

Elastospray® LWP 1672/10

Low Warming Potential

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Edition 06/ms-Eslava
Date 26.01.2021

Application:

The Elastospray LWP 1672/10 system is a 4th generation sprayed (in-situ) **thermal insulation**. This system is particularly formulated to obtain a foam with an applied density between 35 and 42 kg/m³ and is suitable to be used in walls, ceilings and floors. Emphasizes the application on façades where, besides the thermal insulation, it performs the function of **waterproofing**.

Intended use: Thermal insulation of buildings

The Elastospray LWP product line is free of ingredients that contribute to global warming due to the greenhouse effect or that deplete the ozone layer.

The Elastospray LWP 1672/10 system uses as blowing agent a Hydrofluoro-olefine (HFO) with ultra-low global warming potential by greenhouse effect (GWP₁₀₀ = 1) and low thermal conductivity value. The permanent nature of this blowing agent confers the product high thermal insulating properties.

Aside from its excellent properties as an insulation material, this system has following advantages:

- Insulation and waterproofing in one step.
- Excellent water tightness throughout his life.
- High resistance to cracking.
- Excellent adhesion to the substrate. The spray foam bonds to most surfaces without the need for glues or mechanical fasteners.
- Air tightness.

Chemical Characteristics:

Component A: Elastospray LWP 1672/10/*

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

* Reactivity guideline:

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 ingredients with high global warming potential by greenhouse effect (GWP) affected by the regulation (EU) No 517/2014.

Component B: IsoPMDI 92140

MDI (diphenylmethane diisocyanate)

Marca

This spray foam product is also  brand certificated. This is a third-party certification of the product performance according with the Standard EN 14315-1. The notified certification body AENOR provides this certification according with the conditions stated by the contract number 020/000207, the General Regulation for products and services certification – AENOR brand  and the Particular Regulation RP 020.05.



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KEYMARK:

This spray foam product is also certified with the CEN KEYMARK SCHEME for thermal insulation products indicating the conformity with the Standard EN 14315-1.

Elastospray LWP 1672/10/I – **Certificate no. 020/003926**

Elastospray LWP 1672/10/V – **Certificate no. 020/003927**



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.

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.

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Handling and installation instructions:

See our "Guide for the Application of Elastospray LWP, SKYTITE LWP and ENERTITE systems".

Component data (25°C):

| Property | Unit | Comp. A | Comp. B | Method |
|-------------------|-------------------|---------|---------|----------|
| Viscosity at 25°C | mPa.s | 280 | 220 | G133-07* |
| Density at 25°C | g/cm ³ | 1,18 | 1,23 | G133-08* |
| OH Value | mgKOH/g | 260 | - | G133-01* |
| NCO Content | %, weight | - | 31,5 | G133-06* |
| Shelf Life | days | 90 | 180 | |

* BASF methods

Reaction Profile and Free Rise Density: (components at 20 ± 2 °C and the indicated mixing ratio)

| Property | Unit | Elastospray LWP 1672/10/V | Elastospray LWP 1672/10/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

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Process:

The spraying process consists of projecting a pulverized mixture of the two components onto surface which is meant to be insulated. The mixture reacts on the surface, adhering to it instantaneously, and expands into rigid foam. The following conditions should be observed for the correct application of the system:

| | | Elastospray LWP 1672/10/V | Elastospray LWP 1672/10/I |
|---------------------------------|------------------------|------------------------------------|---------------------------|
| Machine Conditions | | | |
| Mixing Ratio of Components: | 1:1 (volume) | | |
| Component Temperatures: | 30 – 50 °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 | Without condensations on substrate | |

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 it can occur delamination.

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

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, a previous treatment like a primer 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, SKYTITE LWP and ENERTITE Systems" for more detailed information about the general installation process and the suitable substrates.

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CE Marking:



0679
1168
1722

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18

DoP-No.: **ES19-0017-02-CPR-18**

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 (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 1672/10/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 1672/10/V: **PU EN 14315-1-CCC4-CT4(20)-GT8(20)-TFT10(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 ·K/W |
| 30 mm | 0,028 | 1,10 |
| 35 mm | 0,028 | 1,25 |
| 40 mm | 0,028 | 1,45 |
| 45 mm | 0,028 | 1,65 |
| 50 mm | 0,028 | 1,80 |
| 55 mm | 0,028 | 2,00 |
| 60 mm | 0,028 | 2,20 |
| 65 mm | 0,028 | 2,35 |
| 70 mm | 0,028 | 2,55 |
| 75 mm | 0,028 | 2,75 |
| 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 ·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 |

Declared aged thermal conductivity value (λ_D) at 10 °C 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 m² K / W.

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| Foam Physical Properties declared in the CE Marking, Marca N and KEYMARK: | | | |
|---|--|---------------------|------------|
| Property | Elastospray LWP 1672/10 | 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 1672/10 | Unit | Standard |
| Long-term water absorption ⁽¹⁾ Total immersion Partial immersion | < 2 < 0,20 | % vol. kg/m ² | EN 12087-1B EN 12087-2B |
| Water tightness Resistance test to rain water ⁽²⁾ Column water test (60 kPa) ⁽³⁾ | 1800 _A No water infiltration | Pa - | EN 12865 EOTA TR003 |
| Fatigue resistance ⁽⁴⁾ 500 cycles (± 1 mm) | No cracking | - | EOTA TR008 |
| Reaction to Fire (foam protected with render) ⁽⁵⁾ | Class B-s2, d0 (valid until 15 cm. of spray polyurethane foam) | - | EN 13501-1 |
| <p>⁽¹⁾ Report no. 24166 of Tecnalia.</p> <p>⁽²⁾ Test machine was stopped at maximum pressure (1800 Pa) without water infiltration. This pressure is equivalent to a wind speed of 200 km/h. Report no. 24010 of Tecnalia.</p> <p>⁽³⁾ Water tightness test according to EOTA TR003 document, identical to EN 1928, but increasing the pressure to 60 kPa. Report n° 64738 of Tecnalia.</p> <p>⁽⁴⁾ Report no. 24169 of Tecnalia.</p> <p>⁽⁵⁾ BASF's fire protection solution consists of a spray foam insulation combined with 5 mm of the A97087 render system. To obtain maximum adhesion, between the render and the foam, the primer A97088 must be applied. Report no. 3637T18 of AFITIL/LICOF.</p> | | | |

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| Emissions to the indoor environment (Volatile Organic Compounds VOC): Report no. 85101 of Laboratory Eurofins | |
|---|-------------------------------|
| Regulation or protocol | Elastospray LWP 1672/1 |
| French VOC Regulation | Class A+ |
| French CMR components | Pass |
| AgBB (Germany) | Pass |
| Belgian Regulation | Pass |
| Indoor Air Comfort Label | Pass |
| BREEAM International | Compliant |

Complementary Information:

- **Guide for the application of Elastospray LWP, SKYTITE LWP and ENERTITE Systems.**
- **Fire protection system on Elastospray LWP 1672/10 insulated ventilated façades**

® = registered mark of BASF

The information provided here is consistent with the current state of our technical knowledge and experience and replaces the information contained in previous versions. Because of the multitude of influences in the processing and application of our products they do not release the buyers of our products from implementing their own tests and trials. The information merely serves as general information and does in no way constitute a guarantee of any specific product conditions or properties (product specification). The details do not describe the suitability of the product for specific applications and purposes. Information regarding quality and useful life or other features do not represent guarantees. Any existing commercial rights and existing laws and regulations must be observed under the responsibility of the recipient of our products. Please contact our headquarters or our sales outlet with regard to the availability of products.

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