Version 2 20.03.20

LD40-SL

Rigid Foam System

PRODUCT DESCRIPTION

LD40-SL is a two component, 1:1 ratio, CFC & HCFC FREE rigid foam system which when processed through suitable dispense machinery will produce a rigid foam of approximate density 40 kg/m³ with good compressive strength, cell structure and other physical properties.

LD40-SL is manufactured using a fourth generation HFO blowing agent which gives the product excellent thermal insulation performance with zero ozone depletion potential (ODP) and a low global warming potential (GWP).

USES

LD40-SL is a general-purpose system for use in a wide variety of moulding applications where the foam needs gradual rise.
LD40-SL is used in the thermal insulation of large panels, water heaters, storage tanks, refrigerated containers, behind produce store pressure walls and related double skin applications. It is particularly useful for the filling of large volumes where its gradual rise and excellent flow properties are used to best advantage.
LD40-SL is also used in marine buoyancy applications such as buoys, tidal gates and the lining of ship holds.

EQUIPMENT

LD40-SL can be processed through all standard foam dispense equipment. The machine should be capable of maintaining the mix ratio at ±2% accuracy and controlling the component temperatures at 20-50°. Consult Isothane technical staff for a specific recommendation.

RECOMMENDED MACHINE SETTINGS

Block Temperature	Minimum operating	100-120°F/40-50°C
Hose Temperature Reading	Minimum operating	100°F/40-50°C
Chemical Pressures	Minimum operating	500 psi

Not greater than 200 psi difference iso/resin

COMPONENT DESCRIPTION

LD40-SL is a fully formulated liquid mixture. It should be stored in sealed tanks or drums.
M27 ISO is a liquid mixture containing crude diphenylmethanediisocyanate. It should be stored in sealed tanks or drums.

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PHYSICAL PROPERTIES

LD40-SL is a two component, modified polyurethane rigid foam which, processed through suitable foam machinery, gives a product of nominal density 40 kg/m³.

Laboratory test results (typical) at 20°C:-

Cream time	25 - 30	seconds
Rise time	200- 250	seconds
Free rise density	31 - 40	kg / m³

STORAGE, HANDLING AND PERSONAL PROTECTION

Stored under the above conditions the system has a shelf life of 6 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.

TYPICAL PROPERTIES

	LD40-SL RESIN	M27 ISO
Appearance	Light Amber Liquid	Dark Brown Liquid
Viscosity	400 cps @ 20°C	150-270 cps @ 25°C
Specific Gravity	1.12-1.18 @ 20°C	1.24 ± 0.02
Mixing Ratio	100 parts by wt 100 parts by vol	109 parts by wt. 100 parts by vol
Process	Moulding/Cavity Fill	

TYPICAL PHYSICAL PROPERTIES OF LD40-SL

PROPERTY	VALUE	METHOD
* Thermal conductivity, aged, <80mm thick	0.027 W / mK	BS EN 12667
* Thermal conductivity, aged, 80-119mm thick	0.026 W / mK	BS EN 12667
* Thermal conductivity, aged, ≥120mm thick	0.025 W / mK	BS EN 12667
Compressive strength - normal to major plane: (50mm cavity)	210 kPa	BS 4370:Pt1
Shear strength - parallel to major plane: (50mm cavity)	241 kPa	BS4370:Pt2
Dimensional stability linear change at: @ -20°c Level	 - 0.1 / 0 / 0.1% (L / W / T) DS(TH)1	 BS EN 1604 BS EN 14318-1
Water Vapour Permeability Water Permeability	μ= 40 Wp = 0.05 kg/m²	BS EN 12086 BS EN 1609
Closed Cell Content Level	92% CCC4	BS EN ISO 4590 BS EN 14318-1

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*Tensile Adhesion to Masonry		
Aerated Concrete	51 kPa	BS4757
Brick	93 kPa	BS EN 1607
Breeze Block	166 kPa	BS4757
Plywood	103 kPa	BS EN 1607
Appearance	Uniform, fine cell structure	
Typically Applied Density	42 kg/m³	

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