



TECHNICAL
INFORMATION
AND
INSTALLATION



Optimal wire diameters: 2 mm (minimum dimensions).

Note: The thickness and weight of the panels will vary in proportion with the overall applied thickness of mortar, and the Fire Resistance Level (FRL) and/or Sound Transmission Class (STC) rating or loading required. Please refer to LAF Group for further details.

Health and Safety

Trimesh® can be spray coated with any of the LAF Group range of materials which, being blends of either gypsum and vermiculite, or cement and vermiculite, contain no asbestos and present no known health hazard before, during or after application. Normal precautions for gypsum products apply, including dust mask, eye protection and covering of sensitive skin.

Contact

For more information on Trimesh® and our complete range of products for the construction, industrial and agricultural sectors, contact LAF Group by telephone, facsimile, email or visit our website. Contact points are provided below.



TRIMESH®

PRODUCT INFORMATION



Strong yet lightweight insulation encased in a steel cage.

What Is Trimesh®?

Trimesh® is a lightweight three-dimensional wire frame for use in building and construction. The panel can incorporate a polystyrene core, and can be sprayed with a number of LAF Group products to protect from fire and impede the passage of sound.

Trimesh® is a time and cost-saving system that has been comprehensively tested, and is likely to be compliant with most Building Regulation provisions. Three-dimensional reinforcement has been used in major construction projects around the world, at Sydney Olympic Park and in many buildings in Sydney's CBD.

How Does It Work?

Trimesh® is a total construction system for all passive fire protection needs. Made from high-tensile steel wire, its flexibility ensures it can be used in curtain or partition walls, or as a core in precast elements.

Trimesh® panels are erected onsite and can be easily transported and re-dimensioned using conventional tools. Trimesh® can be installed horizontally or vertically for walls, floors, ceilings and plenums.

Trimesh® can also be applied with concrete or gypsum mortars to create walls that are strong and durable, or thin and light.



Physical Properties

A standard Trimesh® panel consists of two layers of mesh with a square pattern of approximately 5 cm and wire a nominal 2 mm in diameter. The layers of mesh are held apart by welded cross-wires to provide panels at 30mm and 50mm thick.

Twisting strength: > 430 kN/m²

Breaking strength: > 540 kN/m²

Weight: 2.3 kg/m² (30mm thick panel)

Trimesh® can be supplied as a plain wire-frame panel, with a polystyrene core of the desired thickness, or with aluminium foil to provide thermal insulation and a vapour barrier.

TRIMESH®



Fire Resistance

Trimesh® has been successfully tested at CSIRO's Fire Testing Laboratories in accordance with Australian Standards AS 1530 Part 4 and AS 4072 Part 1.

The Trimesh® test incorporated services such as PVC, steel and copper-pipe penetrations, fire dampers, electrical cable trays and air-handling ductwork. The tested assemblies achieved from two to four hours fire resistance level (FRL).



Acoustic Performance

Trimesh® has been successfully tested in accordance with Australian Standards AS 1191 and AS 1276. Sound Transmission Class (STC) ratings range from 32 for a 40 mm panel, to 64 when two Trimesh® panels, 250 mm apart, are sprayed with Alltex to a thickness of 80mm and 90mm.

Installation

Trimesh® panels are first inserted over starter bars, and the joints then lapped with joiner strips. In some circumstances, Trimesh® can be 'cast in' between layers of formwork in accordance with normal practice. Additional reinforcement such as standard deformed reinforcing bars can be used, in accordance with relevant Steel Standards and Codes.

After installation, the panel is sprayed just below the level of the mesh to ensure good adhesion of subsequent coats. A second coat is applied to achieve the required thickness. When included, the aluminium foil provides a backing for the spray application.

Finishes

Depending on the scope of work required, LAF Group's approved applicators can offer a variety of exclusive finishes to suit project needs:

ROUGH INDUSTRIAL: Sprayed off-the-gun finish without any trowelling or smoothing out of the surface.

SEMI-INDUSTRIAL: Spray surface is lightly levelled with steel trowel leaving a semi-smooth surface.

LEVELLED: Surface is screeded (screed marks may appear).

SMOOTH: Either trowelled smooth or clad with sheetmetal or plasterboard.

Product Data

Trimesh® is a monolithic-type box with static behaviour similar to that of masonry load-bearing walls or large precast panels.

Trimesh® can be used in wall construction or suspended from superimposed elements such as concrete slabs and beams to circumvent slenderness ratio conditions imposed by some of the Standards.

Trimesh® is available in the following sizes:

- Height: H = 30, 50, 75, 100, 125 and 150 mm
- Width: W = 1210 mm
- Length: Maximum L = 6000 mm

Possible modifications of Trimesh® frame:

- Trusses may be eliminated.
- Diagonals may be eliminated (maximum 70 per cent).
- Some upper transversal wires may be eliminated.