



TECHNICAL DATA SHEET

Staycell[®] 302 / Staycell ONE STEP[®] 255 Intumescent Spray Foam Insulation System (HYBRID System)

The HYBRID System consists of two separate layers of closed-cell foam: Staycell[®] 302 spray polyurethane foam as the base layer covered with Staycell ONE STEP[®] 255 intumescent spray polyurethane foam as the exposed surface layer. It is used to insulate building components such as roof decks, ceilings, walls, siding, structural steel and tanks to provide an integral air barrier / insulation / vapor retarder for building envelope assemblies.

The system has Class A/Class 1 flame spread and smoke developed ratings and qualifies as an Alternative Thermal Barrier Assembly when installed exposed without thermal barriers, ignition barriers or other fire protective surfaces in accordance with QAI Evaluation Report No. B1020-1, Edition 6.

Benefits:

- Major savings in materials and installed costs
- Fast installation and reduced labor
- Controls air and moisture infiltration
- Environmentally friendly. Utilizes EPA approved, zero ozone-depleting blowing agents

Products

Base Layer – Staycell[®] 302 Spray Polyurethane Foam Insulation

TYPICAL PHYSICAL PROPERTIES		
	ASTM Method	
Nominal Density	D 1622	2.0 pcf
Compressive Strength	D 1621	41 psi
Tensile Strength	D 1623	58 psi
Closed Cell Content	D 1940	>96%
Aged R-Value	C 518	7.0 per inch
Water Vapor Permeance (perms) @ 1.5 inch	E 96	0.92
Air Leakage @ 1.0 inch	E 283	0.0010 cfm/ft ²

Exposed Surface Layer - Staycell ONE STEP[®] 255 Intumescent 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	C 518	4.6 per inch
Water Vapor Permeance (perms) @ 2.4 inches	E 96	.99
Air Leakage @ 1.25 inches	E 283	0.0014 cfm/ft ²

Building Code Compliance

As shown below, the HYBRID System is listed, labeled and certified by QAI Laboratories (www.qai.org/listing-directory) indicating Class A/Class 1 flame spread and smoke developed ratings per ASTM E-84 as required by the 2003, 2006, 2009, 2012 and 2015 editions of the International Building Code (IBC) and International Residential Code (IRC) and qualifies as an Alternative Thermal Barrier Assembly when installed exposed without thermal barriers, ignition barriers or other fire protective surfaces in accordance with QAI Evaluation Report No. B1020-1, Edition 6.

Fire testing of the exposed Staycell® 302/Staycell ONE STEP® 255 HYBRID System was conducted separately for installation on either walls only or the underside of ceilings/roofs only. THE HYBRID SYSTEM IS NOT TO BE INSTALLED EXPOSED ON ENTIRE WALLS AND ENTIRE ROOF/CEILINGS WHEN ADJACENT TO EACH OTHER. Contact PSI for tested wall/roof transitions for air sealing applications.



Evaluation Report No. B1020-1, Edition 6

Staycell® 302 / Staycell ONE STEP® 255 HYBRID Spray Foam Insulation System

Fire performance in accordance with ASTM E-84*:

Staycell® 302 spray foam insulation (base layer):

Tested thickness: 4 inches Flame spread index: <25 Smoke developed index: <450

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

Tested thickness: 4 inches Flame spread index: <25 Smoke developed index: <450

Alternative Thermal Barrier Assembly 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 302® base layer installed at nominal 3 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 302® 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 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 both 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 \pm 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

Both products have a maximum 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 these products for specific applications. Customers of these 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 the liquid components in these products comply with PSI's written 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.

Last revision: 11/16/17

**7819 Broadview Road, Cleveland, OH 44131 • 800-522-4522
Phone: 216-642-1200 • Fax: 216-642-1166 • www.stayflex.com**