

THERMADEK 40 LK

Spray foam system

Product Description

THERMADEK 40 LK is an HCFC & CFC FREE 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 density 40kg/m³ with exceptionally good compressive strength and a very smooth surface. The system complies with British Standard Numbers 5241 and 7021 for external roof insulation and weatherproofing.

Uses

THERMADEK 40 LK is used for insulation in:

- External roofing – pitched and flat.
- External buildings and cold stores.
- External oil and chemical storage tanks.

THERMADEK 40 LK should not be used on substrates below 10°C. When used externally the foam must be protected from ultra-violet radiation and atmospheric degradation by a suitable elastomeric coating, e.g. ISOTHANE EM.

Equipment

THERMADEK 40 LK 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 40-60°C (variable). Consult Isothane's technical staff for a specific recommendation.

Recommended machine settings

Block Temperature	<i>Minimum, operating</i>	120-140°F / 50-60°C
Hose Temperature	<i>Minimum, operating</i>	120°F / 50°C
Chemical Pressures	<i>Minimum, operating</i>	500 psi, not greater than 200 psi difference iso / res



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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.
- The requirements of any relevant Agrément Certificates or British Standards should be followed.
- Climatic conditions must be suitable for spraying with regard to humidity and wind velocities.
- The foam should be built up in passes of not less than 15mm and not more than 10 minutes should elapse between passes.
- The requirements of any relevant Agrément Certificates or British Standards should be followed.

Physical Properties

THERMADEK 40 LK is a two component, modified polyurethane rigid foam which, sprayed through suitable foam machinery, gives a product of nominal density 40 kg/m³.

Laboratory test results (typical):-

Cream time	3-5	seconds
Tack free time	8-17	seconds
Rise time	20-28	seconds
Free rise density	33-37	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.

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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Typical Properties Of THERMADEK 40 LK Foam Core

		<u>Value</u>	<u>Test Method</u>
Core density		40 kg/m ³	BS4370
Compressive strength	- Parallel to rise	300 kpa	BS4370
Tensile strength	- Perpendicular to rise	280 kpa	BS4370
Shear strength	- Perpendicular to rise	210 kpa	BS4370
Close Cell Content		92 % 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	0.02 kg/m ²	ASTM D2126
Water Vapour Transmission	- 25mm, 38°C, 88% RH	2.9 ng/Pa.sm	BS4370
Dimensional Stability (Linear Change)	- 7 days @ -15°C	- 0.1 % vol.	AST M D212
	- 7 days @ 70°C, 95% RH	+ 3.0 % 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

<125 mm
BS4735-74

Surface spread of flame

Class 4
BS476 pt. 7-97



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