Version 8 29.09.2009

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 will produce a rigid foam of approximate density 40kg/m^3 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	Minimum, operating	120-140°F/50-60°C
Hose Temperature	Minimum, operating	120°F/50°C
Chemical Pressures	Minimum, operating	1000 psi

Not greater than 200 psi difference iso/resin

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.
- Climatic conditions must be suitable for spraying with regard to humidity and wind velocities.

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- 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	33-37kg/m³	

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 40 LK FOAM

		Value	Test Method
Core Density		40kg/m³	BS4370
Compressive strength	Parallel to rise	300kpa	BS4370
Tensile Strength	Perpendicular to rise	280kpa	BS4370
Shear strength	Perpendicular to rise	210kpa	BS4370
Close Cell Content		92% min	ASTM D2856
Thermal Conductivity	Aged < 80mm Aged 80-120mm Aged > 120mm	0.028 W/mK 0.026 W/mk 0.025 W/mK	BS EN 12667 BS EN 12667 BS EN 12667
Water Absorption	7 days no head	0.02kg/m²	ASTM D2126
Water Vapour Transmission	25mm, 38°C, 88% RH	2.9ng/Pa.sm	BS4370
Dimensional Stability (linear change)	7 days @ -15°C 7 days @ 70°C, 95% RH	-0.1% vol + 3.0% vol	ASTM D212
Ozone Depletion Potential		Zero	
Surface spread of flame		Class 4	BS476: Part 7: 1997
Extent of burn		<125mm	BS4735: 1974

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.

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