



Technical Data Sheet

Description

ExpandoThane™

ExpandoThane™ is a microcellular elastomeric polyurea. This system may be applied by both low-pressure, air assisted machines or high pressure, plural component machines.

Preliminary Component Properties

	Units	ExpandoThane™ Resin	ExpandoThane™ Isocyanate	Test Method
Appearance		Black liquid	Pale yellow liquid	Visual
Density (23°C)	g/cm ³	1.01	1.12	ASTM D1475
Viscosity (23°C)	cP	600 – 900	500-1000	ASTM D4287
Flash Point	°C	>100	>150	Closed Cup

These are typical values and should not be construed as specifications.

Recommended Process Conditions

The resin component must be mixed until homogenous before use. The material is processed with a two component high pressure dosing machine using impingement mixing technology, a feed rate of 0.5 to 2 gallons/minute, and a round nozzle.

	Unit	Value
ExpandoThane™ Resin	Vol.	1.00
ExpandoThane™ Isocyanate	Vol.	1.00
Typical component temperature (both components, tanks and hose the same).	°F	140-160
Typical component pressures	psi	1,500-2,000

Typical Reaction Characteristics*

	Unit	Value
Gel time	s	7
Tack-free time	s	16

* - Values refer to test made with a two-component, high pressure machine run according to the recommended process conditions above; Typical values and should not be construed as specifications.

Handling and Storage

	Units	ExpandoThane™ Resin	ExpandoThane™ Isocyanate
Storage temperature	°C	15-25	15-25
Storage stability / Shelf life ⁽¹⁾	months	12	6

1. Both resin and isocyanate components must be protected against humidity and stored in sealed containers.

Typical Polymer Properties

	Unit	Value	Test Method
Hardness	Shore A	40 45	ASTM D2240
Tensile strength	Psi	223	ASTM D412
100% modulus	Psi	145	
Elongation at break	%	185	ASTM D412
Tear resistance	pli	119	ASTM D624C
Insulation Value,k-factor	W/m ² ·K	0.36	ASTM C 518-04
Density	lb/ft ³	27	DIN 53479

These are typical values and should not be construed as specifications

Precautions

The use of this two-component system required special precautions. Please refer to the material safety data (MSD) sheet before using. Avoid inhalation of the vapor and contact with skin and eyes. Working areas should be well ventilated with fresh air.

Use protective gloves and goggles. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. In case of contact with skin, wash immediately with plenty of water and soap. During spray application, wear suitable respiratory equipment.

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Safety Considerations

Material Safety Data (MSD) sheets are available from The Dow Chemical Company. MSD sheets are provided to help customers satisfy their own handling, safety and disposal needs and those that may be required by locally applicable health and safety regulations. MSD sheets are updated regularly, therefore, please request and review the most current MSD sheet before handling or using any product. These are available from the nearest Dow sales office.

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