

THERMADEK WINTER GRADE

Spray foam system

Product Description

THERMADEK WINTER GRADE is a two component, 1:1 ratio, rigid foam system which when processed through suitable spray machinery (Graco / Gusmer / Glas-Craft) will produce a rigid foam of approximate core foam density 40kg/m³ with exceptionally good adhesion to cold substrates.

Uses

THERMADEK WINTER GRADE is used for insulation in:

- Ocean going yachts / canal barges
- Industrial / commercial walls or roofing
- Any particularly cold and conductive substrate, especially metal

THERMADEK WINTER GRADE can be used on substrates down to minus 5°C. When used externally the foam must be protected from ultra-violet radiation and atmospheric degradation by a suitable elastomer protective coating.

Equipment

THERMADEK WINTER GRADE can be processed through all standard foam spray machines. The machine should be capable of maintaining the mix ratio at ±2% accuracy and controlling the component temperatures at 40-50°C.

Recommended machine settings

Block Temperature	<i>Minimum, operating</i>	100-120°F / 40-50°C
Hose Temperature Reading	<i>Minimum, operating</i>	100°F / 40°C
Chemical Pressures	<i>Optimum</i>	1000 psi



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Spray Techniques

The guidelines in Isothane Limited's standard specification should be followed but the general requirements are as follows.

- The substrate should be clean, dry and free of dirt, grease, oil and loose particles.
- In certain cases primer may be necessary to maximise adhesion. (Consult ISOTHANE Technical department if necessary).
- The foam should be built up in passes of not more than 50mm at a time leaving 5 minutes for the foam to cool between passes.

Physical Properties

THERMADEK WINTER GRADE is a two component, polyurethane rigid foam that, when sprayed through suitable foam machinery, gives a product of nominal core density 40 kg/m³.

Laboratory Cup test results @ 5°C (typical): -

Cream time	2-5	seconds
Tack free time	7-13	seconds
Rise time	10-20	seconds
Free rise density	35-45	kg/m ³

Storage, Handling and Personal Protection

Shelf Life 12 months. The recommendations in our Safety Data Sheet for this product must be followed at all times. More general information is included in our publication "A Guide to the Safe Handling of Polyurethane Chemicals" and in the following Technical Data Sheets which are available on request:-

- Fire safety when Storing, Handling and Installing Polyurethane Foam.
Decontamination of Isocyanates using Isothane Decontaminant.



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Typical Properties Of THERMADEK WINTER GRADE

		<u>Value</u>	<u>Test Method</u>
Core density		35- 45 kg/m ³	BS4370
Compressive strength	- Parallel to rise	230 kpa	BS4370
Tensile strength	- Perpendicular to rise	110 kpa	BS4370
Shear strength	- Perpendicular to rise	145 kpa	BS4370
Close Cell Content		90 % min.	ASTM D2856
Thermal Conductivity	Aged, <80mm	0.028 W/mK	BS EN 12667
	Aged, 80-120mm	0.026 W/mK	BS EN 12667
	Aged, >120mm	0.025 W/mK	BS EN 12667
Water Absorption	- 7 days no head	0.20 kg/m ²	ASTM D2126
Water Vapour Transmission	- 25mm, 38°C, 88% RH	7.9 ng/Pa.sm	BS4370
Dimensional Stability (Linear Change)	- 7 days @ -15°C	- 0.86 % vol.	AST M D212
	- 7 days @ 70°C, 95% RH	+ 5.0 % vol.	
Ozone Depletion Potential		ZERO	

Burning Characteristics – These are laboratory scale tests and bear no relation to the performance of the material in a real fire situation. Care must be exercised in the end use to satisfy the demands of the Fire Authorities, and moral obligations to the safety of persons and property.

Extent of burn <25 mm BS4735-74



This information is of a general nature and is supplied without recommendation or guarantee. It does not make claim to be free from patent infringement. Properties shown are typical and do not imply specification tolerances. Liability for loss or damage through use cannot be accepted except for death or injury caused by negligence on the part of Isothane Ltd. Whilst these specifications are based on expert knowledge, practical experience and laboratory testing, successful application depends upon the nature and conditions in which the products are applied. Users must, by comprehensive testing, ensure suitability of product for own use. Without control or supervision of the preparation for and application of Isothane products, general guarantees cannot be offered.



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