PREFERRED SOLUTIONS, INC.

STAYCELL® 245-2.0 APPLICATION GUIDE

General Information

Staycell® 245-2.0 is a spray polyurethane foam system intended for installation by qualified contractors trained in the processing and application of closed cell, rigid polyurethane 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® 245-2.0 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® 245-2.0 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® 245-2.0.** 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® 245-2.0** should be spray-applied to substrates when ambient air and surface temperatures are between 70ºF and 120ºF. 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 5ºF 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.

Staycell® 245-2.0 is formulated in two different reactivity profiles to meet varying substrate temperatures. It may be required to provide supplemental heating when temperatures reach 40º F or below.

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 Technical Personnel 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 with ± 2% variance. All proportioners shall have adequate main heating capacity to deliver heated and pressurized materials up to 130º F. Heated hose shall be able to maintain pre-set temperatures for the full length of the hose. Minimum 2:1 ratio feeder pumps are recommended to supply stored materials through 3/4" inch supply hoses.

Recommended equipment (contact PSI for more details):

- Graco Reactor proportioners or equivalent set at 1:1 volume ratio.
- Graco P2 or Graco Fusion spray gun.
- Graco T2 2:1 transfer pumps or equivalent.

Processing Information

Material in containers should be maintained at 70ºF to 90ºF 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® 245-2.0 containers.

Pre-heaters and hose heaters should be set to deliver 110ºF - 130ºF materials to the spray gun. Proportioner dynamic pressures should be 1,100-1,200 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® 245-2.0 is designed for an application rate of ½ inch to 2 inches per 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.

Application of Thermal Barrier

Polyurethane foam produced from these materials may present a fire hazard if exposed to fire or excessive heat (i.e. cutting torches). The use of exposed polyurethane foam in interior applications on walls or ceilings may present an unreasonable fire risk unless covered with a thermal barrier material having 15 minutes of fire resistance when tested in accordance with the ASTM E-119 test method or when tested in accordance with full-scale fire tests such as, but not limited to, UL 1715, UL 1040, NFPA 286 or FM 4880 test standards.

Notify any personnel or building trades working in the area that no welding or hot work is allowed until the Staycell® 245-2.0 polyurethane foam and application of the thermal barrier is complete.

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® 245-2.0 is stable for six (6) months when stored in tightly sealed drums at 50° to 75°F.

7819 Broadview Road • Cleveland, OH 44131 • Toll Free 800-522-4522
Phone 216-642-1200 • Fax 216-642-1166 • Web Site: http://www.stayflex.com