

CROSSIN ATTIC SOFT

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1. PRODUCT DESCRIPTION

CROSSIN ATTIC SOFT is a two-component spray polyurethane system used to produce **open-cell** semi-rigid foam with self-extinguishing properties.

 POLY COMPONENT: CROSSIN ATTIC SOFT POLY
 ISO COMPONENT: ISO KOMPONENT B

The system has been developed based on **Moldexia** and **AxionPure** technologies.

Moldexia technology – completely biostatic polyurethane foam that prevents the adhesion of any fungal and mould spores and prevents their growth.

AxionPure technology is a comprehensive approach to the design and manufacturing polyurethane systems, resulting in a significant reduction in volatile organic compound (VOC) emissions.



2. APPLICATION

CROSSIN ATTIC SOFT is designed for internal thermal and acoustic insulation by spraying. It is used to insulate roofs, attics, various types of roofing, ceilings, as well as walls in wooden, brick, concrete, steel and frame structures of residential, industrial and public facilities.

CROSSIN ATTIC SOFT polyurethane foam meets the requirements of national regulations on the emission of hazardous substances, in accordance with the Regulation of the Minister of Health and Social Welfare, and can be used without restriction in category A and B¹ rooms.

The density of the sprayed foam core reaches 7–10 kg/m³ depending on the thickness of the layers and the application method.

3. COMPONENT CHARACTERISTICS

POLY COMPONENT	
A formulated polyol mixture in the form of an oily liquid without suspension, pale yellow to orange in colour.	
Density at 20°C	1,09 ± 0,03 g/cm ³
Viscosity at 20°C	350 ± 100 mPa·s

ISO COMPONENT	
Mixture of aromatic polyisocyanates, mainly diphenylmethane diisocyanate; brown liquid, free of suspended solids.	
Density at 20°C	1,22 ± 0,02 g/cm ³
Viscosity at 20°C	350 ± 100 mPa·s

4. FOAMING CHARACTERISTICS UNDER LABORATORY CONDITIONS

Reaction times and apparent density obtained under laboratory conditions (at 20°C) when foaming by hand in a cup.

 Cream time:	4 ± 1 second
 Gel time:	10 ± 2 seconds
 Tack free time:	13 ± 3 seconds
 Core density:	8,1 ± 0,3 kg/m ³

5. RECOMMENDED PROCESSING CONDITIONS

CROSSIN ATTIC SOFT is a system to be processed using specialised foaming units equipped with a spray head.

The recommendations are based on experience in applying spray foam using a Graco Reactor H-XP3 machine with a FUSION AP gun (mixing chamber 5252).

 Volumetric ratio of POLY : ISO components - 100 : 100	
 Temperature settings on the machine:	
Heating temperature of POLY and ISO components:	50 - 58°C
Hose heating:	50 - 58°C
Component pressure:	80 - 110 Bar (1160 - 1595 psi)
Temperature of ingredients in barrels:	30 - 40°C
 Ambient parameters:	
Ambient temperature:	10 - 35 °C
Substrate temperature :	15 - 50 °C
Ambient relative humidity	≤ 70% RH
Moisture content of the porous substrate:	≤ 15% RH
Moisture content of non-porous substrate:	dry

Surfaces to be insulated should be suitably prepared in advance. They should be free of dust, oil, loose fragments and other agents that may reduce the adhesion of the foam.

Before spraying, carefully protect the surfaces of adjacent objects, floors, furniture, etc. to avoid accidental contamination during spraying - bear in mind that sprayed foam has very good adhesion and can therefore be difficult to remove.

The POLY and ISO components should be heated to a temperature of 30 – 40°C.

Important: The POLY component should always be used before use be thoroughly mixed with a barrel stirrer (for a period of approximately 1 hour; Graco Twistork is recommended

After application with Crossin Attic Soft, it is recommended to ventilate the room until the odour disappears. In the absence of adequate ventilation, forced air movement should be provided using dedicated equipment. If the foam is exposed to direct UV radiation (e.g. sunlight) it should be protected.

Spraying should be carried out in such a way that the resulting layers are as thick as possible (> 100 mm).

When processing the system, the recommendations of the machine manufacturer should be taken into account, as well as the instructions and information contained in the Safety Data Sheets of both components.

¹ Category A – buildings: residential, healthcare, educational and premises intended for food storage. Category B – buildings: intended for human habitation, public use and other than those classified as Category A premises, as well as ancillary rooms in dwellings.



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6. PHYSICAL AND MECHANICAL PROPERTIES OF SPRAYED FOAM

Measurements were carried out on foam cut from a sample made using a specialised spray machine:

Parameters	Result	Standard
Core density	$\geq 7 \text{ kg/m}^3$	EN 1602:2013-07
Reaction to fire classification:	E	EN 13501-1:2019-02
	B-s₁, d₀²	
	NRO^{2,3}	-
Fire resistance	REI 30⁴	EN 13501-2:2016-07
Short-term water absorption by partial immersion	W_p ≤ 0,85 kg/m²	EN 14315-1:2013-06
Thermal conductivity coefficient	λ_{mean,i} = 0,036 W/(m·K)	EN 12667:2002-12
	λ_{90,90} = 0,037 W/(m·K)	EN 12667:2002-12
Declared value	λ_D = 0,037 W/(m·K)	EN 12667:2002-12
Thermal conductivity coefficient in high humidity conditions (50°C, 90% relative humidity)	λ_{50C,90%rh} = 0,0370 W/(m·K)	EN 12667:2002-12
Compressive stress at 10% relative strain	σ₁₀ ≥ 5 kPa	EN 826:2013-07
Resistance coefficient of water vapour diffusion	μ = 3	EN 12086:2013-07
Water vapour diffusion-equivalent air layer thickness for the foam-membrane joint ⁵	S_a ≤ 0,2 m	EN ISO 12572:2004
Single figure sound absorption coefficient	α_w = 0.50	EN ISO 11654:1999
Sound absorption class	D	EN ISO 11654:1999
Dimensional stability:		
 70°C, 90% RH, after 48 hours	DS(90,70)⁴	EN 1604:2013-07
 -20°C, after 48 hours	DS(-20,-)⁴	EN 1604:2013-07
Foam adhesion perpendicular to the substrate/tensile strength	> 34 kPa	EN 1607:2013
Foam adhesion perpendicular to the substrate fibre cement board	> 20 kPa	EN 1607:2013
Interlayer adhesion	> 40 kPa	EN 1607:2013
Closed cell content	≤ 10 %	EN ISO 4590:2016-11
Mould resistance - growth intensity, Method A	0 – no growth	EN ISO 846:2002
Emission of volatile organic compounds – French VOC Regulation	Class A+	EN 16516

The foam achieves its full mechanical properties after 24 hours.

7. INFORMATION ON PACKAGING

The CROSSIN ATTIC SOFT system is packaged in 216 dm³ metal drums.

8. TRANSPORT AND RECOMMENDED STORAGE CONDITIONS

Both components of the system should be stored in tightly closed packaging in dry rooms at 15 - 25°C. Protect from moisture and direct sunlight. The shelf life of the POLY component in the manufacturer's original sealed packaging, stored under the recommended conditions, is **6 MONTHS** from the date of manufacture.

9. REGULATIONS AND CERTIFICATES

- CROSSIN ATTIC SOFT does not contain ozone-depleting foaming agents, in accordance with European Union (EU) regulations on the marketing and use of controlled substances – Regulation (EU) No. 2024/590 of 7 February 2024.
- The CROSSIN ATTIC SOFT polyurethane system has been placed on the market in accordance with the European Union Regulation No. 305/2011, together with the assessment of performance carried out

in accordance with the European harmonized standard PN-EN 14315-1:2013.

- The product has the CE marking and the Declaration of Performance No. 13DOP-2022-EN has been issued for it.

10. ADDITIONAL INFORMATION

The data contained in this Technical Information are based on the results of tests performed in our laboratory and on practical experience. These data do not constitute a guarantee of the properties of the final finished product. The results obtained may differ from those given when the product is used under conditions other than those assumed.

At the same time, we would like to inform you that we provide assistance in the implementation and application of our CROSSIN ATTIC SOFT system, and if necessary, we help in the selection of system parameters. In all matters related to the purchase and use of CROSSIN ATTIC SOFT, please contact our technical and sales representatives

² Concerns the arrangement of layers consisting of CROSSIN ATTIC SOFT foam on combustible or non-flammable primers, covered with plasterboard cladding, on a wooden or metal structure with a thickness of G-K 12.5 mm, the classification of the product placed on the market is the responsibility of its manufacturer.

³ DZ.U. ANNOUNCEMENT OF THE MINISTER OF INFRASTRUCTURE AND DEVELOPMENT of 17 July 2015 on the publication of a uniform text of the Regulation of the Minister of Infrastructure on the technical conditions to be met by buildings and their location SECTION VI Fire safety Chapter 1 General principles requirements defined in the regulation as non-spreading fire in accordance with Annex 3 to the regulation

⁴ Classification of attic conversions in fire resistance class REI 30 for wooden roofs according to classification report No. LBO-077-KZ/21

⁵ The measurement was carried out for the IDEA 175 membrane

