



## TECHNICAL DATA SHEET

### Staycell® 275-1.8 HYBRID Spray Foam Insulation System

The Staycell® 275-1.8 HYBRID Spray Foam Insulation System is comprised of two separate layers of closed-cell spray polyurethane foam insulation (Staycell® 275-1.8 covered with Staycell ONE STEP® 255) and is used insulate roof decks, ceilings, walls, siding, structural steel or tanks and provides an integral air barrier / insulation / vapor retarder for building envelope assemblies.

This system has Class A/Class 1 flame spread and smoke developed ratings and passes the UL 1715 large-scale, room fire test when installed exposed without thermal barriers, ignition barriers or other fire protective surfaces. Install in accordance with QAI Listing/Evaluation/Classification Report No. B1020-3.

**Benefits:**

- Superior insulation performance compared to fiberglass or cellulose
- Controls air and moisture infiltration
- Strengthens roofs and walls
- Environmentally friendly. Utilizes EPA approved, zero-ozone depleting blowing agents

**Products in the Staycell® 275-1.8 HYBRID Spray Foam Insulation System**

Base Layer - Staycell® 275-1.8 Spray Polyurethane Foam Insulation

TYPICAL PHYSICAL PROPERTIES		
	ASTM Method	
Nominal Density	D 1622	1.8 pcf
Compressive Strength	D 1621	25 psi
Tensile Strength	D 1623	55-65 psi
Closed Cell Content	D 1940	93%
Aged R-Value @ 1.0 inch	C 518	6.5
Water Vapor Permeance (perms) @ 1.0 inch	E 96	0.97
Air Permeance @ 1.0 inch	E 283	.0036 L/s/m <sup>2</sup>

Exposed Surface Layer - Staycell ONE STEP® 255 Spray Polyurethane Foam Insulation

TYPICAL PHYSICAL PROPERTIES		
	ASTM Method	
Nominal Density	D 1622	2.0 pcf
Compressive Strength	D 1621	22 psi
Tensile Strength	D 1623	28 psi
Closed Cell Content	D 6226	90%
Aged R-Value @ 1.0 inch	C 518	4.6
Water Vapor Permeance (perms) @ 2.4 inches	E 96	.99
Air Permeance @ 1.25 inches	E 283	.0014 CFM/ft <sup>2</sup>

**Building Code Compliance**

The Staycell® 275-1.8 HYBRID System is listed, labeled and certified by Quality Auditing Institute ([www.qai.org](http://www.qai.org)) indicating compliance with the following fire performance requirements of the 2003, 2006, 2009 and 2012 editions of the International Building Code (IBC) and the International Residential Code (IRC) for foam plastic insulation when

installed exposed in occupied and unoccupied locations without thermal barriers, ignition barriers or other fire protective surfaces in accordance with QAI Listing/Evaluation/Classification Report No. B1020-3:

1. Flame spread and smoke developed ratings per ASTM E-84: **Class A/Class 1**
2. Performance in accordance with code-prescribed, UL 1715 large-scale, room fire test: **Pass**

The Staycell® 275-1.8 HYBRID System was tested separately for installation exposed on **either** walls only **or** the underside of ceilings/roofs only. As a result, it must not be installed exposed in the combined wall and ceiling/roof configuration. Please contact Preferred Solutions, Inc. for specific information or questions regarding Staycell® 275-1.8 HYBRID System fire test data (including tested wall/roof joint applications), approvals and certifications.

**Quality Auditing Institute label attached to all product containers indicating fire performance and ratings**



**Listing/Evaluation/Classification Report No. B1020-3**

**Staycell® 275-1.8 HYBRID Spray Foam Insulation System**

**Fire performance in accordance with ASTM E-84\*:**

**Staycell® 275-1.8 spray foam insulation (base layer):**

Tested thickness: 4 inches Flame spread index: 20 Smoke developed index: 450

**Staycell ONE STEP® 255 spray foam insulation (exposed surface layer):**

Tested thickness: 4 inches Flame spread index: 25 Smoke developed index: 400

**Fire performance when installed exposed; no thermal barrier or ignition barrier required based on compliance with UL1715 large-scale, room fire test\*:**

**Exposed applications on walls only:**

Staycell® 275-1.8 (base layer) installed at nominal 4 inch or less thickness covered with nominal 1 inch thick Staycell ONE STEP® 255 as the exposed surface layer.

**Exposed applications on the underside of roofs and ceilings only:**

Staycell® 275-1.8 (base layer) installed at nominal 8-inch or less thickness covered with nominal ½ inch thick Staycell ONE STEP® 255 as the exposed surface layer.

\*These fire ratings are not intended to reflect the hazards of these products under all actual fire conditions. Contact the Authority Having Jurisdiction (AHJ) for additional or specific building code requirements prior to beginning any project.

QAI is accredited by International Accreditation Services, Inc. of the International Code Council for fire testing, quality control inspections of manufacturing facilities and certification of listed and labeled products in accordance with IAS Registration Nos. AA-723, TL-220 and PCA-119.

**Application and Equipment Information**

For detailed technical and application information and instructions, please refer to the technical data sheets and installation guides for the Staycell® 275-1.8 and Staycell ONE STEP® 255 products.

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 ± 2% variance. All proportioners shall have adequate main heating capacity to deliver heated and pressurized materials up to 130° 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 (contact PSI for more details):

- Graco Reactor proportioners or equivalent set at 1:1 volume ratio. Contact PSI for specific models.
- Graco GAP or Fusion AP spray gun with #2 mixing chamber
- Graco T2 2:1 transfer pumps or equivalent

### **Handling and Storage**

All products should be stored in their original containers and away from excessive heat and moisture, especially after the seals have been broken or some materials have been used. Drums should be stored indoors and maintained between 50°-75°F. Containers should be opened carefully to allow any pressure buildup to be vented safely while wearing full safety protection. Excessive venting of Part B components may result in higher density foam and reduced yield. Materials stored at temperatures below 50°F will increase viscosity and some application equipment may not reach adequate spray temperature set points. Supply pumps and hoses must be sized to provide adequate supply when materials are cold and at a higher viscosity.

### **Shelf Life**

Staycell® 275-1.8 and Staycell ONE STEP® 255 have a shelf life of six (6) months from the date of manufacture when stored in original, unopened containers between 50° to 75°F. As with all industrial chemicals, these products should be stored in a covered, secure location and never in sunlight or direct sources of heat. Shelf life may decrease if storage is above or below these temperatures. Higher temperatures may also result in elevated headspace pressure within containers.

### **Limited Warranty Information**

The technical and application information herein is based on the present state of our best scientific and practical knowledge and is provided to users to help determine suitability of our products for specific applications. Our products are intended only for sale to PSI Authorized Applicators. Customers of our products assume full responsibility for quality control, testing and determination of suitability of products for their intended application or use, including compliance with applicable building regulations. We warrant that our products 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 to receive replacement of non-conforming products and in no event shall PSI be liable for incidental, consequential or any other damages. PSI's technical literature and installation guides are updated on a regular basis; it is the user's responsibility to obtain and to comply with the most recent versions. Information contained in data sheets and installation guides may change without notice.

Revised 07/14/14

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