

SPR 210

Closed Cell, Spray Polyurethane Foam

1 - Description

SPR 210 is a two component spray polyurethane foam system with open cell structure which is applied with high pressure and heated special spray machines for heat insulation purpose.

SPR 210 contains water as a blowing agent.

2 - Properties & Features

- Two component
- Ecological (water based)
- Open cell structure
- B2 (E) fire reaction
- Easy and high application speed (~ 1000 m² per day)
- Seamless, no heat bridge
- Does not grow insect and fungus
- Excellent thermal insulation for a long time
- High energy saving
- Water vapor permeability
- Low storage and transportation cost
- Excellent sound insulation

3 - Fields of Application

- Wall
- Ceiling
- Attic

4 - Product Information

Packacking	470 kg set (250kg PMDI) + (220kg Polyol Blend)
Shelf Life	6 months
Storage Conditions	Store in cool and dry conditions between +15°C and +25°C

5- Technical Data

Foam	Method / Conditions	Polyol Blend	Polymeric MDI
Physical Appearance	--	Liquid	Liquid
Color	--	White (Mixed Form)	Brown
Density	ASTM D 891 / 20°C	1,03 ±0,02 gr/ml	1,23 ±0,03 gr/ml
Viscosity	ASTM D 4878 / 25°C	1700 ± 200 cps	220-250 cps
NCO Content	ASTM D 5155	-	30-31 %

Reaction Parameters	Unit	Data
Cream Time	sec.	3-4
Gel Time	sec.	5-7
Tack Free Time	sec.	10-14
Free Rise Density	kg/m ³	7-10

* Components temperature in foaming test is 55°C

Finished Product Features:

Test Name	Unit	Method	Data
Application Core Density	kg/m ³	–	9-12
Closed Cell Content	%	EN 4590	80- 90
Fire Reaction	–	EN 13501	E
		DIN 4102	B2
Water Absorption Amount	kg/m ²	EN 1609	0,26 (Declared)
			~ 0,26 (Measured)
Thermal Conductivity Coefficient	(W/m.K)	EN 12667	0,039 (Declared)
			~ 0,038 (Measured)
Compressive Strength	kPa	EN 826	10 (Declared)
			~ 11 (Measured)

6 - Application Conditions

- The application surface should be clean and dry, the elements that prevent adhesion should be cleaned from the surface. Do not wash to clean the surface.
- Recommended temperature of application surface is between 5°C and 40°C.
- The recommended air temperature is between 5°C and 30°C.
- Recommended component temperatures and machine settings are as follows.

Parameters	Data
Polyol Blend Temperature	50-65°C
Polymeric MDI Temperature	50-65°C
Hose Temperature	50-65°C
Machine Pressure	80-110 bar

* Settings may vary depending on weather conditions and machine specifications.

- Polyol Blend must be mixed thoroughly before starting and during application.
- In order to obtain mixture in the right ratio, the filters of the machine should be cleaned and pump maintenance should be done. Improper mixing ratio of components results in low quality foam formation. In addition, the improper mixing ratio causes the adhesion problem, the increase in consumption, the deterioration of the cell structure.

Mixing Ratio	Unit	Data
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Polyol Blend / Polymeric MDI	By volume	100 / 100
	By weight	100 / 118

7 - Directions for Use

- SPR 210 is applied on the surface to be heat insulated until the desired thickness is achieved. Application is usually done in one layer.
- Application is made in different thicknesses according to the regional climate conditions and application areas.

8 - Consumption

- Material consumption may vary for many reasons. These reasons are the air temperature, application surface temperature, machine temperature settings, mixing ratio etc.
- According to the application thickness and the number of application layers the theoretical consumption table is as follows.

Application Thickness	Consumption (kg)
3 cm	--
5 cm	0,80
12-15 cm	1,00 - 1,10

9 - Remarks & Restrictions

- SPR 210 components are moisture sensitive. For this reason, it should be stored in original, unopened and undamaged packages, in store which is dry and not under direct sunlight.
- Clean all tools and application equipment with suitable cleaner solvent immediately after use. Hardened and cured material can only be cleaned by mechanical methods.
- Read the MSDS form carefully before using the AKFIX SPR 210 product or when a problem is encountered and follow the written instructions.
- Personal protective equipment and full face mask with appropriate filter should be used during application.
- There must be sufficient air circulation in the application area.
- Give empty barrels to authorized hazardous waste collector companies.

10 - Safety

Contains Diphenylmethane-4,4'-Diisocyanate. Harmful by inhalation. Irritating to eyes, respiratory system and skin. Do not breathe spray/vapor. Wear suitable protective clothing and gloves. Use only in well-ventilated areas. Pressurized container. Keep away from direct sunlight and do not expose temperatures over 50°C. Do not pierce or burn, even after use. Keep away from sources of ignition, no smoking. Keep out of the reach of children.

11 – Disclaimer

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