

Elastopor H 2401/10

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Application:

Elastopor H 2401/10 is used for the production of in-situ polyurethane foam to provide thermal insulation of any large void or cavity. The system is HFC free, zero ODP and low GWP.

System Description:

Component A: Elastopor H 2401/10 A blend of polyols, catalysts and blowing agents
Component B: IsoPMDI 92140 MDI (polymeric diphenylmethane diisocyanate).

Supply:

The type of supply for the components will be decided after consultation with our Sales Office.

Storage, Preparation:

Polyurethane components are moisture sensitive. Therefore they must be stored at all times in sealed, closed containers. The A-component (Polyol) must be homogenised by basic stirring before processing. More detailed information should be obtained from the separate data sheet entitled "Information for in-coming material control, storage, material preparation and waste disposal" and from the component data. The A-component may start to foam at temperatures of above 30 °C, due to the evaporation of blowing agent.

Possible Hazards:

The B-component (Isocyanate) irritates the eyes, respiratory organs and the skin. Sensitisation is possible through inhalation and skin contact. PMDI is harmful by inhalation. On processing these, take note of the necessary precautionary measures described in the Material Safety Data Sheets (MSDSs). This applies also for the possible dangers in using the A-component (Polyol) as well as any other components. See also our separate information sheet " Safety- and Precautionary Measures for the Processing of Polyurethane Systems." Use our Training Program " Safe Handling of Isocyanate."

Waste Disposal:

More detailed information is provided in our country -specific pamphlet.

Consumer articles, medical products:

There are national and international laws and regulations to consider if it is intended to produce consumer articles (eg articles that necessitate food or skin contact,toys etc.) or medical objects out of BASF products. Where these do not exist , the current legal requirements of the European Union for consumer articles as well as medical products should be sufficient. Consultation with the BASF Sales Office and our Ecology and Product Safety Department is strongly recommended.

Processing:

Elastopor H 2401/10 system is injected via plural component equipment.

The following parameters should be observed when processing the material with a machine:

- Component temperature: 40 -50 °C
- Pressure 700 – 900 psi

The following procedure is used to fill hollow spaces:

Firstly, the volume of the space to be filled has to be calculated. The volume multiplied by the desired density, results in the weight of product that has to be injected.

$$\text{WEIGHT} = \text{VOLUME} \times \text{DENSITY}$$

Secondly, in order to avoid any irregular development in the reaction, the material must be injected before the material starts to expand (before the cream time). When processing the components with a machine, the output rate must be considered:

$$\begin{aligned} \text{Injection Time} &< \text{Cream Time} \\ \text{Injection Time} &= \text{Weight} / \text{Output rate} \end{aligned}$$

Also, the pressure exerted by the expanding foam has to be considered. Care should be taken when the completion of injections is approaching soffit level or below any cavity closers such as window cills.

$$\text{FINAL DENSITY} / \text{FREE RISE DENSITY} = \text{DENSIFICATION FACTOR}$$

Normally, a densification factor between 1.3 and 1.5 (final foam density of 20 - 25 kg/m³) is used with this system. In this range, pressure exerted varies between 1 and 1.5 Kg/cm².

When the foam cannot expand freely, and is restrained by walls, or is forced into small cavities, the overall density increases. This is due to the loss of reaction heat, and the friction forces that are created.

The friction effect, produced by the walls of the space to be filled, increases in magnitude as the surface area to volume ratio increases. The path the foam has to follow during its expansion also has an effect on the densification. The foam should always be injected, such that the path is as short as possible.

Our technical service department is available for any questions or to resolve any doubts regarding the use of this product, or the selection of the correct product for an application.

During the processing or handling of the product, the Material Safety Data Sheet for all components must be read.

Component Data at 20 °C:

Characteristic	Unit	Comp. A	Comp. B	Method
Viscosity	mPa.s	320	300	G 133-07
Density	g/cc	1.07	1.23	G 133-08
Shelf Life	months	3	6	

Processing Data:

Cup test, at 20 °C.

Characteristics	Unit	Value	Method
Mixing Ratio, A/B	Parts by Volume	100 / 100	G 132-01
	Parts by Weight	100 / 115	G 132-01
Cream Time	Sec.	10	G 132-01
String Time	Sec.	18	G 132-01
Rise Time	Sec.	92	G 132-01
Free Rise Density	g/l	18	G 132-01

Physical Properties:

Characteristics	Unit	Values	Standard
Density (core) (machine)	Kg/m ³	8	BS EN 1602
Compressive Strength	N/mm ² %	0.01 8	
WV diffusion resistance factor μ		2 - 5	
Thermal Conductivity Initial	W/mK	0.035	BS EN 12667
Closed cell content	%	1	BS EN ISO 4590

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