

Nitof foam 45

Sprayable Polyurethane Foam for Thermal Insulation

Uses

Polyurethane based, two component HFC blown, free from CFC/HCFC sprayable rigid closed-cell foam system for the insulation of roofs. Particularly suitable for coating with Fosroc Polyurea, Polyurethane & Brushbond Roofguard system for a combination of waterproof and fire-rated insulation system for roofs.

Advantages

- Machine applied for efficient, & faster rate of application
- Light weight, seamless, In-situ applied thermal insulation system
- Provides thermal comfort & energy saving
- Overcoat with Polyurea, Polyurethane & Brushbond Roofguard system, for a combination of waterproof & fire rated insulation system

Standards compliance

- IS 12432-3 (2002): Application of Spray Applied Insulation - Code of Practice, Part 3: Polyurethane/Polyisocyanurate [CHD 27: Thermal Insulation]
- Type-1 foam as per Table-1 of ASTM D 7425

Description

Nitof foam 45 is a two component, HFC blown, free from CFC/HCFC polyurethane based sprayable rigid foam system, closed-cell type, designed to meet insulation requirements in roof applications. Nitof foam 45 is applied seamless in-situ and is ideal for fast return to service. Nitof foam 45 should be applied through a suitable metered application machine, by specialist applicators - details on request.

Nitof foam 45 adheres to brickwork, concrete, wood, particle board, sheet metals. Nitof foam 45 is used as thermal insulation for buildings.

Nitof foam 45 should be covered with a waterproofing coating system such as Polyurea, Polyurethane & Brushbond Roofguard Topcoat.

Properties

Form:	Two component product comprising liquids base and hardener
Colour:	Straw (Part A ISO Yellow-Brown, Part B POLYOL Clear)
Mix Ratio,	1:1 by volume (base : hardener)
Gel Time, secs:	approx. 13
Foam Density, kg/m ³ ASTM D1622:	45 to 50

Application Substrate/ Ambient Temp. Range, °C	15 - 40
Specific Gravity at 20°C:	Part A ISO 1.23 Part B POLYOL 1.23
Viscosity at 20°C, cps:	Part A ISO 300 Part B POLYOL 600
Compressive strength, ASTM D-1621/94, kPa	> 400
Tensile strength, ASTM D1623/78, kPa:	>500
Adhesion to substrate, ASTM D4541, kPa:	> 180
Thermal conductivity at 25°C as per ASTM C518/91, W/m K:	≤ 0.023
Closed cell content % ASTM D2126/ASTM D2856)	> 96
Water absorption, ASTM C272	< 2.5
Water Vapour Transmission, (ASTM C518/ ASTM E96)	132
Flash Points, °C:	Part A ISO > 200 Part B POLYOL > 65
Fire resistance, DIN4102:	Class B2

Note: Results given above are derived from testing in a controlled laboratory environment. Test results from field-applied samples may vary from above - dependent on actual site conditions.

Application instructions

Processing parameters

Block Temperature	+40°C to +45°C
Hose Temperature	+40°C to +45°C
Volume ratio	1:1
Pressure	100 - 110 bar

Refer to Application section below.

Substrate condition

The substrate must be dry, free of dust, grease, oil and contaminants. A dry substrate is necessary because the foam system can react with substrate moisture, which can result in insufficient adhesion, open cellular foam system, low cross-link density and integrity of the foam.

Application

A heated volumetric proportioning machine at 1:1 volumetric output fitted with spray gun, such as those manufactured by Graco should be used for this product.

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Nitof foam 45 may be applied on firm and dry substrates such as tar, bituminized felt, concrete, particle board etc. The thickness of the individual layers of applied foam should be minimum 10 - 15 mm.

To guarantee a homogenous application, it is necessary to keep a constant operating temperature of the raw materials in the equipment, including in the hose lines– see Processing Parameters.

Accurate dispensing of the product in the correct proportion produces a reaction mixture which forms a seamless foam layer onto the substrate. Fosroc Nitof foam 45 has been formulated to ensure its immediate expansion upon hitting the substrate and to prevent a downward flow of material. Fosroc Nitof foam 45 should be applied in at least three successive layers. Each layer must have a minimum thickness of 10 -15 mm. The total minimum nominal thickness of foam is 25 mm.

Cleaning

When necessary, clean equipment with Fosroc Equipment Cleaner; ensure any mixed material is cleaned immediately after use. Cured material can only be removed mechanically.

Limitations

For use on plastic surfaces, adhesion testing should be carried out prior to application. Contact the local Fosroc office for advice.

Do not proceed with application if substrate is below 15°C or is wet, if the surface temperature is <3°C above the dew point or if precipitation is imminent. Contact Fosroc office for advice.

Atmospheric relative humidity should ideally be <70% for application. If relative humidity is > 70%, atmospheric moisture can enter the reaction mechanism and physical properties may be affected. If in doubt, contact Fosroc office for advice.

It should be noted that Nitof foam 45 will turn yellow if exposed to UV/sunlight. This will not cause any negative effect on the physical properties of the product.

Nitof foam 45 should be covered with a waterproofing coating system such as Fosroc Polyurea, Polyurethane & Brushbond Roofguard Topcoat.

Pack Quantity

Nitof foam 45 (Available in two pack size) Mixing proportion by Volume (1:1)	450 Kgs Unit (Polyol 200 Kgs + ISO 250Kgs)
	460 Kgs Unit (Polyol 210 Kgs + ISO 250Kgs)

Health and safety

Refer to appropriate Product Safety Data Sheet.

Storage

Nitof foam 45 has a shelf life of 12 months if kept in a dry, air conditioned store between +5°C and +30°C in the original unopened containers.

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Important note :

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Berger Fosroc Limited

Corporate Address:

'Berger House', House # 08, Road # 02, Sector # 03, Uttara Model Town, Dhaka 1230, Bangladesh.

telephone(Hunting) : +880248953665, fax : +880248951350,

e-mail : enquiry.bangladesh@bergerfosroc.com, website : www.bergerfosroc.com

