

Elastospray® LWP 1672/1

Low Warming Potential

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Date 21/09/2017

Application:

The Elastospray LWP closed cell foam system is a low GWP (1), HFC free, sprayed thermal insulation system that unlike conventional water blown foams, retains excellent thermal properties. This system was particularly formulated to insulate and prevent condensation on a wide range of applications including roofs, walls, floors and soffits.

Intended use: Thermal insulation of buildings

Aside from its excellent properties as an insulation material, Elastospray 1672/1 has following advantages;

- Excellent compression strength values
- Airtightness
- Excellent water resistance.
- Excellent adhesion to the substrate. The spray foam bonds to most surfaces without the need for primers or mechanical or fixings.
- The spray process is especially suitable for insulating large areas, including irregularly shaped surfaces such as profiled roofs.

Chemical Characteristics:

Component A: Elastospray LWP 1672/1*

* Reactivity guideline:

Mixture of polyols and additives (Catalysts, Surfactants and blowing agents**). Product does not contain HFCs.

V= Summer, under warm processing conditions (10 to 40°C)
I= Winter, under cold processing conditions (5 to 30°C)

NOTE: the indicated temperature ranges are recommendations to guide the choice to the most suitable product.

** The product is free of blowing agents with high global warming potential by greenhouse effect (GWP), stated in the regulation (EU) No 517/2014.

Component B: IsoPMDI 92140

MDI (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.

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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.

Handling and installation instructions:

See our "Guide for the Application of Elastospray LWP systems".

Component data (25°C):

Property	Unit	Comp. A	Comp. B	Method
Viscosity at 25°C	mPa.s	260	220	G133-07*
Density at 25°C	g/cm ³	1,18	1,23	G133-08*
OH Value	mgKOH/g	280	-	G133-01*
NCO Content	%, weight	-	31,5	G133-06*
Shelf Life	Months	3	6	

* BASF methods

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Reaction Profile and Free Rise Density: (components at 20 ± 2 °C and the indicated mixing ratio)				
Property	Unit	Elastospray LWP 1672/1/V	Elastospray LWP 1672/1/I	Method
Mixing ratio (weight)		100:104	100:104	G132-01*
Cream Time (CT)	s	4	4	G132-01*
Gel time (GT)	s	8	7	G132-01*
Tack Free Time (TFT)	s	10	9	G132-01*
Beaker Free Rise Density (FRB)	kg/m ³	33,0	33,0	G132-01*

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

Process:

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

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

	Elastospray LWP 1672/1/V	Elastospray LWP 1672/1/I
Machine Conditions		
Mixing Ratio of Components:	1:1 (volume)	
Component Temperatures:	40 – 55 °C	
Component Pressure:	60 – 110 Bar	
Environmental Conditions		
Ambient Temperature:	Between +10 and +40 °C	Between +5 and +30 °C
Relative Humidity:	< 85 %	
Wind speed:	≤ 30 km/h	
Substrate Conditions		
Substrate Temperature:	Between +10 and +40 °C	Between +5 and +30 °C
Substrate Humidity:	Porous substrates	≤ 20 %
	Nonporous substrates	Dry and free from condensation

The thickness of each applied layer should be between 1,5 and 4 cm. In order to maintain an adequate dimensional stability, it is not recommended to apply thicker layers.

IMPORTANT: When applying thicker layers (3 – 4 cm), it is very important to wait a minimum of 10 minutes between passes in order to give the foam enough time to release the heat coming from the exothermic reaction, otherwise delamination could occur.

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

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CE Marking:



0751
0370
1722

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www.elastospray.eu/dop

EN 14315-1:2013 + NB-CPR/SG19-17/167r2 (24/01/2018)

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

ThIB – Thermal Insulation for Buildings

Reaction to fire – **E,d0 (valid for all thicknesses)**

Thermal conductivity: **see performance chart**

Water permeability (expressed as short term water absorption by partial immersion): **max. 0,20 kg/m²**

Water vapour transmission (expressed as water vapour resistance factor μ): **70**

Compressive strength: **min. 200 kPa**

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**

Designation code:

Elastospray LWP 1672/1/I: **PU EN 14315-1-CCC4-CT4(20)-GT7(20)-TFT9(20)-FRB33(20)-W0,2-CS(10/Y)200-DLT(2)5-MU70-A3**

Elastospray LWP 1672/1/V: **PU EN 14315-1-CCC4-CT4(20)-GT7(20)-TFT9(20)-FRB33(20)-W0,2-CS(10/Y)200-DLT(2)5-MU70-A3**

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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) $m^2 \cdot K/W$
30 mm	0,028	1,05
35 mm	0,028	1,25
40 mm	0,028	1,45
45 mm	0,028	1,60
50 mm	0,028	1,80
55 mm	0,028	2,00
60 mm	0,028	2,15
65 mm	0,028	2,35
70 mm	0,028	2,55
75 mm	0,028	2,70
80 mm	0,026	3,05
85 mm	0,026	3,25
90 mm	0,026	3,45
95 mm	0,026	3,65
100 mm	0,026	3,85
105 mm	0,026	4,00
110 mm	0,026	4,20
115 mm	0,026	4,40

Type of facing: None or diffusion open		
Thickness	Declared aged thermal conductivity (λ_D) W/m·K	Thermal resistance level (R_D) $m^2 \cdot K/W$
120 mm	0,025	4,80
125 mm	0,025	5,00
130 mm	0,025	5,20
135 mm	0,025	5,40
140 mm	0,025	5,60
145 mm	0,025	5,80
150 mm	0,025	6,00
155 mm	0,025	6,20
160 mm	0,025	6,40
165 mm	0,025	6,60
170 mm	0,025	6,80
175 mm	0,025	7,00
180 mm	0,025	7,20
185 mm	0,025	7,40
190 mm	0,025	7,60
195 mm	0,025	7,80
200 mm	0,025	8,00

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Foam Physical Properties declared in the CE Marking:			
Property	Elastospray LWP 1672/1	Unit	Standard
Short term water absorption by partial immersion	≤ 0,20	kg/m ²	EN 1609
Water vapour resistance factor (μ)	≥ 70	-	EN 12086
Closed cells content	≥ 90	%	ISO 4590
Substrate adhesion strength perpendicular to faces	> 100	kPa	EN 14315-1
Compression strength (10% deformation)	≥ 200	kPa	EN 826
Deformation under load and temperature Load Temperature Total thickness reduction Test duration	40 70 ± 1 ≤ 5,0 168 ± 1	kPa °C % h	EN 1605
Thermal conductivity at 10°C Aged value	See Performance Chart	W/(m·K)	EN 14315-1
Reaction to Fire (naked foam)	Class E (valid for all thicknesses)	-	EN 13501-1
Additional Foam Physical Properties declared under DAU 17/104			
Property	Elastospray LWP 1672/1	Unit	Standard
Long term water absorption Total immersion Partial immersion	< 2 < 0.20	% vol Kg/m ²	EN 12087-1B EN 12087-2B
Water tightness Resistance test to rain water (*) Column water test (60 kPa)	1800 No water infiltration	Pa	EN 12865 EN 1928
(*) test equipment stopped at maximum (1800 Pa) pressure without water ingress. This pressure is equivalent to a wind speed of 200km/h			

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Suitable substrates:

Under favorable weather conditions, the rigid spray polyurethane foam Elastospray LWP 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 LWP Systems" for more detailed information about the general installation process and the suitable substrates.

Additional Information:

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

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