

Spray Applied Polyurethane Foam

DESCRIPTION

TIKIFOAM SPF 4055 is two component CFC free, blown polyurethane-M.D.I. chemistry based foaming system for producing spray applied rigid polyurethane foam for high performance sustainable thermal insulation in building envelope.

TIKIFOAM SPF is available in two grades:

- a) **TIKIFOAM SPF 40** of nominal density $\geq 40 \text{ Kg./m}^3$.
- b) **TIKIFOAM SPF 55** of nominal density $\geq 55 \text{ Kg./m}^3$.

ADVANTAGES

- Spray applied - rapid installation and quick setting
- Seamless - no thermal bridges - maximum energy saving
- Non-sagging
- VOC free
- Light weight- negligible dead load on structure
- Fully bonded – no water tracking behind foam
- High wind uplift resistance.
- Compressive resistance - withstands overlay load
- Durable and sustainable solution

USES

- For roof and wall insulation
- As insulating solution to generate cool roof system
- For tank insulation
- For insulation applications in cold storages
- As air barrier systems
- As light weight filler for filling sunk areas.

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

The surfaces must be sound, clean, dry, and free from cracks, honeycombs, undulations, oil, grease, laitance and loose particles.

New concrete should be at least 28 days old with moisture content $< 4\%$.

The temperature of substrate should be $> 10^\circ\text{C}$ during spray application.

APPLICATION

TIKIFOAM SPF 4055 has quick reaction and gel time and application shall be done only by using PUR spray equipment.

Use of mobile two component, high-pressure plural spray machine equipped with transverse pump and with arrangement for constant preheating with heated hoses is recommended.

Before initiation of spray application, both resin and hardener components are separately pre-heated in plural spray machine to correct spray temperature of 35°C to 50°C . This ensures proper reaction between the components and proper viscosity of components during spray application.

For optimum spray result, the component temperature should be maintained between 35°C to 50°C and spray pressure should be maintained between 80 to 100 bars.

The spray application of **TIKIFOAM SPF 4055** can be done in layers, each 10mm to 50mm thick.

Higher densities are obtained by lower substrate temperature and / or thin foam layer application. Lower density can be obtained by higher substrate temperature and / or thick foam layer application.

APPLICATION DATA

Properties	Values
Cream Time @20°C	3 - 4 Seconds
Gel Time (String Time), 20°C	8 - 9 Seconds
Core Density (Free Rise)	34 to 36 Kg./m ³ (SPF 40) 48 to 50 Kg./m ³ (SPF 55)
Density, 20°C (DIN 51757)	
Polyol	1.11 to 1.15 g/cm ³
Isocyanate	1.21 to 1.23 g/cm ³
Viscosity, 20°C (DIN 53018)	
Polyol	250 to 350 mPa·s
Isocyanate	200 to 230 mPa·s
Mixing Ratio (Part A: Part B)	100:109 (By Weight) 100:100 (By Volume)

SPECIAL CARE DURING & POST APPLICATION

- Thickness per pass must be determined as per site condition.
- The applied foam must be covered with suitable top coat within 7 days of application to avoid the U.V degradation.
- Thermal conductivity may change if exposed for more than 7 days due to escape of blowing agent.
- Skin of the layers must be protected to avoid opening of cells.

COVERAGE*

TIKIFOAM SPF40	TIKIFOAM SPF55
2.4 Kg./m ² @50mm**	3.25 Kg./m ² @50mm**

*Consider 15% to 30% extra consumption for over-spray and air-borne wastage in windy environment.

**Coverage / Consumption is approximate and it depends upon the site conditions and surface porosity at the time of application.

SUPPLY

TIKIFOAM SPF 4055 is supplied as two component system, the pack consist of Component-A: 210 Kg. drum and Component-B: 250 Kg. drum.

STORAGE

TIKIFOAM SPF 4055 components A & B must be stored above 5°C. Store in a dry and cool place with temperature below 30°C under the shed and protect from extremes of temperature, heat, direct sunlight.

SHELF LIFE

Shelf life is 6 months when stored as above and in original packing. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.

SAFETY PRECAUTIONS

As with all chemical products, care should be taken during use and storage of **TIKIFOAM SPF 4055** to avoid contact with eyes, mouth, skin, and foodstuffs until product is fully cured/dried.

PROPERTIES

Properties	TIKIFOAM SPF 40	TIKIFOAM SPF 55	Standard
Core Density (Free Rise)	34 to 36 Kg./m ³	48 to 50 Kg./m ³	DIN EN ISO 845
Compressive Strength	0.17 to 0.20 N/mm ²	0.20 to 0.23 N/mm ²	DIN 53423
Compression	10%	-	DIN 53421
Flexural Strength	0.25 to 0.30 N/mm ²	0.30 to 0.35 N/mm ²	DIN 53423
Water Absorption	<2.5% (with skin)	<2.25% (with skin)	DIN 52428
Thermal Conductivity	0.022 to 0.024 W/m ⁰ K	0.02 to 0.022 W/m ⁰ K	DIN 52612
Water Vapour Diffusion Resistance Factor	40 to 60	40 to 60	DIN 52615
Dimension Stability @70 ⁰ C 48h	≤1.5%	≤1.0%	-
Closed Cells	90 %	95%	ISO 4590

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