GENERAL COATINGS MANUFACTURING CORP.

TECHNICAL DATA SHEET
FOR PROFESSIONAL CONTRACTOR USE ONLY

PENEFIL 250-H
INJECTION CONCRETE LIFT FOAM

PENEFIL 250-H is a two-component, closed cell, water blown, rigid, slab jacking foam designed to raise and stabilize concrete slabs or asphalt roadway in residential uses. Penefil 250-H provides a workable repair solution for settling problems with most foundations, roadways, sidewalks and slabs.

Penefil 250-H has a long reaction profile that allows it time to penetrate erosion pockets and fill these void areas. Once inside the void, the foam is designed to expand uniformly and lift the foundation or slab. Penefil 250-H cures quickly and provides long lasting stability.

Penefil 250-H foams are specifically formulated with Hydrophobic chemistry for use where injection sites have damp conditions or low water tables. This unique Hydrophobic nature of Penefil 250-H allows it to fully cure in standing water conditions, to have excellent durability and high resistance to most hydrostatic conditions.

RECOMMENDED USES

- Concrete Slab Lifting and Stabilizing
- Erosion Restoration
- Filling Voids
- Compaction of Grouting Soil

PACKAGING

90-lbs pail kits: 45 lbs Side-A and 45 lbs Side-B

1000-lbs drum kits: 500 lbs Side-A and 500 lbs Side-B

TECHNICAL DATA

PHYSICAL PROPERTIES (FREE RISE @ 75°F [24°C]):	
Core Density	2.25-2.65 lb/ft^3
Compressive Strength	25-35 psi

PROCESSING GUIDE

SYSTEM PROPERTIES	
Cream Time	5-7 sec
Gel Time	14-17 sec
Tack Free Time	18-21 sec
Mix Ratio by Volume A/B	50/50
Side-A Viscosity, cps	150 - 250
Side-B Viscosity, cps	500 - 900
Specific Gravity	Side-A: 1.22 Side-B: 1.06
Reaction times can be fast or slow as needed. Shown are typical faster rise profiles.	

REQUIREMENTS

Penefil 250-H is an injection concrete lift foam system intended for installation by qualified contractors trained in the processing and application of systems, as well as the plural-component polyurethane dispensing equipment required to do so.

EQUIPMENT

Proportioning equipment shall be manufactured specifically for the application of polyurethane foam. Mixing ratio by volume is 50 parts "A" to 50 parts "B". Equipment shall be of the heated airless type, capable of maintaining 120°F to 140°F (49 to 60°C) mixed material at the spray gun. Optimum spraying temperature will vary as a function of substrate and ambient conditions. Equipment must be capable of delivering the proper ratio (1:1 by volume) of polymeric isocyanate (PMDI) and polyol blend at adequate temperatures and spray pressures. Substrate must be at least 5 degrees above dew point, with best processing results when ambient humidity is below 80%.

RECOMMENDED EQUIPMENT SETTINGS	
Varies by Work Environment:	
Static Pressure:	1000-1400 psi
Dynamic Pressure:	1000 psi minimum
Primary Heaters:	100-130°F (38 to 54°C)
Hose Heaters:	100-130°F (38 to 54°C)

APPLICATION

When applying Penefil 250-H, it is important to note the application of foam is dependent on temperature, humidity, elevation, substrate, equipment and other factors. The applicator must constantly observe the characteristics of the sprayed foam and adjust processing temperatures and pressures to obtain the correct cell structure, adhesion, cohesion and general quality of foam. When changing between different resin systems, flush adequate amount of material through the gun to clear hose lines of previous material. Application of slab-jacking foam requires specialized gun adapter parts.

JOB-SITE PROTECTION

Overspray from Penefil 250-H Foam can carry considerable distances and attention should be given to the following:

1. Post warning signs a minimum of 100 feet from the work area.
2. Cover all intake vents near the work area.
3. Minimize or exclude all personnel not directly involved with the spray application.
4. No welding, smoking or open flames.
5. Have CO_2 or other dry chemical fire extinguisher available at the job-site.
6. Provide adequate ventilation.

LARGE MASSES of SPF should be removed to an outside safe area, cut into smaller pieces and allowed to cool before discarding into any trash receptacle. SPF insulation is combustible.

As with all SPF systems improper application techniques should be avoided. Examples of improper application techniques include, but are not limited to excessive thickness of SPF, off-ratio material and spraying into or under rising SPF. Potential results of improperly installed SPF include: dangerously high reaction temperatures that may result in fire and offensive odors that may or may not dissipate. Improperly installed SPF must be removed and replaced with properly installed materials.

SHELF LIFE AND STORAGE

The shelf life of Penefil 250-H Foam is 6 months from the date of manufacture when stored in original unopened containers at temperatures between 50-75°F (10-24°C). Note: Storage for prolonged periods of time at high temperatures may alter the reactivity profile of the product. Additionally, storing the B component at increased temperatures or in direct sunlight for prolonged periods may cause a buildup of pressure in the storage vessel. Use caution in opening containers of Penefil 375. Containers should be opened slowly to allow the release of any pressure buildup. Material temperature should be confirmed with a thermometer or an infrared gun.

FREIGHT CLASSIFICATION

Liquid Plastic Material - NOIBN

HEATH AND SAFETY

A Safety Data Sheet (SDS) has been prepared on the Penefil 250-H Foam. All personnel who will come in contact with the product should read and understand the SDS.

In addition to reading and understanding the SDS, all contractors and applicators must use appropriate respiratory, skin and eye Personal Protective Equipment (PPE) when handling and processing polyurethane chemical systems.

Spray Polyurethane Foam Alliance (SPFA®): AX-171 Course 101-R Chapter 1: Health, Safety and Environmental Aspects of Spray Polyurethane Foam and Coverings. www.Sprayfoam.org

The Center for the Polyurethanes Industries (CPI): Model Respiratory Protection Program for Compliance with the Occupational Safety and Respiratory Protection Program Standard 29 CFR§1910134. www.spraypolyurethane.org

PERSONAL PROTECTIVE EQUIPMENT

Penefil 250-H Foam requires personal protective equipment, such as, approved vapor cartridge respirator, safety glasses, gloves and protective clothing. Spray Foam (A-Side) contains polymeric MDI isocyanate, which is a vapor inhalation and skin hazard. See Safety Data Sheet for best practices and health risks.

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VAPOR INHALATION
The best form of protection against organic solvents or potentially sensitizing vapors in the workplace is a fresh air supply. In well-ventilated roofing application conditions, the use of Type C organic vapor cartridge respirators is acceptable. For poorly ventilated conditions, full face masks or NIOSH/MSHA approved fresh air systems are recommended, like 3M and MSA.

Effects of overexposure to vapor are characterized by nasal and respiratory irritation, dizziness, nausea, headache, fatigue, possible unconsciousness or even asphyxiation. Vapor inhalation problems are characterized by coughing, shortening of breath and tightness in the chest. Anyone exhibiting these types of symptoms should be immediately removed from the workplace and administered oxygen or fresh air. If the condition is prolonged or extreme, SUMMON EMERGENCY TRAINED MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT
To prevent excessive skin contact with the sprayed product, we recommend use of fabric coveralls and neoprene or other resistant gloves. Skin contact with liquid components can result in a rash or other irritation. Wash the affected skin area with soap and water. Wipe residual liquid from the skin with a clean cloth, then wipe the affected area with 30% solution of rubbing alcohol. Follow the alcohol wipe with repeated washings with soap and water. If a rash or other irritation develops, see a physician.

EYE CONTACT
Wear a full-face mask or OSHA-approved protective goggles. Eye Contact with liquid or sprayed components can result in corneal burns or abrasions. Upon exposure, eyes should be flushed with water for an extensive period. Summon Emergency Trained Medical Attention Immediately.

TECHNICAL SERVICES
Additional information, such as brochures, technical assistance, roof energy evaluations, life cycle cost analysis, and other roof management services are also available from a General Coatings Manufacturing Corp. Technical Consultant.

CAUTION
This roofing insulation product is combustible under many fire conditions and is an exterior grade spray foam. Not intended or fire classified for interior use.