

Daltofoam[®] MR43169

PRODUCT DESCRIPTION

Daltofoam MR43169 is a fully formulated polyol blend designed to react with **Suprasec 5888** to make a high index Polyisocyanurate foam.

Daltofoam MR43169 is formulated with no blowing agent but is designed to be blended with Pentane. Daltofoam MR43169 is also designed to be used in conjunction with Catalyst pack Daltofoam MO99525.



TYPICAL LABORATORY REACTION & PROPERTIES DATA

Mixing ratio:

Daltofoam MR43169:	100 pbw
Daltofoam MO99525:	3.8 pbw
Pentane	12.5pbw
Isocyanate:	215 pbw

Laboratory reaction profile at 21°C:

Cream Time (sec):	10
Gel Time (sec):	42
Rise Time (sec):	100
Free Rise Core Density (kg/m ³):	42

Typical liquid properties at 21°C:

Appearance:	Clear coloured liquid
Viscosity (Brookfield):	600 mPa s
Specific Gravity:	1.19

Typical properties as seen in laboratory samples:

Test	Result	Method
10% Compressive strength – parallel (36kg/m ³)	138 kPa	AS2498.3
10% Compressive strength – perpendicular (36kg/m ³)	217 kPa	AS2498.3
Fire test	Self extinguishing after 0 secs	D1692/ISO3582
Dimensional stability 14 days @ -30°C 14 days @ 70°C with 100% humidity 14 days @ 100°C	% change -0.01 0.68 1.01	D2126-66
Thermal conductivity (k-factor) @22.5°C	0.023	EKO machine
Closed cell content	>95%	Pycnometer
VOC emissions “Greenstar” limit = 0.5mg/m ² /hr	<0.01 over 24 hrs	CETEC - D5116



STORAGE AND HANDLING PRECAUTIONS

When opening a container, care must be taken to release any internal pressure slowly.

To prevent ingress of moisture, drums or IBC's must be kept tightly sealed when not in use.

Storage Stability

Recommended storage temp: 10-25°C

Under these conditions this product has a storage stability of at least 6 months.



PACKAGING

Nett 1100 kg per IBC.



HEALTH AND SAFETY ADVICE

Refer to Huntsman Safety Data Sheets for individual products. Also refer to Technical Information PU193-1E "MDI-Based Compositions : Hazards and Safe Handling Procedures".

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PROPERTIES AND SUSTAINABILITY OF POLYURETHANE FOAM

Polyurethane rigid foams have a closed cell structure and high cross-linking density give them the characteristics of good heat stability, high compressive strength and excellent insulation properties. PU insulation has a very low thermal conductivity, starting from as low as 0.017 W/m.K, making it one of the most effective insulants available today for a wide range of applications. All types of insulation can also play a role in improving the energy efficiency of buildings and reducing CO₂ emissions.

The environmental impact Polyurethane offers is as follows;

- Excellent thermal efficiency – leading to optimum energy savings and reduced CO₂ emissions
- Relatively low environmental impact at the building level – the product saves more than 100 times the energy than is used in its manufacture.
- Durability – leading to long term performance and reducing the need for replacement, therefore saving energy.

The economic impact from polyurethane is;

- Increased energy efficiency – leading to immediate savings for the end user.

Ref: PU Europe Sustainability and polyurethane insulation.

λ INFORMATION ON THERMAL CONDUCTIVITY (K-FACTOR OR λ) TESTING

To test the insulation properties of foam we test the thermal conductivity or k-factor, which is a measure of a materials ability to transfer heat through conduction and therefore is the principle property of an insulation material.

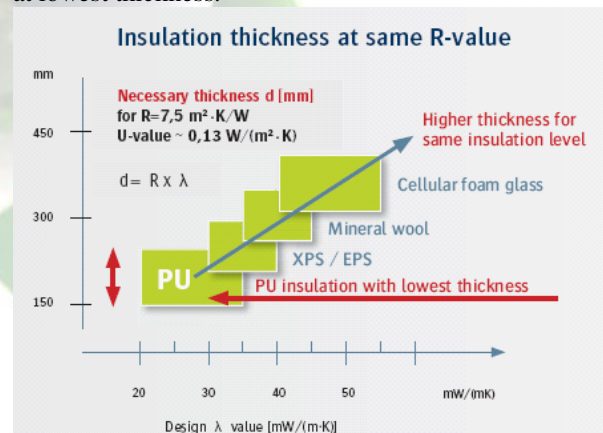
Typical values of insulating materials are;

Material	Density (kg/m ³)	k-factor (W/mK)
Polyurethane foam	32	0.017
Polystyrene foam	16	0.035
Rockwool	100	0.037
Glasswool	65-160	0.041
Timber – white pine	350-500	0.112

Insulation materials are then normally reported in terms of there R-value, which is a measure of the thermal resistance.

The Daltofoam MR43169 with the above k-factor result would give an estimated R-value of 4.3 m² K/W @50mm thickness.

The following graph shows the thickness of insulation materials needed to get an R-value of 7.5 m²K/W with standard PU foam. As seen PU offers the best insulation at lowest thickness.



Reference: Insulation for sustainability: A guide, XCO2 Conisbee 2002

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Important Notice

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