Technical Data Sheet

Enertite®

Application:

The Enerite system was developed as a sprayed (in-situ) thermal insulation. This system was particularly formulated to insulate and prevent condensation on a wide range of applications including roofs and timber framed walls.
The system has a low GWP (1) and zero ODP

The spray process is especially suitable for insulating large areas, where greater thicknesses of insulation need to be built up quickly.

Chemical Characteristics:

Component A:	**Enertite**	Mixture of polyols and additives (Catalysts, Surfactants and blowing agent (water). Product does not contain HFC.
Component B:	**IsoPMDI 92140**	MDI (diphenylmethane diisocyanate)

Supply:

Steel drums: 200kg Component A, 250kg Component B

Storage, Preparation:

Polyurethane components are moisture sensitive. Therefore they must be stored at all times in sealed, closed containers. 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.

Possible Hazards:

The B-component (Isocyanate) irritates the eyes, respiratory organs and the skin. Sensitization is possible through inhalation and skin contact. MDI is harmful by inhalation. On processing these, take note of the necessary precautionary measures described in the Material Safety Data Sheets (MSDS). 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 our Sales Office and our Ecology and Product Safety Department is strongly recommended.

Component data:				
The following properties were obtained at a temperature of 20 ºC and correspond to the typical values.				
Property	**Unit**	**Comp. A**	**Comp. B**	**Method**
Viscosity at 20ºC	mPa.s	388	220	G133-07*
Density at 20ºC	g/cm^3	1.11	1,23	G133-08*
Shelf Life	Months	6	6	

* BASF methods

Reaction Profile and Free Rise Density: (components at 20ºC and the indicated mixing ratio)			
Property	**Unit**	**E**	**Method**
Mixing ratio (weight)		100:110	G132-01*
Cream Time (CT)	s	5	G132-01*
Gel time (GT)	s	12	G132-01*
Tack Free Time (TFT)	s	23	G132-01*
Beaker Free Rise Density (FRB)	kg/m^3	1	G132-01*

* BASF method in accordance with the method described in standard EN 14315-1

Process:

The spraying process consists of projecting an impinged mixture of the two components onto the surface which is meant to be insulated. The mixture reacts on the surface, adhering to it instantaneously, and expanding into a rigid foam.

The following conditions should be observed for the correct application of the system:

Machine Conditions		
Mixing Ratio of Components:		1:1 (volume)
Component Temperatures:		50 – 60 ºC
Component Pressure:		50 – 80 Bar
Environmental Conditions		
Ambient Temperature:		Between +5 and +40 ºC
Relative Humidity:		< 85 %
Wind speed:		≤ 30 km/h
Substrate Conditions		
Substrate Temperature:		Between +5 and +40 ºC
Substrate moisture content	Porous substrates	≤ 20 %
	Nonporous substrates	No surface condensation

The thickness of each applied layer should be approximately 10 cm. In order to maintain an adequate dimensional stability, it is not recommended to apply thicker layers.

The distance from the spray gun to the substrate is recommended to be approx. 80 cm.

CE Marking:

0836
0832

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14

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www.elastospray.eu/dop

EN 14315-1:2013

In-situ formed sprayed rigid polyurethane (PU) foam system

ThIB – Thermal Insulation for Buildings

Reaction to fire – F **(valid for all thicknesses)**

Thermal conductivity: **see performance chart**

Water permeability (expressed as short term water absorption by partial immersion): **NPD**

Water vapour transmission (expressed as water vapour resistance factor μ): **NPD**

Compressive strength: NPD

Continuous glowing combustion: **no harmonized test method available**

Durability of reaction to fire against ageing/degradation: **reaction to fire does not decrease with time**

Durability of thermal resistance against ageing/degradation: **see performance chart**

Durability of compressive strength against ageing/degradation: **compressive strength does not decrease with time**

PU EN 14315-1-CCC1-CT5(20)-GT12(20)-TFT23(20)-FRB15.7(20)-A1

Performance Chart:
(in accordance with EN 14315-1):

Type of facing: None or diffusion open		
Thickness	**Declared aged thermal conductivity (λ_D)** W/m·K	**Thermal resistance level (R_D)** m^2·K/W
30 mm	**0,039**	**0.75**
35 mm	**0,039**	**0.90**
40 mm	**0,039**	**1.00**
45 mm	**0,039**	**1.15**
50 mm	**0,039**	**1.25**
55 mm	**0,039**	**1.40**
60 mm	**0,039**	**1.55**
65 mm	**0,039**	**1.65**
70 mm	**0,039**	**1.80**
75 mm	**0,039**	**1.90**
80 mm	**0,039**	**2.05**
85 mm	**0,039**	**2.15**
90 mm	**0,039**	**2.30**
95 mm	**0,039**	**2.45**
100 mm	**0,039**	**2.55**
105 mm	**0,039**	**2.70**
110 mm	**0,039**	**2.80**
115 mm	**0,039**	**2.95**

Type of facing: None or diffusion open		
Thickness	**Declared aged thermal conductivity (λ_D)** W/m·K	**Thermal resistance level (R_D)** m^2·K/W
120 mm	**0,039**	**3.10**
125 mm	**0,039**	**3.20**
130 mm	**0,039**	**3.35**
135 mm	**0,039**	**3.45**
140 mm	**0,039**	**3.60**
145 mm	**0,039**	**3.70**
150 mm	**0,039**	**3.85**
155 mm	**0,039**	**4.00**
160 mm	**0,039**	**4.10**
165 mm	**0,039**	**4.25**
170 mm	**0,039**	**4.35**
175 mm	**0,039**	**4.50**
180 mm	**0,039**	**4.65**
185 mm	**0,039**	**4.75**
190 mm	**0,039**	**4.90**
195 mm	**0,039**	**5.00**
200 mm	**0,039**	**5.15**

Declared aged thermal conductivity value (λ_D) at 10 ºC calculated with statistical procedure 90/90 and rounded upwards to the nearest 0,001 W/m·K.

Thermal resistance value (R_D) calculated with aged thermal conductivity at 10 ° C and rounded downwards to the nearest 0,05 m^2 K / W.

Foam Physical Properties declared in the CE Marking:			
The foam expansion is made by the action of CO2 (coming from the chemical reaction between water and isocyanate).			
Property	**Enertite**	**Unit**	**Standard**
Thermal conductivity at 10ºC Aged value	See Performance Chart	W/(m·K)	EN 14315-1
Reaction to Fire (naked foam)	Class F (valid for all thicknesses)	-	EN 13501-1

Suitable substrates:

Under favorable weather conditions, the rigid spray polyurethane foam Enertite has a good adhesion to most construction materials (concrete, brick, wood, steel). They must be clean (without dust or grease), dry and, in case of metallic substrates, free of rust. If the adhesion is not acceptable under these conditions, priming may be necessary.

Nevertheless, due to the wide range of substrates and primers used in construction, it is not possible to guarantee perfect adhesion of this system to all surfaces. It is therefore recommended to test adhesion in each case.

See our “Guide for the application of Elastospray Systems” for more detailed information about the general installation process and the suitable substrates.

Complementary Information:

- **Guide for the application of Elastospray Systems.**

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