Resfoam SS 75

Rigid, Hydrophobic Polyurethane Grout for Soil Stabilization

FOR PROFESSIONAL USE ONLY

DESCRIPTION

Resfoam® SS 75 is a low-viscosity, hydrophobic polyurethane grout used for soil stabilization in a variety of water-bearing soils. The low viscosity of *Resfoam SS 75* provides for effective penetration of the earth, adding structure and stabilization by encapsulating the granules and subsequently forming a rock-like mass. By application, *Resfoam SS 75* cures rapidly to a rigid closed cell, effectively stopping water seepage and waterproofing the soil. *Resfoam SS 75* utilizes *Resfoam HBA 75* catalyst, which provides a variable reaction time.

FEATURES AND BENEFITS

- Single-component with accelerator
- 100%-solids
- Low in viscosity to penetrate deeply into fine cracks
- Certified by the Water Quality Association (WQA) for NSF/ANSI/CAN 61 and 372 projects
- Controllable reaction times
- Effectively waterproofs rocks and soil

INDUSTRY STANDARDS AND APPROVALS

Tested and certified by WQA according to NSF/ANSI/CAN 61 and 372 when mixed with *Resfoam HBA 75* and water. For use restrictions regarding NSF/ANSI/CAN 61 and 372, visit www.wqa.org.

WHERE TO USE

Resfoam SS 75 may be used in situations where sand, loam and clay need to be stabilized. These applications may exist on the outside of tunnels, footings for bridges, in the utility shafts of dams and virtually anywhere an excavation is taking place. Specific applications include:

- Waterproofing rock that is subject to water seepage through fine cracks.
- Waterproofing permeable soil subject to seepage.
- Waterproofing concrete structures and cracked masonry subject to water seepage.
- Stabilizing and hardening sand.
  - Use to shore up excavations and perimeter areas of deep excavations.
  - Use to stabilize river and lake embankments.
  - Use to provide a stable sound earthen platform for helipads, construction areas, etc.
- Stabilizing and waterproofing soil around excavations, tunneling, wells and concrete structures.

Consult MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.

SITE PREPARATION

In many projects, the surrounding soil is stabilized by simply drilling holes through the concrete and injecting *Resfoam SS 75* at pre-determined intervals. The intervals will vary depending on the specific nature of the soil and the situation, and should be determined by experienced personnel on site. Each specific situation requires thorough evaluation, with testing and field adjustment, to determine the correct interval and method to best add structural stability to the soil.

MIXING

Before product use, take appropriate safety precautions. Refer to the Safety Data Sheet for details.

- Precondition material to 70°F to 80°F (21°C to 26°C) before use. For proper reaction times, *Resfoam SS 75* must be mixed with *Resfoam HBA 75* accelerator between 2% and 16% by weight.
- Validation of the pre-blend of *Resfoam SS 75* and *Resfoam HBA 75* is required to verify the proper mixing ratio for achieving the desired reaction times for a project. Pre-blend tests should be conducted until desired reaction times are met. Note that the pre-blend should not be pumped, but rather mixed by hand in a small container.

Pre-blend design:

- 100 parts of *Resfoam SS 75* by weight
- Appropriate ratio of *Resfoam HBA 75* by weight per Table 1 below
- 5 parts of water by weight

Pre-blend preparation:

1. Add *Resfoam HBA 75* to *Resfoam SS 75* and mix at a slow speed to a homogenous state.
2. Add the water and mix thoroughly.
3. Determine the start time as the instant that the water is added to the mix (Step 2 above).
4. Determine the cream time as the moment at which the material starts to foam.
5. Determine the tack-free time as the moment when the material is no longer tacky to the touch.

Based on pre-blend validations, mix the appropriate amount of *Resfoam HBA 75* accelerator with *Resfoam SS 75* to realize the desired gel time. Mix only enough material to be used within a reasonable amount of time.

Table 1: Ratio of *Resfoam HBA 75* to gel time at 77°F (25°C)

Ratio (by weight) of *Resfoam HBA 75* to *Resfoam SS 75*	Foam time	Tack-free time
2%	30 seconds	12 minutes
4%	20 seconds	5 minutes
8%	15 seconds	2 minutes

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. Drill holes into the soil for injection of the mixed *Resfoam SS 75* in the desired pattern and spacing interval.
2. Place injection pipes – typically 1.5" to 6" (3.8 to 15 cm) in diameter – to ensure that grout is released into the earth at the desired depth of stabilization.
3. Inject *Resfoam SS 75* using a single-component injection pump. The pressure for pumping depends on the soil condition and could vary from 250 to 2,000 psi (1 724 to 13 790 KPa). If the soil is dry, inject water first using a separate pump, which reduces the risk of material gelling within the pump and clogging pump valves and hoses.

CLEANUP

Spills of *Resfoam SS 75* should be cleaned up by absorbing the substance into an inert material and transferring it to an open-top drum. Do not seal the waste drums for 24 hours, which will allow the *Resfoam SS 75* to react completely. Dispose of waste material in accordance with state and local regulations.

After injection is complete, flush the injection equipment and all mechanical components with *Resfoam PF* pump flush agent. Clean skin with soap and water. Clean up *Resfoam PF* with water on exposed surfaces before the material hardens; once cured, mechanical removal of cured material will be required.

STORAGE

Resfoam SS 75 is moisture-activated, and opened containers of material should be used quickly to avoid moisture contamination. If a container needs to be resealed, it should be blanketed with nitrogen or dry air (at less than -40°F [-40°C] dew point) to minimize water exposure.

LIMITATIONS

- Consider use of *Resfoam HB 45* or *Resfoam HL 35* when sealing cracks in concrete structures.
- Once mixed with *Resfoam HBA 75* catalyst, *Resfoam SS 75* will react very quickly when it comes into contact with water. In the absence of water, *Resfoam SS 75* will not immediately react and will continue to penetrate the soil or cracks.
- Cool temperatures increase viscosity and will slow reaction times.
- Environments with low pH (less than 3) may have a negative impact on foaming properties. Water with a pH between 3 and 10 is required to maximize the reaction of *Resfoam SS 75*.

Product Performance Properties

Laboratory Tests	Results
Specific gravity – ASTM D891	1.12 to 1.14
Viscosity at 77°F (25°C) – ASTM D1638	275 ± 75 cps
Solids content	100%
VOC content (SCAQMD Rule 1168)	< 100 g per L
Typical VOC content per SCAQMD Rule 1168 testing methods	20 g per L
Free-rise density	1.1 +/- 0.2 lbs/ft^3
Tensile strength – ASTM D638	2,000 +/- 350
Elongation – ASTM D638	3.5 = +/- 1.0%
Shrinkage by weight	0%
Shrinkage by volume	0%
Toxicity	Nontoxic
Compression of stabilized soil	1,150 psi (7.93 MPa)

Shelf Life and Product Characteristics

before curing

***Resfoam SS 75*, shelf life**	1 year when stored in original, unopened packaging at 73°F (23°C)
***Resfoam SS 75*, color**	Pale yellow
***Resfoam HBA 75*, shelf life**	1 year when stored in original, unopened packaging at 73°F (23°C)

CSI Division Classifications

Dampproofing and Waterproofing	07 10 00
Concrete Accessories	03 15 00

Packaging

Size
Resfoam SS 75 : 5 U.S. gals. (18.9 L)
Resfoam SS 75 : 55 U.S. gals. (208 L)
Resfoam HBA 75 : 1 U.S. qt. (946 mL)

Approximate Coverage*

per 5 U.S. gals. (18.9 L)

Yield*
In a free-rise situation: 5 cu. ft. (0.14 m^3)

** Coverage shown is for estimating purposes only. Actual jobsite coverage may vary according to substrate conditions and placement techniques.*

ADDITIONAL INFORMATION

Refer to the Safety Data Sheet (SDS) for specific data related to health and safety as well as product handling.

For information on MAPEI's commitment to sustainability and transparency, as well as how MAPEI products may contribute to green building standards and certification systems, contact sustainability_USA@mapei.com (USA) or sustainability-durabilite@mapei.com (Canada).

WARNING

The test results shown in the TECHNICAL DATA table were obtained in compliance with test methods and curing cycles, if applicable, defined in the industry standards referenced on the Technical Data Sheet. Please note that the use of test procedures or methods other than those indicated in the table could lead to different values and that, in such cases, any liability of our company is excluded.

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