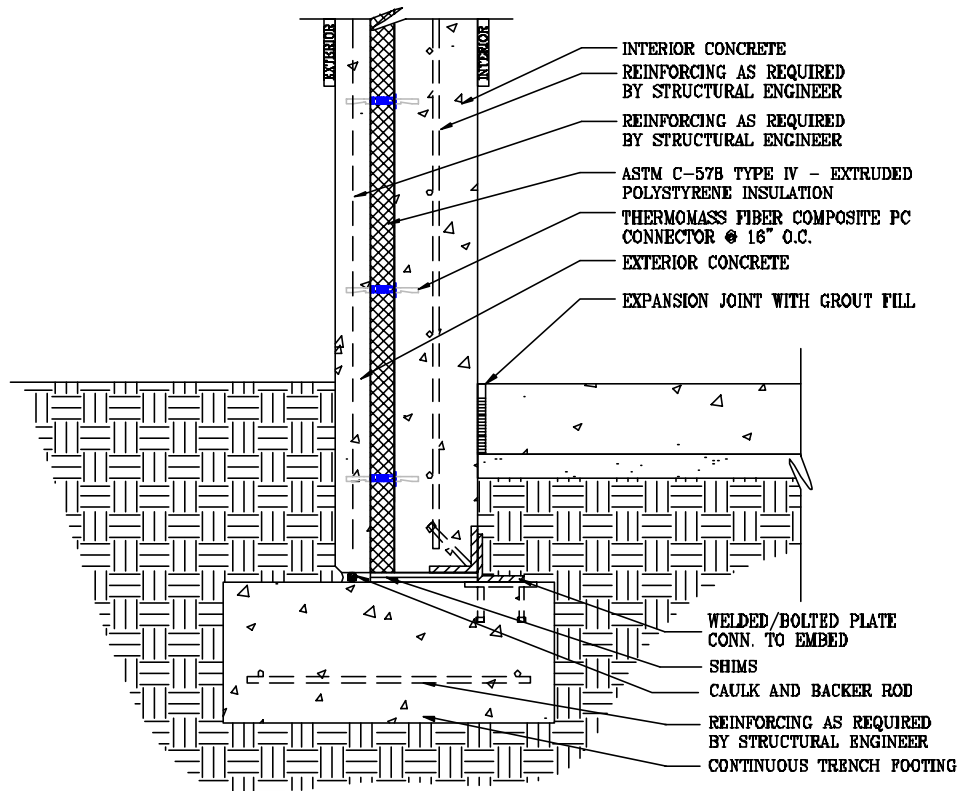
¹ Special Inspection in accordance with Section 91.1704 of the 2017 Los Angeles City Building Code shall be provided for all anchor installations.

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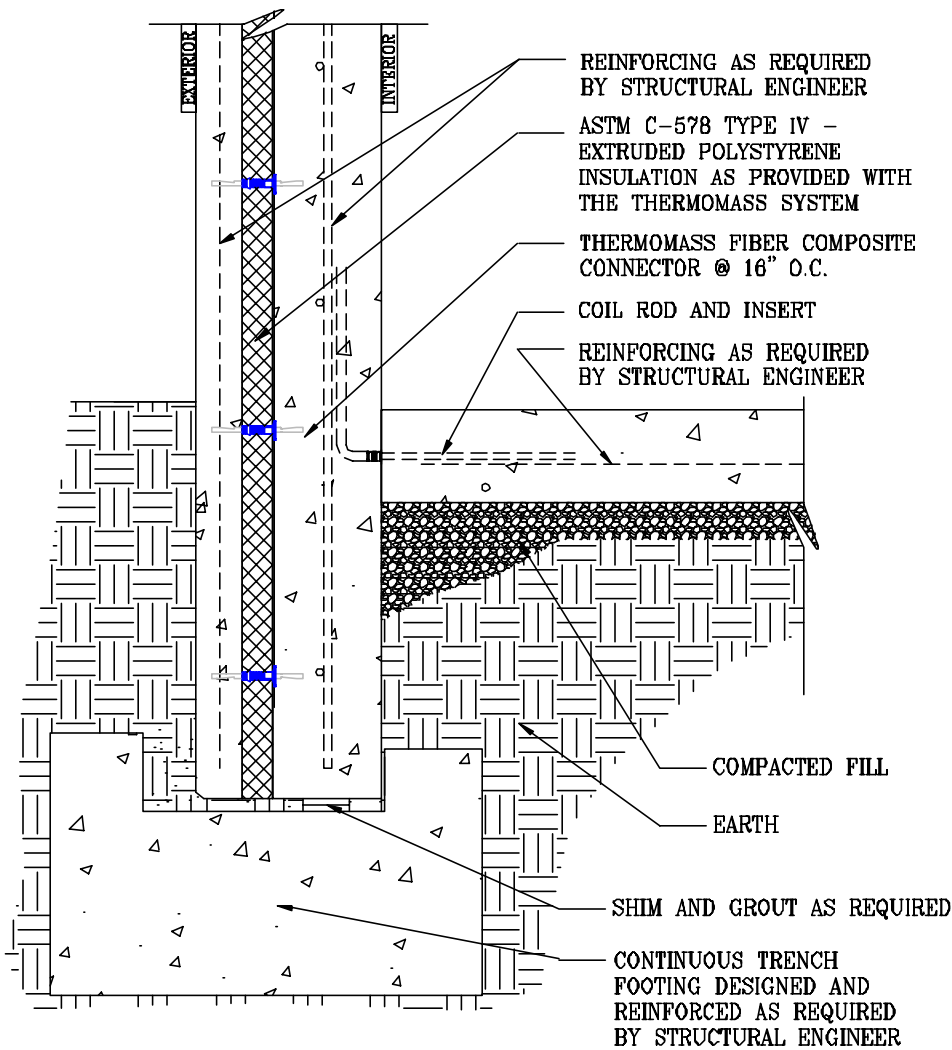
FIBER COMPOSITE CONNECTOR



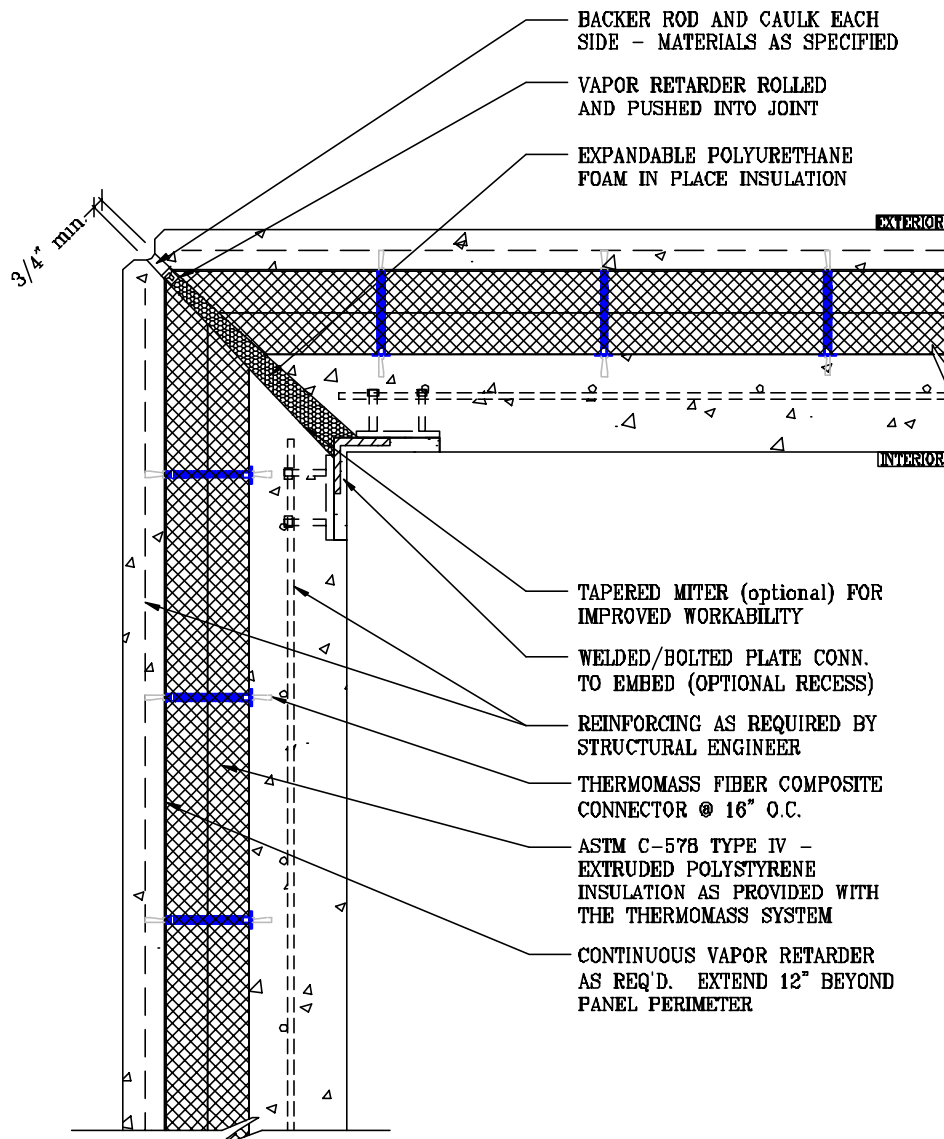
TU2-F10



TU2-F30



TU6-C10



TU6-C20

