BUILDING PERFORMANCE

CLASS 1

Building Product Information Sheet

Product name:

THERMOMASS INSULATION SYSTEM

Product line *(the product line from which the product is customised)*:

Product description and its intended use *(measurements, materials, usage)*:

Backed by 40 years of experience, Thermomass is the industry leader in concrete sandwich wall technology.
Thermomass is a fully tested system, comprising of two main components, MC/MS Series composite connectors and Goldfoam XPS which are provided as a complete system. MC/MS connectors are fiber-reinforced composite connectors with dove-tail anchors at both ends for anchorage into wet concrete with a plastic overmold in the middle of the connector.
The MC/MS Series connectors are installed through pre-determined drilled holes in the rigid insulation, providing a grid of connectors across the body of the panel.
Thermomass concrete insulation systems can be used in plant precast, tilt-up and cast-in-place projects.

Product identifier *(if applicable)*:

Thermomass Insulation System

Place of manufacture: ☐ Aotearoa New Zealand ☑ Overseas

Legal and trading name of the manufacturer(s):

LEVIAT, IOWA

Legal and trading name of the importer *(if applicable)*:

FREEMAN INSULATION LTD, TRADING AS COMPOSITE INSULATION LTD

Address for service:

STREET NAME	29 Leslie Hills Drive	SUBURB	Riccarton
CITY, COUNTRY	Christchurch	POSTCODE	8011

Website: composite-nz.co.nz

Email address: alan@composite-nz.co.nz

Phone No. *(if applicable)*: 03 3488015

NZBN *(if applicable)*: NZBN:9429041406052

Relevant Building Code clauses:

B2 Durability: Performance clauses B2.3.1(a) and B2.3.1 (b)
E3 Internal Moisutre: Performance clause E3.3.1
F2 Hazardous Building Materials: Performance clause F2.3.1
H1 Energy Efficeincy: Performance clauses H1.3.1(a) and H1.3.2E

Statement on how the building product is expected to contribute to compliance:

B2 Durability: Performance clauses B2.3.1(a) and B2.3.1 (b) - Thermomass Insulation system has a durability of at least 50 years installed correctly.

Refer to installation requirements for further information.

E3 Internal Moisutre: Performance clause E3.3.1 - Thermomass insulation provides excellent moisture resistance. It provides thermal resistance when installed correctly.

Refer to installation requirements for further information.

F2 Hazardous Building Materials: Performance clause F2.3.1 - Goldfoam XPS as part of the Thermomass insulation system is an inert, non toxic, non irritant and odourless material.

H1 Energy Efficeincy: Performance clauses H1.3.1(a) and H1.3.2E -Thermomass insulation system provides thermal resistance when installed correctly.

Refer to installation requirements for further information.

- *options for compliance set out in section 19 of the Act (regulations, acceptable solution, verification method)*
- *standard or technical document that describes the performance of the building product or the relevant specifications to which the building product was manufactured*
- *physical properties of the building product*
- *how the building product is intended to be used.*

Limitations on the use of the building product:

Thermomass Insulation system is available in a range of insulation thicknesses, each with a specific thermal resistance rating or R-value. Care should be taken to make sure the selected product meets the projects requirements for thermal resistance under the H1 energy efficiency clause.

Design requirements that would support the use of the building product:

Thermomass has been used in a wide variety of building types since 1980 and should be considered for any building where low energy costs, long term durability, low maintenance, low fire insurance rates and low constructon costs are important. Completed facilites fall under a wide variety of building types including retail stores and malls, churches, schools, hospitals, correctonal facilites, manufacturing and distributon centers, warehouses, coolers/freezers, tmber kilns, agricultural buildings, sports facilites, homes and residental developments.

Thermomass has several insulaton systems for a variety of concrete applicatons, including the following:
• Cast-In-Place - site cast, vertcally formed
• Precast - plant cast, horizontally formed
• Prestressed - plant cast, including hollow core and double tees, horizontally formed
• Tilt-Up - site cast, horizontally formed
• Modular Precast - site or plant cast, 4, 5 or 6-sided monolithic modules, vertcally formed

Installation requirements:

The precast and tlt-up systems are both installed with nearly identcal practces:
• The botom layer of concrete is placed in the forms. This begins once the forms have been secured, the surfaces cleaned and treated with a bond release agent and reinforcing has been placed. Reinforcing for the thinner (outer, lower) concrete layer is typically 6x6 – W2.9xW2.9.
• The pre-drilled insulaton is then placed over the fresh concrete (which is placed at a 5 in – 7 in slump). This should be done immediately afer the botom layer has been consolidated and leveled to thickness, but in any event, within 15 to 20 minutes afer placement of the concrete to ensure the concrete mix is stll plastc.
• The connectors should immediately be inserted through the pre-drilled holes.
• The concrete around the inserted connectors should then be consolidated. Walking on the insulaton near each row of connectors and applying foot pressure on each side of the connector can do this efectvely. This will cause the concrete to consolidate around the notch in the connector. In factory cast operations, additonal consolidaton may be achieved by bed vibraton. Additonally, Thermomass provides a vibraton device for use where insulaton thickness exceeds 75 mm.
• The reinforcement and hardware for the second concrete wythe shall be placed.
• Finally, the top wythe of concrete is placed. (Note: If the top concrete wythe cannot be poured immediately, then it must be poured afer the botom or lower concrete wythe has fully set.) Contact Thermomass for installaton guides for specifc applicatons.

MC/MS connectors must be installled in accordance with the instructions provided by Composite Technologies LLC dba Thermomass.

Protect hands and eyes - fiberglass fibers may be presnt on the surfaces of the Thermomass conncectors, it is recommended that gloves be worn during the handling and that eye contact be avoided.

Goldfoam XPS insulation is an inert, non toxic, non irritant and odourless material. There are no specific requirements for PPE when handling or installing Goldfoam XPS.

When transporting, storing or installing make sure Goldfoam XPS is not eposed to petroleum based solvents or long periods of direct sunlight.

Maintenance requirements:

No maintenance required.

Is the building product/building product line subject to warning or ban under section 26?:

☐ Yes ☑ No

If yes, description of the warning or ban under section 26:

Date: 22/08/23