

Poliuretán® Spray **7129 Roof**

Isocyanate **H**

DESCRIPTION

Poliuretán® Spray 7129 Roof is a two- component polyurethane system (polyol and isocyanate) formulated to obtain closed-cell rigid foams to be sprayed-in-place for thermal insulation. The system is specially performed for smooth finish surfaces.



Poliuretán® Spray 7129 Roof system contains approved ecological foaming agents (HFCs) that are not ODP (Ozone Depletion Potential) and are mainly used to obtain excellent thermal insulation.

DESCRIPTION OF THE COMPONENTS

- COMPONENT A:** **Poliuretán® Spray 7129 Roof**
Mixture of polyols, containing catalyst, flame-retardants and foaming agents (HFC)
- COMPONENT B:** **Isocyanate H**
MDI polymeric (Methane diphenyl diisocyanate)

APPLICATIONS

The system **Poliuretán® Spray 7129 Roof** system is applied by spraying with high-pressure equipment fitted with heating, with a mixing ratio of 1:1 in volume. Their main applications are the thermal insulation of buildings, roofing, grounding, and terraces. Its smooth finish is particularly suitable for the application of thin coatings (paints, elastomers, polyureas.)

Advantages in Application:

- Total suppression of thermal bridges. The insulation presents neither joints nor cracks, since it is a continuous insulation.
- Good adherence to the substrate. No glues or adhesives are needed for the installation.
- Possibility of insulation and waterproofing in a single process. This characteristic is due to its closed-cell and watertight structure, as well as its continuous application, which means that no joints are formed.
- Mobility. It is possible to get to any site quickly without having to transport or store bulky products such as other insulating material.
- Cavity-sealing for sound insulation – absorption.
- Increase of the living area compared with other insulating material.

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APPLICATION CONDITIONS

Cavitations of the pumps may cause a decompensation of the polyol mixture/isocyanate ratio producing foam with poor quality. In order to avoid such a problem, equipment suppliers recommend the use of separate pumps.

The surfaces must be clean, dry and free of dust and grease to ensure good adherence of the foam to the substrate; if the substrate is metallic it must also be free of oxide and rust. A suitable primer is recommended to guarantee good adherence on metal substrates as well as a minimum applied density of 50 Kg/m³.

The foam performance is influenced by a great number of factors which are listed below:

- Weather conditions: temperature and humidity of the atmosphere and the substrate surface, as well as other environmental factors (wind, etc.)
- Adjustment of the machinery, a proper ratio.
- Application type: vertical, horizontal, roofs.
- Application process: coat thickness, varnish application.

Coat thickness is perfectly controllable and can be modified by varying the speed of application and/or the gun-mixing chamber; thickness should be between 10 and 20mm.

It must be taken into account that the foam performance is greater the lower the number of coats applied for the same thickness. Nevertheless, it is not convenient to apply thickness above 20 mm, in order to avoid blistering and problems that may take place due a high exothermic reaction.

On cold surfaces, the first coat takes longer to react and growth is not usually 100%. Whereby, in these cases, the first coat should be a varnish for a heat development, which should heat the substrate providing a proper foaming of the second coat.

The recommended temperature in hoses is 30 to 50°C, depending on the weather conditions. The minimum recommended substrate temperature during spraying is 5°C.

COMPONENT CHARACTERISTICS

Characteristics	Unit	H	7129 Roof
Specific Weight at 20°C	g/cm ³	1,23	1,15
Viscosity	cPs	150-250 (25°C)	200-400 (22°C)
NCO Content	%	30-32	-

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SYSTEM TECHNICAL SPECIFICATIONS

Measured in a test beaker at 22°C at the indicated mixing ratio. The test is carried out according to our standard (MAN-S01).

Mixing Ratio: A+C/ B: 100 /100 in weight

Specification	Unit	7129 Roof
Cream time	s	5 ±1
Gel time	s	12 ±2
Tack free time		17 ±3
Free Density	g / l	46 ±2

FOAM PROPERTIES

Characteristics		Units	7129 Roof
Applied average density	UNE-EN 1602	kg/m ³	50-60
Closed cell content	ISO-4590	%	≥90
Compressive Strength	EN 826	KPa	≥300
Thermal resistance and thermal conductivity	EN 12667 EN 12939		Véase tabla de prestaciones
Fire reaction	EN 13501-1	Euroclass	E ⁽¹⁾
Water absorption (W _p)	EN 1609	Kg/m ²	≤0,2
Water vapour resistance factor (μ)	EN 12086	-	≥80

⁽¹⁾ Result of valid test for any applied thickness (60 mm of thickness)

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Performance chart

Sprayed insulation foam product CCC4 system. Diffusion open faces.

e_p	25	30	35	40	45	50	55	60	65
λ _D	0,028	0,028	0,028	0,028	0,028	0,028	0,028	0,028	0,028
R _D	0,90	1,05	1,25	1,40	1,60	1,80	1,95	2,15	2,30
e_p	70	75	80	85	90	95	100	105	110
λ _D	0,028	0,028	0,027	0,027	0,027	0,027	0,027	0,027	0,027
R _D	2,5	2,7	3,00	3,20	3,40	3,55	3,75	3,95	4,15
e_p	115	120	125	130	135	140	145	150	155
λ _D	0,027	0,026	0,026	0,026	0,026	0,026	0,026	0,026	0,026
R _D	4,30	4,70	4,90	5,1	5,3	5,45	5,65	5,85	6,05
e_p	160	165	170	175	180	185	190	195	200
λ _D	0,026	0,026	0,026	0,026	0,026	0,026	0,026	0,026	0,026
R _D	6,25	6,45	6,65	6,85	7,05	7,25	7,45	7,65	7,85

e_p Thickness; mm

λ_D Declared aged thermal conductivity; (W/mK)

R_D Thermal resistance level; (m²K/W)

SAFETY RECOMMENDATIONS

Poliuretán® Spray 7129 Roof system does not represent significant risks if handled properly. Avoid contact with eyes and skin. The instruction given in the safety Data Sheet must be followed during the manufacturing and handling of the system.

SUPPLY OF THE PRODUCT

Normally, the product is supplied in non-returnable steel drums of 220 litres (blue for Component A and black for Component B)

STORAGE RECOMMENDATIONS

VERY IMPORTANT: **Poliuretán® Spray 7129 Roof** system components are sensitive to humidity and must be stored in hermetically sealed drums or containers. **The storage temperature must be kept between +15 and + 25°C.** Lower temperatures considerably increase the polyol viscosity, rendering it difficult to apply, and may build up crystallizations in the isocyanate.

Higher temperatures may cause alterations in the polyol, loss of blowing agent, greater consumption and swelling of the drum as well as uncontrolled foaming when the pump nozzle is placed into the drum. In order to avoid the latter, it is recommended to have the drums set-down for a certain period in a ventilated and fresh place before using them.

In case the drums are supplied with white plastic caps, special care should be taken during the handling of these caps, as they are more fragile than the metallic ones and could be deformed.

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To maintain the aforementioned characteristics of the systems, the drums should be hermetically sealed when not in use.

Properly stored, the self-life is 4 months for Component A (polyol) and 9 months for Component B (isocyanate)

ANNEX: APPLICATION TROUBLESHOOTING

Our Technical and Commercial service will provide you with guidance in any queries you may have on the preparation of this product. Nevertheless, some problems that may appear during the process are outlined below.

Problem	Possible cause	Solution
Uneven atomisation.	Gun needle wrongly adjusted or dirt in the mixing chamber.	Adjust the position. Clean the chamber.
Atomisation with colour streaks.	Bad mixing due to obstruction of components or differences in viscosity.	Check pressures, fix obstruction. Adjust and increase temperatures.
Poor and closed atomisation.	High component viscosities. Cold atmosphere.	Increase temperatures and pressures.
Atomisation too open and forming mist.	Too much air in gun tip. Excessive mixing pressure.	Reduce air passage. Reduce the pressure a little.
The material takes too long to react, it falls off.	Cold surface.	Increase hose heating.
Material too fast, uneven finishing with mist.	Pressure excess.	Reduce air pressure in the gun and mixture.
The material is granulated as it gets on the surface and it is obstructing the gun.	Temperature excess.	Reduce hose heating.
Blistering.	Coatings thickness higher than 20mm.	Apply thinner coatings.

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