



Staycell ONE STEP™ 255 APPLICATION GUIDE

General Information

Staycell ONE STEP™ 255 is a spray polyurethane foam system intended for installation by qualified contractors trained in the processing and application of closed cell, rigid polyurethane foam systems as well as plural-component dispensing equipment. Contractors and applicators must be certified in writing by Preferred Solutions, Inc. and must comply with all applicable storage, handling, processing and safety guidelines. Preferred Solutions, Inc. should be consulted in all cases where the application conditions or materials are questionable.

Cautions & Recommendations

Staycell ONE STEP™ 255 is not designed for use as an exterior roofing system. Coolers & freezers demand special design considerations with regard to thermal insulation and moisture-vapor drive. Applicators must contact Preferred Solutions, Inc. prior to any application in cold-storage structures.

Improperly installed foam plastic insulation materials in walls or ceilings may present a fire hazard. Contact Preferred Solutions, Inc. for approved Staycell ONE STEP™ 255 configurations and assemblies prior to application.

In addition to reading and understanding the MSDS & Technical Data Sheets, all applicators must use appropriate respiratory, skin and eye Personal Protective Equipment (PPE) when handling and processing **Staycell ONE STEP™ 255**. Personnel should review the following document published by the Spray Polyurethane Foam Alliance (SPFA):

AX-171 Course 101-R Chapter 1: Health, Safety and Environmental Aspects of Spray Polyurethane Foam and Coverings

and the following document available from the Center for the Polyurethanes Industries (CPI):

Model Respiratory Protection Program for Compliance with the Occupational Safety and Health Administration's Respiratory Protection Program Standard 29 C.F.R. § 1910.134.

Caution: Exercise caution when opening containers as material may build elevated headspace pressure during transportation and storage.

Environmental & Substrate Conditions

Applicators must recognize and anticipate climatic conditions prior to application to ensure highest quality foam and to maximize yield. Ambient air and substrate temperatures and moisture are critical determinants of foam quality. Extreme ambient air and substrate temperature will influence the chemical reaction of the two components, directly affecting the yield, adhesion and the resultant physical properties of the foam insulation.

To obtain optimum results, **Staycell ONE STEP™ 255** should be spray-applied to substrates when ambient air and surface temperatures are between 70°F and 120°F. All substrates to be sprayed must be free of dirt, soil, grease, oil and moisture prior to application. Application should not take place when the ambient temperature is within 5°F of the dew point. Excessive wind velocities may result in loss of exotherm and interfere with the mixing efficiency of the spray gun affecting foam surface texture, cure, physical properties and will cause overspray. Precautions must be taken to prevent damage to adjacent

areas from overspray. Various substrates such as wood, concrete & concrete block and painted & galvanized surfaces may require primers and/or additional surface preparation techniques.

Caution: in freezing conditions, when adding heat to the spray area, it may be required to maintain an elevated temperature during the foam cure cycle so extreme temperature drops to the “green “ foam are not experienced, which could cause shrinking or cracking.

PSI should be consulted in all cases where application conditions are marginal.

Equipment

The proportioning equipment shall be manufactured specifically for heating, mixing and spray application of polyurethane foam and be able to maintain 1:1 metering by volume with $\pm 2\%$ variance. All proportioners shall have adequate main heating capacity to deliver heated and pressurized materials up to 140° F. Heated hose shall be able to maintain pre-set temperatures for the full length of the hose. 2:1 ratio feeder pumps and ¾ inch supply hoses are recommended to transfer material from container to the proportioner.

Recommended equipment:

- Graco Reactor proportioners or equivalent set at 1:1 volume ratio.
- Graco P2 or Fusion air-purge spray gun with #2 mixing chamber.
- Graco T2 2:1 transfer pumps or equivalent.
- Spraying Systems fluid strainers, Model #8310A – ½, 10 mesh screens.
- IPM DM -101 air-driven drum agitators.

Processing Information

Staycell ONE STEP™ 255 resin & isocyanate (“A” and “B” components) require continuous agitation. Mechanical mixing for a minimum of 15 minutes is recommended prior to spraying. Mixing must continue during application. Proper mixing will create a vortex and may be accomplished with a variety of equipment configurations, motors, mixers and blade types. Insufficient agitation may compromise the quality of the foam due to improper mixing. Material in containers should be maintained at 70°F to 90°F while in use. Heated trailers, hotboxes, or other temperature controlled areas may be necessary. Material temperature should be confirmed with a thermometer or an infrared gun.

Do not recirculate or mix other suppliers' "A" or "B" components into Staycell ONE STEP™ 255 containers.

Pre-heaters and hose heaters should be set to deliver 130°F - 140°F materials to the spray gun. Proportioner dynamic pressures should be 1,300-1,500 psi range. These settings will ensure thorough mix in the spray gun mixing chamber in typical applications. Optimum hose pressure and temperature may vary as a function of the type of equipment, ambient and substrate conditions, and the specific application. It is the responsibility of the applicator to properly interpret equipment technical literature, particularly information that relates to acceptable combinations of gun chamber size, proportioner output, and material pressures. The relationship between proper chamber size and the capacity of the proportioner's pre-heater is critical.

Staycell ONE STEP™ 255 is designed for an application rate of ½ inch to 2 inches per pass. Masonry and wood surfaces may require an initial ¼” flash pass. Once installed material has cooled it is possible to add additional material in order or increase the overall desired thickness. It is recommended that the design thickness be completed each day rather than partial application thickness.

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.

On a daily basis remove all debris and shavings from the jobsite leaving a clean work area.

Storage of Raw Materials

Handling & Storage

Keep containers tightly sealed and stored at 50° to 75°F for maximum shelf life. Storage temperatures must not exceed 85°F. Do not store in direct sunlight. Open the container slowly to allow any pressure to be released before removing the bung. Keep drums tightly sealed when not in use to avoid contamination. Water, solvents or oil in the liquid components will degrade foam quality. Protect from heat, sparks and open flame. Do not cut or weld near this container. Do not smoke near container. Do not store near food or feed.

Shelf Life

Staycell ONE STEP™ 255 is stable for two (2) months when stored in tightly sealed drums at 50° to 75°F.

Limited Warranty Information

The information herein is to assist customers in determining whether our products are suitable for their applications. Our products are only intended for sale to industrial and commercial customers. Customer assumes full responsibility for quality control, testing and determination of suitability of products for its intended application or use. We warrant that our products will meet our written liquid component specifications. We make no other warranty of any kind, either express or implied, by fact or law, including any warranty of merchantability or fitness for a particular purpose. Our total liability and customers' exclusive remedy for all proven claims is replacement of nonconforming product and in no event shall we be liable for any other damages.

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