Phono Spray S-907

DIVISION: **PU SYSTEMS**

INTRODUCTION

Phono Spray S 907 is a thermo acustic two-component Polyurethane System comprising polyol and isocyanate. The system is "in situ" sprayed and medium-density (about 55 - 65 kg/m^3) rigid foam is obtained. It is an open cell foam with acoustic absorption properties. The application of Phono Spray S 907 in a constructive solution improves its acoustic insulation.

Phono Spray S 907 system does not contain ozone depleting blowing agents (CFC and HCFC).

DESCRIPTION OF COMPONENTS

COMPONENT A : Mixture of polyols, containing catalysts and aditive.

COMPONENT B : MDI (Methane diphenyl diisocyanate).

DENOMINATION OF COMPONENTS

COMPONENT A : POLYOL Phono Spray S 907

COMPONENT B: ISOCYANATE H

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APPLICATIONS

The Phono Spray S 907 system is applied with a high-pressure spray equipment, which is heating outfitted, with a mixing ratio of 1:1 in volume. The system main application is the improvement in acoustic insulation, especially noises to impact between horizontal divisories.

Application advantages:

- Total suppression of acoustic bridges. This system does not present joints or gaps since it is a continuously applied product.
- Good adherence to the substrate. Nor glues or adhesives are needed for its installation.
- Mobility. It is possible to get quickly to any site without having to transport or store bulky products like other insulating materials.

APPLICATION CONDITIONS

It is recommended to apply Phono Spray S 907 in the minimum possible layers to achieve the desired thickness.

The adherence of Phono Spray S 907 system is excellent with materials used in construction , (concrete, ceramic, laminate plaster , wood, etc.) providing that it is clean, dry and free of dust and oil.

The yield of the foam is influenced by different factors, which are listed below:

- Weather conditions: temperature, humidity, wind, etc…
- Substrate surface conditions: temperature and humidity.
- Adjustment of the equipment: appropriate ratio.

GENERAL INSTRUCTIONS

It is recommended to apply a direct single layer of Phono Spray S 907 if the thickness is 10-20 mm, or more layers if the thinckness is higer than 20 mm.

The system is slightly slower than the thermal insulation Poliuretan® S Spray so you must expect a few minutes before making any verification of the quality of the foam obtained

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The recommended hoses temperature is in the range of 45-50ºC depending on the weather conditions. The minimum recommended substrate temperature during spraying is 5ºC.

EQUIPMENT CLEANING

It is recommended to assign exclusive machines for the application of Phono Spray S 907 in order to avoid any source of contamination that may come from another polyurethane system used in the same equipment.

If it is not possible to use exclusive equipment for the application of Phono Spray S 907, it is recommended to use different hoses for each system, reducing with this the possibility of contamination between different materials. For these cases, the cleaning procedure to begin using Phono Spray S 907 is detailed as follows:

1) When a few square meters remain from being sprayed with the thermal insulation system, the polyol pump must be changed from one drum to the other and start pumping Phono Spray S 907 **.** One product will displace the other inside the hose while the remaining area is sprayed with the thermal insulation.
2) Briefly (depending on hose length) Phono Spray S 907 will start going out from the gun. It's easily detected because Phono Spray S 907 is gray.
3) When Phono Spray S 907 starts to foam it is advisable to reject the initial foam, it could still could be contaminated with the thermal insulation product Poliuretan® S Spray.
4) When it is proved that the product is correctly formed (flexible tact) it is possible to start with the application.

Carrying out the change from one product to the other in this way, generation of residues will be avoided.

When the thermal insulation product Poliuretan® S Spray is going to be sprayed again, it is necessary to repeat the process changing a product by the other and checking the correct formation of the foam, this time it must be yellow.

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CHARACTERISTICS OF THE COMPONENTS

CHARACTERISTICS	UNIT	H	S 907
Specific weight 25ºC	g/cm^3	1,23	1,03
Viscosity 25ºC	mPa.s	230	1100
NCO Content	%	31	-

TECHNICAL DATA OF SYSTEMS

Measured in a test beaker at 22ºC at the indicated mixing ratio and according to our Standard Test (MAN-S01).

MIXTURE RATIO (A+C) / B: **100/100** **by volume**
100/120 **by weight**

SPECIFICATION	UNIT	S 907 / H
Cream Time	s	5 ± 1
Gel Time	s	9 ± 2
Free rise density	g / l	43 ± 3

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FOAM PROPERTIES

PROPERTIES	UNIT	Phono Spray S 907
Applied average density UNE-EN 1602	kg/m^3	60 ±10
Compressive Strength UNE-EN 826, at 10% deformation	kPa	30-40
Dimension stability -30ºC 24 hours 60ºC	% Vol.	< 0,5*
Closed cell content ISO-4590	%	< 5*
Sound Absorption Coefficient UNE EN 29053:1993	-	0.32
Dynamic Stiffness s' UNE EN 29052/ 1	MN /m^3	17.76**
Thermal Conductivity Coefficient 20ºC 1 year UNE-92202/89	W/mºC	0,035-0,040*

*Data obtained in our facilities.
** Certified by APPLUS file number: 08/32309500 dated July 30, 2008.

FIRE REACTION TEST

CHARACTERISTICS	Phono Spray S 907
Reaction to fire UNE EN 13501-01:2002	Euroclass F

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ACOUSTIC ISOLATION TEST

It have been carried out acoustic isolation test to air noise as the norm UNE-EN ISO 140-3:1995 and to impact noise as the norm UNE-EN ISO 140-6:1999 and UNE-EN ISO 140-8:1998 on a floating floor consisting of mortar and Phono Spray S 907 sprayed on slab of concrete standard.

DESCRIPCIÓN	DL (dB)	**Lnw (dB)**	**Rw (dBA)**
slab of concrete standard 15 cm + Phono Spray S 907 2 cm + mortar 5 cm	14	60	56

Certificate issued by the acoustics of the area of Quality Control Laboratory of the Basque Government (Vitoria). Test report 90.2632.0-IN-CT-08/16 I and II dated 01-04-2008.

ACOUSTIC ISOLATION TEST IN SITU

DESCRIPTION SEPARATE ELEMENTS	LnTw (dB)
FORGED + Phono Spray S 907 2 cm + Mortar 5 cm	<65*
FORGED + Phono Spray S 907 3 cm + Mortar 4 cm	<65*

(*) Values estimated awaiting test as UNE-EN ISO 140-7.

SAFETY RECOMMENDATIONS

Properly handled, Phono Spray S 907 system does not present significant risks. 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.

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SUPPLY OF THE PRODUCT

Normally, Phono Spray S 907 is supplied in non-returnable steel drums. For component A drums of 50 litres (50Kg) and 230 litres. (225kg). For component B drums of 50 litres (50 kg) and 230 litres (250 kg).

STORAGE AND USAGE RECOMMENDATIONS

Components A and B are sensitive to moisture, and must be stored in hermetically sealed drums or hermetic containers. Storage temperature must be kept between +15ºC and +25ºC. Avoid lower temperatures that may build up crystallizations in the isocyanate, as well as higher temperatures that may alter the polyol and produce swelling of the drum.

Properly stored, the shelf life is 3 months for the Component A (polyol) and 9 months for the Component B (isocyanate).

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ANNEX: APPLICATION TROUBLESHOOTING

Our Technical-Commercial customer service will give you advice for any queries you may have on the preparation of this product. Nevertheless, some of the problems that may appear during the process are outlined below:

PROBLEM	POSIBLE CAUSE	SOLUTION
Uneven atomisation.	Needle /gun wrongly adjusted or dirt in the mixing chamber.	Adjust the position Clean the chamber.
Coloured streaks.	Bad mixing due to components obstruction or differences in viscosity.	Check pressures, fix obstruction. Adjust and raise temperatures.
Poor and closed atomisation.	High component viscosities. Cold temperature.	Rise temperatures and pressures.
Atomising too open and mist formation.	Excess of air in gun tip. Excessive pressure of mixing.	Reduce air passage. Reduce a little the pressure.
The material reacts slowly and it falls off.	Cold surface.	Rise hose heating.
Excessively fast material, uneven finishing with mist.	Pressure excess.	Reduce the air pressure in the gun and the mixing pressure.
The material is granulated as it gets on the surface and obstructs the gun.	Temperature excess.	Reduce hose heating.
Random shape bubbles are formed in the surface of the material.	It is applied on a surface that is too hot.	Wait the surface to cool down.
	Contamination with the formerly used product.	Let the presently used product to go through the hose a little bit more.

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