Synthesia Internacional s.l.u.

TECHNICAL DATA SHEET
Date of issue: January 2011

Polyurethane Spray

Isocyanate H

S-353E-S
S-353E-P
S-353E-W

DESCRIPTION

Poliuretan®Spray are two- component polyurethane systems (polyol and isocyanate) formulated to obtain closed-cell rigid foams to be sprayed-in-place for thermal insulation.

Poliuretan®Spray systems contain approved ecological foaming agents (HFCs) that are not ODP (Ozone Depletion Potential) and are mainly used to obtain excellent thermal insulation.

CSTB CERTIFICATION

The systems hold an Avis Technique, given by CSTB. (Nº certificate: 20/09-163), specific group: 20

OTHER CERTIFICATES

AENOR Producto Certificado Aislante Térmico

Poliuretan®Spray systems S-353E-S, S-353E-P and S-353E-W**,** complies with UNE 92120-1/1M:2003, UNE 92120-1:1998 and UNE 92120-1:1998/2M:2008 certified by AENOR N as Certificate to product quality for the thermal insulation materials and their use in building with numbers 020/003076. 020/003263 and 20/003077, respectively

Poliuretan®Spray systems S-353E-S, S-353E-P and S-353E-W hold an Assessment of production from BBA (British Broad of Agrément) Technical approvals of construction, certificate nr. 10/4777

Poliuretan®Spray systems S-353E hold an Aprobata Techniczna ITB nr. AT-15-7674/2008, from Instytut Techniki Budowlanej from Warszawa (Poland) and Etest Higieniczny nr. HK/B/0923/01/2008 from national Institute of Public Health – National Institute of Hygiene from Poland

Agrement Tehnic nr. 007-03/269-2009 según ***Institutul National de Cercetare-Dezvoltare în Constructii si Economia Constructiilor (Romania)****Grupa specializata nr. 3: „Protectii la foc, termotehnica, acustica, protectii hidrofuge siînvelitori”y nr. 06-04/888-2009*

DESCRIPTION OF THE COMPONENTS

COMPONENT A: **Poliuretan®Spray** S-353E-S, S-353E-P and S-353E-W. Mixture of polyols containing catalysts, flame-retardants and foaming agents (HFC).
No presence of HFCF.

COMPONENT B: **ISOCIANATE H. MDI** (Methane diphenyl diisocyanate)

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ISO 9001 BUREAU VERITAS Certification

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COMPONENT CHARACTERISTICS

Properties	Unity	H	S-353E-S	S-353-P	S-353E-W
Specific weight at 25ºC	g/cm^3	1,23	1,17	1,17	1,17
Viscosity at 25ºC	mPa.s	230	325	325	325
NCO Content	%	31	--	--	--

SYSTEM TECHNICAL SPECIFICATIONS

Measured in a test beaker at 22ºC, in the indicated mixing ratio. The test is carried out according to our standard (MANS-01), which is in accordance to the AENOR N CERTIFICATE method.

MIXING RATIO **A / B**:
100/100 in volume.
100/100 ± 4 in weight.

SPECIFICATION	Unit	S-353E-S / H	S-353E-P / H	S-353E-W / H
Cream time	s	2-4	2-4	2-4
Gel time	s	5-11	4-8	4-8
Free rise density	g / l	33-37	33-37	33-37

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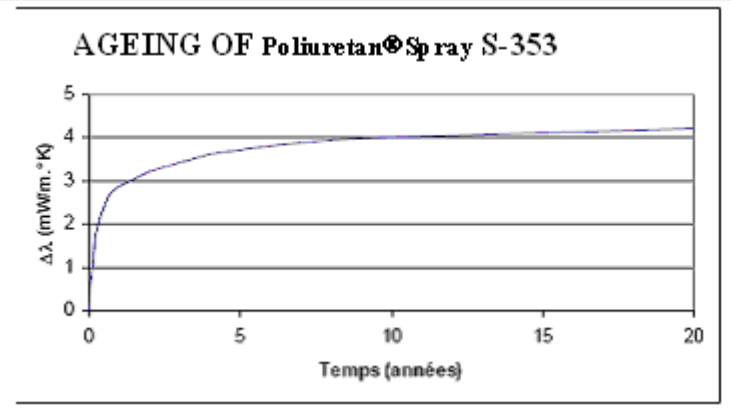
FOAM PROPERTIES

Properties	Unit	S-353E-S / H	S-353E-P / H	S-353E-W / H	Normative
Applied average density UNE	Kg/m³	37 - 43	37 - 43	37 - 43	UNE EN 1602 (Anexo C)
Compressive strength *	KPa	> 200	> 200	> 200	UNE EN 826:1996
Thermal Conductivity initial (10ºC)	W/mK	0,0214	0,0214	0,0214	UNE EN 12667:2002 (CEIS,LAT0047/10-1)
Thermal Conductivity coefficient of calculation (10ºC) 10ºC aged to 10 years (*),Δλv Thermal conductivity (aged value)	mW/mK	4,0 0,026	4,0 0,026	4,0 0,026	CTAT (resol. n. 4 del 20 February 1995). (**)



(*) Certificate issued by CSTB (Grenoble, FR), reference nº CPM/ PI 09-2003. Used methods: ASTM D 2856-94: closed cell, CSTB 3513: determination of gas concentration inside of a plastic cellular.

(**) The method employs the diffusion model of Fick law, Lindsay law and Bromley law for thermal characteristics of gas mixes.

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Properties	Unit	S-353E-S / H	S-353E-P / H	S-353E-W / H	Normative
Water vapour diffusion transmission (μ)	--	107	107	107	UNE EN 12086 (CEIS LAT0047/10-1)
Results of impermeability to water	--	Satisfactory	Satisfactory	Satisfactory	UNE EN 1928:2000
Water absorption (1 week)	% Vol.	< 5	< 5	< 5	DIN 53428
Dimensional stab. 48 h / -20ºC	%	$\Delta\varepsilon_l < 1$ $\Delta\varepsilon_b < 1$ $\Delta\varepsilon_d < 1$	$\Delta\varepsilon_l < 1$ $\Delta\varepsilon_b < 1$ $\Delta\varepsilon_d < 1$	$\Delta\varepsilon_l < 1$ $\Delta\varepsilon_b < 1$ $\Delta\varepsilon_d < 1$	EN 1604
Dimensional stab. 48 h / 70ºC / 90%HR	%	$\Delta\varepsilon_l < 5$ $\Delta\varepsilon_b < 5$ $\Delta\varepsilon_d < 5$	$\Delta\varepsilon_l < 5$ $\Delta\varepsilon_b < 5$ $\Delta\varepsilon_d < 5$	$\Delta\varepsilon_l < 5$ $\Delta\varepsilon_b < 5$ $\Delta\varepsilon_d < 5$	EN 1604
FIRE reaction	--	E	E	E	EN 13501-1

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SAFETY RECOMMENDATIONS

Poliuretan®Spray 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.

SUPLY 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: Poliuretan®Spray 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 + 25ºC.**

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.

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

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

ASSOTIATIONS

Currently Synthesia is member of following associations:

PU EUROPE EXCELLENCE IN INSULATION

IPUR Asociación de la Industria del Poliuretano Rígido

aiepa Asociación Técnica del Poliuretano Aplicado

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