

# Dr. Fixit Foamshield



## SPRAY APPLIED POLYURETHANE FOAM SYSTEM

### Description

Dr. Fixit Foamshield is a two component CFC & HCFC Free, polymeric MDI based system for producing rigid polyurethane foam by spray application for Thermal Insulation.

### Standard complies:

IS 12432 - Part 3 for Application.

### Areas of Application

- Roof
- Cold storages
- Tank Insulation

### Features & Benefits

- Low thermal conductivity, High Thermal Resistance
- Light Weight
- Jointless Insulation, less heat ingress
- Easy and faster to spray.
- CFC & HCFC Free, Green Compliance

### Method of Application

#### 1 SURFACE PREPARATION:

- The substrate must be free from dust, oil, grease and loose particles.
- The substrate must be thoroughly cleaned, preferably with mechanical means to get rid of the dust and loose particles.
- The oil and grease on the substrate must be treated de-greased with suitable solvents.
- Any surface cracks and undulations cracks and crevices must be treated with sand and cement mortar mixed with latex polymers such as Dr. Fixit Pidicrete URP / Dr. Fixit Pidicrete MPB.
- The substrate moisture content must not be more than 4% while spraying. Higher moisture or wet substrate can lead to poor bonding and integrity of Foam while spraying.

#### 2 APPLICATION DETAILS:

- Application must be carried out by trained sprayer with the help of a suitable spray machine where air pressure, mixing and temperature of product can be controlled for Foam spray.
- Ambient air temperature, wind velocity, substrate temperature & substrate moisture are critical determinants of Foam quality.
- Applicator must recognize and anticipate climatic conditions prior to application to ensure the highest quality of Foam and to maximise yield.
- Wind speeds less than 20 kmph are preferred for spraying as this results in reducing the wastages.
- Optimum results are obtained when the spray application is carried out when ambient air temperature and substrate temperature falls between +20°C and +48°C. Higher the temperature better in terms of yield.
- Variation in the ambient air and substrate temperature will influence the chemical reaction. This will directly affect the foam expansion rate amount of rise, yield, adhesion and physical properties.
- Polyurethane Foam is formed when the two components are sprayed (base and activator) to form a monolithic seamless layer of rigid foam. Minimum three layers of Foam to be sprayed to achieve the required thickness of the insulation each being in the range of 10 -15mm.
- The Foam achieved its 90% strength within four hours after spraying.
- As the product adheres to the vertical or horizontal surfaces a monolithic surface is achieved.



- Foam needs to be protected from uv exposure and should not be kept open for more than 24hours. Prolonged exposure will degrade the properties of the Foam.

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### 3 APPLICATION EQUIPMENT

- Transfer pumps are recommended for material transfer from container to proportioner. The plural component proportioner must be able to supply each component within  $\pm 2\%$  of the desired mixing ratio by volume.
- Hose heaters to be set to deliver the material between a temperature range of  $+40^{\circ}\text{C}$  to  $+45^{\circ}\text{C}$  to the spray gun.
- Optimum hose pressure and temperature to vary with equipment manufacturer, type, substrate temperature, ambient temperature & specific application.
- Applicator to interpret the machine details, product details & surrounding details to arrive at acceptable gun chamber size, material pressure and proportioner output.
- Selecting the proper chamber size and proportioner's pre-heaters is critical.
- Mechanical purge spray guns (specifically direct impingement type or DI type) are recommended for highest foam quality.

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### 4 APPLICATION OVER A WATERPROOF MEMBRANE

- In case the Foam is to be sprayed over a Waterproof Membrane suitability must be examined by the user prior to commercial use. Curing and Ponding of the waterproofing Membrane must be carried out as per the product TDS.
- Before Spraying of the Foam surface must be properly cleaned to ensure proper bonding of the Foam.
- Foamshield can be sprayed over Dr. Fixit Flexi PU 270(I), Dr. Fixit Hybrid Polyurea 4500 PUH, Dr. Fixit Superseal 500 & Dr. Fixit Superseal 900.

#### Precautions & limitations

- Material should be stored in shaded and covered place. Store drums at  $+20^{\circ}\text{C}$  to  $+25^{\circ}\text{C}$  for a minimum of at least 48 hours before use.
- Do not recirculate components from proportioner back to the Drums.
- Machine must be thoroughly cleaned before usage and mixing of our products with any other suppliers product is not recommended.
- Temperature of material inside the drums must be kept between  $+20^{\circ}\text{C}$  to  $+25^{\circ}\text{C}$  while in use and needs to be checked with help of a thermometer or an infrared gun.
- Moisture in the form of rain, fog, frost, dew or high humidity ( $> 85\%RH$ ) will react chemically with the mixed components, adversely effecting the foam formation, dimension stability and physical properties of the finished product.
- Wind velocities in the excess of 20kmph may result in excessive loss of exotherm and interfere with the mixing efficiency and affecting the foam surface, curing & physical properties.
- After spray application allow the Foam to achieve its strength between 4 - 6 hours.
- In order to avoid any discoloration and surface defects the Foam must be protected within 24 hours with the recommended waterproofing membrane.
- Kindly do not spray this product if the substrate temperature is below  $+20^{\circ}\text{C}$ . Please contact technical team in such situation.

### Technical Information

SR NO	PROPERTY	UNIT	VALUE	TEST METHOD
1	Density	kg/m <sup>3</sup>	45 -50	ASTM D1622
2	Compressive Strength	kPa	> 300	ASTM D1621
3	Tensile Strength	kPa	> 400	ASTM 1623
4	Thermal Conductivity @ 24 degC	W/m K	0.023	ASTM C518
5	Water Absorption(vol)	%	< 1.5	ASTM D2842
6	Closed Cel Content	%	> 95	IS 11239 Part5/ ASTM D6226
7	Dimensional Stability (7days, +70degC)	%	< 1.5	ASTM D2126
8	Dimensional Stability (7days, -15degC)	%	< 1.5	ASTM D2126
9	Fire Resistance		Class B2	DIN 4102
REACTION CHARACTERISTICS				
1	Cream Time	sec	5 - 10	PITM
2	Tack Free Time	sec	15 - 20	PITM
3	Free Rise Density	kg/m <sup>3</sup>	33 - 35	PITM

\* Technical Information are typical values derived from testing under lab conditions and controlled atmosphere. Test values from field samples may vary depending on the site conditions  
 PITM – Pidilite Internal Test Method.

### Packaging : Drums

- Activator : 250 kg
- Base : 210 kg

### Shelf Life

- Base : 9 months & Activator : 12 months from the date of manufacturing.
- Material should be stored in shaded and covered place.
- Protect from moisture and moisture vapor.

### Health and Safety

- MDI is classified as a dangerous substance and requires hazard warning label and must be handled with care.
- Safety goggles, impermeable protective gloves and overalls should be worn during handling & application.
- Contaminated clothes should be removed immediately to prevent skin contact.
- Person handling or spraying this product must go through the related literature & be well aware of the Safety Procedure and experience enough to handle this product.



## Other Products Categories available

Dr. Fixit brings you the widest range of Construction Chemicals



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