



PRODUCT APPLICATION GUIDE

Additional product information can be found on the Huntsman Building Solutions website at www.huntsmanbuildingsolutions.com. Refer to the following documents plus this Product Application Guide to establish processing parameters for varying substrate and climatic conditions:

- Center for Polyurethane Industries, Guidance on Best Practices for the Installation of Spray Polyurethane Foam
- Geolift Technical Data Sheet
- Geolift B-side SDS
- A-PMDI SDS

GENERAL PROCESSING GUIDELINE

Geolift requires heat from the proportioner to complete the chemical reactions necessary to create foam meeting the specifications on the Technical Data Sheet. Fully functional primary heaters and hose heat are needed to process Geolift. Please consult the Huntsman Building Solutions Technical Service Department for further assistance.

CHEMICAL CONDITIONING

The chemical drums should be stored and maintained between 50°F (10°C) and 85°F (29°C) before processing at the job site. If the drums are bulged due to excessive heat, do not open the drums. Cool the drums for approximately 24 – 48 hours to allow the reacted blowing agent to return to a liquid state. Other means of cooling the drums on site may be necessary. Contact the Huntsman Building Solutions Technical Service Department for more information.

SUBSTRATE PREPARATION

Geolift is designed to be applied directly to the soil under the concrete slab. Therefore, the only significant substrate preparation that is needed is what we do to the concrete. Locate the area on the slab you desire to raise and use a hammer drill equipped with 5/8" diameter by 2 ft. long bits to drill holes in the concrete. The holes should not be less than 6" from the edge of the slab. When drilling the holes ensure that the bit punches through the concrete and has burrowed in the soil below the slab to its full length. This action is part of the technique needed in the concrete lifting concept. A specially designed adapter is then secured in the 5/8" hole with the use of a hammer. A leveling device such as a Zip level or a predetermined mark is used to ensure the concrete is lifted to its desired position. The gun is then affixed to the adapter and the Geolift is injected in the ground in short bursts while the leveling device is being monitored, as the concrete is lifting.

APPLICATION PARAMETERS

EQUIPMENT – Follow the spray equipment manufacturer's safe operation guidelines. Every spray unit is slightly different and you will need to adjust your primary heater and hose temperatures accordingly for each polyurethane foam system. Adjust your processing pressures and application technique for an appropriate spray pattern for the substrate and structure.

PROPORTIONER – Use only fixed ratio (one-to-one), volumetric positive displacement pumps connected to a common drive.

TRANSFER PUMPS – Use 2:1 or 1:1 double acting transfer pumps assuring equal pressure is delivered from both sides to the proportioner. Diaphragm pumps, wall mounted, or drum mounted pumps should not be used to process 2 lb foams containing the blowing agent 245fa. Contact the Huntsman Building Solutions Technical Service Department for recommendations.

PRIMARY HEATERS – The primary heaters should be resistance controlled, direct contact heating rods, either submersible, mass block and tube style or combination of direct heating contact rods and mass block (hybrid heater). The primary heaters should be controlled through independent controllers, separated from the hose heat to ensure an accurate setpoint temperature. B-803 may not be consistently sprayed in conformance with the written specification if the combination of the proportioner's pumping capacity, the primary heat capability and spray gun discharge rate (mixing chamber size) is out of balance. Contact the Huntsman Building Solutions Technical Service Department for further guidance.

HEATED HOSE – Huntsman Building Solutions recommends the use of heated spray hoses rated at ≥ 2000 psi. Use moisture resistant hoses specifically designed for isocyanate. The heated spray hose should be able to maintain temperatures up to 190°F (88°C) and should be heated using an electrical element with an independent temperature sensor. The heated hose should also be adjusted and monitored separately from the A and B primary heaters, and should be capable of maintaining the temperature from the A and B primary heaters all the way to the spray gun.

FLUSHING/CHANGING FROM ANOTHER CHEMICAL TO GEOLIFT

Follow the published flushing procedure on the Huntsman Building Solutions website. Never flush water through the A-side (iso side). Failure to properly flush will result in off-spec foam and does not comply with the manufacturer's specifications and does not qualify for the Huntsman Building Solutions Limited Lifetime Warranty.

FOAM APPLICATION

In preparation for spraying, an off-target test spray should be performed to verify the processing pressure, primary heater and hose temperature settings. The "initial setpoint temperatures" listed below and on the Technical Data Sheet are suggested general starting parameters; it's important to observe the foam and the reaction time of the reacting mass and make additional adjustments throughout the day as needed to maintain proper cell structure, adhesion, cohesion and general foam quality.

RECOMMENDED PROCESSING CONDITIONS*		
Initial Primary Heater Setpoint Temperature	100 – 110°F	38 – 43°C
Initial Hose Heat Setpoint Temperature	100 – 110°F	38 – 43°C
Initial Processing Setpoint Pressure	700 psi	4827 kPa
Substrate & Ambient Temperature	> 32°F	> 0°C

COLD WEATHER PROCESSING

The minimum substrate and ambient temperature for Geolift is 50°F (10°C). Low temperatures affect the foaming process in two ways.

1. Chemical reactions can be slowed due to reduced exothermic energy within the expanding mass, which could lead to poor cell structure, dripping and voids from slow plastic formation
2. This reduced temperature often leads to reduced yield.

The temperature and type of substrate has a greater influence on the quality of the foam than the temperature of the air because the rate of heat transfer from liquid to air is much slower than the rate from liquid to substrate. If the substrate temperature is too low, or the soil is frozen, the heat produced by the chemical reaction may be drawn into the substrate so rapidly that plastic formation and cell generation becomes very slow, thus reducing yield.

CHEMICAL STORAGE

Geolift B-side resin is packaged in totes or closed-head metal drums. A-PMDI is packaged in totes or closed-head metal drums. Store the B-side resin at temperatures between 50°F (10°C) and 85°F (29°C). Store the A-side isocyanate at temperatures between 50°F (10°C) and 100°F (38°C). Keep away from direct sunlight. Remove the transfer pump and tightly close the bungs of the A-PMDI and B-side drum after use. Geolift B-side resin has a 6 month shelf life when stored within the acceptable storage temperatures and the drum is in its original condition with the bungs having never been removed. See Geolift B-side SDS for additional product information.

FOR MORE INFORMATION

Visit www.huntsmanbuildingsolutions.com or call 817-640-4900 for more information on health, safety and environmental protection with respect to polyurethane chemicals.

Disclaimer: The information herein is to assist customers in determining whether our products are suitable for their applications. We request that customers inspect and test our products before use and satisfy themselves as to contents and suitability. Nothing herein shall constitute a warranty, expressed or implied, including any warranty of merchantability or fitness, nor is protection from any law or patent inferred. All patent rights are reserved. The foam product is combustible and must be protected in accordance with applicable codes. Protect from direct flame and spark contact, around hot work for example. The exclusive remedy for all proven claims is replacement of our materials.