

# HA SAFEFOAM NF

Phthalate free, low viscosity hydrophilic polyurethane injection resin designed for moving non-structural cracks.

## Product Description

HA SAFEFOAM™ NF is a single component, phthalate free, low viscosity, hydrophilic, polyurethane resin. After curing HA SAFEFOAM NF forms an inert, flexible, close cell foam with very good tensile and adhesion properties.

## Field of Application

- For sealing moist, moving non-structural cracks as a 1-component system.
- For sealing water leaks between the joints of concrete tunnel segments.
- For curtain injections behind tunnel segments.
- For sealing moving, leaking cracks.
- Filling of honeycombs below ground water level.
- For waterproofing man and non-man accessible sewer pipes.
- For expansion joints or annular joints in combination with oil-free dry oakum or open cell foams.

## Product Advantages

- ADR free transport
- Phthalate free resin, REACH compliant
- Non-flammable
- High bond and tensile strength
- Withstands thermal movement, wet-dry cycles, freezethaw cycles and crack movement without degradation
- Good all-round chemical resistance (\*)

(\*) For chemical resistances please contact your GCP representative.

## Technical Data / Properties

PROPERTY	VALUE	NORM
HA Safefoam NF uncured		
Solids	100%	EN ISO 3251
Viscosity at 25 °C	Approx. 290 mPas	EN ISO 3219
Density at 20 °C	Approx. 1.100kg / dm <sup>3</sup>	EN ISO 2811
Flash Point (°C)	107 °C	EN ISO 2719
HA Safefoam NF cured		
Curing time 1:1 with water	Start 20 sec End 3 minutes	Test ASTM

Expansion 1:1 with water	4V	Test ASTM
Tensile strength	Approx. 11 MPa	EN ISO 527
Elongation at break	Approx. 160%	EN ISO 527

## Appearance

HA Safefoam NF: Pale yellow liquid.

## Consumption

Has to be estimated by the engineer or operator and depends on width and depth of the cracks and voids which need to be injected.

## Packaging

### HA Safefoam NF

25kg metal drum  
1 pallet: 24 drums

## Storage

HA Safefoam NF is moisture sensitive.

## Application

Before starting the injection, consult the Technical Data Sheets and Material Safety Data Sheet (MSDS) in order to be familiar with the materials at hand.

## Injection

- Drill holes of the correct diameter for the selected packer. Drill at an angle of 45°.
- Preferably the holes should be drilled staggered around the crack to insure good coverage of the crack in case it is not perpendicular to the concrete surface. The depth of the bore should be approximately half of the thickness of the concrete. As a rule of thumb the distance of the drill point from the crack is half the wall thickness.
- Distance between holes can vary by 15 to 90 cm, depending on the actual situation. • Insert the correctly sized packer into the hole up to 2/3 of its length.
- Tighten with a wrench or spanner by turning clockwise until sufficient tension has been reached to keep the packer in place during injection.
- Start the injection at the first packer. Start injecting at the lowest pressure setting of the pump. Slowly increase the pressure until the resin begins to flow. Pressures may vary from 4 bars to 200 bars depending on the size of the crack, the thickness of the concrete and the general condition of the concrete. A little leakage of resin through the concrete or crack is useful in showing the extent of resin travel. Large leaks should be plugged with rags, wait for the resin to set, then inject again.

- Stop pumping when the pure resin reaches the next packer. Move to the next packer and repeat the procedure. After injecting through a few of the packers, go back to the first one and re-inject with resin. Let the resin cure thoroughly before removing packers. The resulting holes can be filled with hydraulic cement.
- When the injection is finished, clean all tools and equipment, which have been in contact with the resin with DE NEEF® Washing Agent. This should be done immediately. Do not use solvents or other cleaning products since they give less positive results and can create hazardous situations.
- Products should be disposed off according to local legislation. Refer to MSDS for general recommendations.
- In case of spills and accidents, refer to the MSDS of the products or when in doubt contact your local Grace representative.
- Always wear appropriate protective gear for the job at hand according to local guidelines and regulations. We recommend that gloves and protective goggles should be worn when handling chemical products. See MSDS for further recommendations.

## Accessories

### To be purchased separately

- IP 1C – Manual hand pump.
- IP 1C – Compact electrical airless diaphragm pump.
- IP 1C – Pro electrical airless diaphragm pump.
- IP 2C – Gel pneumatic twin piston pump.
- Packers and connectors.

(See relevant data sheets).

## Health and Safety

HA SAFEFOAM NF is classified as harmful.

All persons in contact with the materials should wear the appropriate protective clothing and gloves. Spills should be washed immediately with abundant quantities of clean water.

For full information, consult the relevant MSDS.

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