



In a competitive product review Bondor NZ's XFLAM performance panel was selected as the preferred insulated panel for the Polarcold Stores new temperature controlled storage and distribution centre, situated in Manukau City's extensive logistics hub.

The project scope encompassed the construction of 4 temperature controlled rooms, all capable of running as freezers, with an overall floor space of 8800m² and a storage capacity of 9000 tonne. A 3000m² environmental load out area (ELA) with attached offices and office amenities completed the overall build.

XFLAM cored insulated panel met significant performance requirements across a number of criteria for the specified section of the panel brief.

- /// Cost savings were optimised with a reduction in the amount of steel work required to fix the XFLAM panel, relative to other panel systems available.
- /// Continuous lengths of panel were provided to ensure continuity of the vapour barrier - a crucial performance requirement for industrial freezers and chillers. For this project lengths of up to 15 metres for the walls and 19.5 metres for the roof were produced in the Christchurch factory and delivered to site.
- /// Insurer rated FM approvals and conformance to the fire standards of the NZ Building Code were also components of selection criteria.

Given Bondor NZ's reputation as the leading fire rated panel manufacturer in NZ, the production teams were able to accommodate the 21,600 m² of XFLAM Panel required with advanced supply chain management and segmented demand planning.

Constant communication with the installation teams on critical milestone dates ensured that all panels were delivered from the factory to site ahead of the main contractors programme.

Panel Supply & Manufacture	/// Bondor NZ	Area	Core	Profile	Thickness	Colour External and Internal	M ² of 1200mm wide panel supplied
Client	/// Polarcold / Scales Corporation	Freezer/Chiller Walls	XFLAM	Ribbed	200mm	Titania	8000
Main Contractor	/// Eberts	Freezer/Chiller Roof	XFLAM	Ribbed	250mm	Titania	9000
Engineers	/// Connor Consulting	ELA Walls	XFLAM	Ribbed	100mm	Titania	1000
Panel Steel	/// Bluescope NZ Titania Galv.	ELA Roof	XFLAM	Ribbed	150mm	Titania	3600

KEY PERFORMANCE CRITERIA

- /// Bondor NZ's historical and current offer provided the client with the confidence that the XFLAM panel was supplied by a manufacturing company with a long standing reputation in the New Zealand market place and that material warranties for material were provided under New Zealand specifications.
- /// A key brief was to provide continuous lengths of panel for both walls and the roof panel to ensure that the vapour barrier could not be compromised. The tallest wall height on this project was approximately 15 metres, and the longest roof panel 19.5 metres. Additionally with long lengths the finished installation would be functional and aesthetically pleasing.
- /// A one-point of contact was available to the client with a personal guarantee of being on site within 24 hours of a meeting request. This ensured that the construction programmes were met through using advanced production planning and logistics coordination.
- /// Short lead-times and flexible manufacture, ensured that the main contractors programme was met. There were occasions during construction that required instantaneous decisions around design improvements, Bondor NZ was able to facilitate and support these changes with an adaptable production capability and on time delivery leaving no impact on the build progress.
- /// As New Zealand's leading fire resistant insulated panel manufacturer Bondor NZ's staff were able to reliably and accurately make recommendations on the construction details and the XFLAM panel features specific to the requirements of the New Zealand Building Code and insurance industry.
- /// 200mm XFLAM panel was selected to achieve the required spans for the walls, and the thicker 250mm XFLAM panel was preferred for the roof/ceiling panels.
- /// Advanced thermal ratings using XFLAM as the internal core will ensure the costs of refrigeration are minimised.

XFLAM is a new generation of fire resistant insulation material that is highly suitable as a core in insulated panel systems. Manufactured in a proven lamination process XFLAM insulated panel provides outstanding fire performance, excellent structural strength and advanced thermal performance. As a phenolic hybrid foam, XFLAM is safe to work with, has low toxicity and is completely recyclable.



THERMAL

XFLAM has advanced thermal ratings that do not diminish, high 'R' values are achieved using standard insulated panel thicknesses, easily surpassing the requirements of the NZBC.



NZBC COMPLIANCE

Tested and rated under the AS1530.4 and ISO 9705 for fire resistance and flashover. XFLAM panels are easily incorporated into the designs of fire cells and internal and external walls requiring a FRR.



FIRE SAFE

In the event of a fire incident, fire does not spread in the core and the behavior of the core is limited to charring. The low generation of smoke and spread characteristics contribute to the added safety for the building occupants and property.



SEISMIC RESILIENCE

The lightweight nature of XFLAM panel ensures that in the event of an earthquake the lateral loadings are minimal. Occupant safety is high and property damage is negligible due to the high bracing capacity and inherent strength of the steel skins and XFLAM core.



STRENGTH

XFLAM panel has superior spanning capabilities in comparison to other products in the market, resulting in reduced structural requirements, faster build times and a greater usable space.



SUSTAINABLE

As the lowest density fire rated insulation core on the market, less XFLAM material is required in the panel which reduces the building mass and embodied energy. Recyclability of the panel core and steel faces ensures less waste product is sent to landfill.



VALUE FOR MONEY

XFLAM is a competitive price solution for fire resistant insulations, the speed of build and benefit of NZ manufacturing ensures BondorNZ systems are installed without delay.



INSURANCE AND PEACE OF MIND

XFLAM Insulated panel are the first panels in NZ and Australia to Achieve FM accreditation for the following standards:

- FM 4880 // Internal wall and ceilings (class 1) Unlimited heights
- FM 4881 // Exterior walls
- FM 4471 // Roof Systems

These tests for accreditation are undertaken at FM Global's testing facility in Rhode Island, New York, and determine a products Performance under various fire and environmental conditions.

