## Securock® ExoAir® 430 Panel and System Test Methods

### AATCC 127 – STANDARD TEST METHOD FOR WATER RESISTANCE, HYDROSTATIC PRESSURE

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Determine resistance of the 430 panel to the penetration of water under hydrostatic pressure.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirement</td>
<td>Minimum of 22” (55 cm) for five hours</td>
</tr>
<tr>
<td>Third-Party Classification &amp; Listing</td>
<td>PEI</td>
</tr>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td></td>
</tr>
</tbody>
</table>

### ASTM C297 – STANDARD TEST METHOD FOR FLATWISE TENSILE BOND STRENGTH OF SANDWICH CONSTRUCTION

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Determine the adhesive and cohesive strength of the composite assembly.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirement</td>
<td>15 psi min.</td>
</tr>
<tr>
<td>Third-Party Classification &amp; Listing</td>
<td>PEI</td>
</tr>
<tr>
<td><img src="image2.png" alt="Image" /></td>
<td></td>
</tr>
</tbody>
</table>

### ASTM C473 – STANDARD TEST METHODS FOR PHYSICAL TESTING OF GYPSUM PANEL PRODUCTS

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Specify the minimum performance requirements for glass-mat sheathing (Flexural Strength, Nail Pull, Edge Hardness, Water Absorption &amp; Dimension Tolerances).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirement</td>
<td>140 psi min. (length), 100 psi min. (width)</td>
</tr>
<tr>
<td>Third-Party Classification &amp; Listing</td>
<td>UL &amp; PEI</td>
</tr>
<tr>
<td><img src="image3.png" alt="Image" /></td>
<td></td>
</tr>
</tbody>
</table>

### ASTM C518 – STANDARD TEST METHOD FOR STEADY-STATE THERMAL TRANSMISSION PROPERTIES BY MEANS OF THE HEAT FLOW METER APPARATUS

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Measures the thermal conductivity (thermal resistance) of building materials.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirement</td>
<td>Provide thermal resistance value, ( R ) (°F ft.²/BTU)</td>
</tr>
<tr>
<td>Third-Party Classification &amp; Listing</td>
<td>None</td>
</tr>
<tr>
<td><img src="image4.png" alt="Image" /></td>
<td></td>
</tr>
</tbody>
</table>
### ASTM C719 – STANDARD TEST METHOD FOR ADHESION AND COHESION OF ELASTOMERIC JOINT SEALANTS UNDER CYCLIC MOVEMENT (HOCKMAN CYCLE)

**Purpose**
Determine movement capability of Dymonic® 100 and Spectrem® 1.

**Requirement**
Typical movement capabilities range from +/- 25% to +100/-50%.

**Third-Party Classification & Listing**
SWRI & PRI

[astm.org/Standards/C719.htm](http://astm.org/Standards/C719.htm)

### ASTM C1305 – STANDARD TEST METHOD FOR CRACK BRIDGING ABILITY OF LIQUID-APPLIED WATERPROOFING MEMBRANE

**Purpose**
To determine a waterproofing membrane’s ability to maintain its integrity while bridging a preexisting crack in the substrate at low ambient temperatures, when the membrane is least likely to be flexible.

**Requirement**
Pass – Test five specimens. No cracking, splitting or pinholes in the area of the joint following 10 temperature and movement cycles.

**Third-Party Classification & Listing**
None

[astm.org/Standards/C1305.htm](http://astm.org/Standards/C1305.htm)

### ASTM D412 – STANDARD TEST METHODS FOR VULCANIZED RUBBER AND THERMOPLASTIC ELASTOMERS – TENSION

**Purpose**
To determine if the 430 system’s sealants exhibit adequate elastic properties to accommodate building movement.

**Requirement**
Typical minimum requirement of membranes is 200%

**Third-Party Classification & Listing**
PEI

[astm.org/Standards/D412.htm](http://astm.org/Standards/D412.htm)

### ASTM D1970 – STANDARD SPECIFICATION FOR SELF-ADHERING POLYMER MODIFIED BITUMINOUS SHEET MATERIALS USED AS STEEP ROOFING UNDERLAYMENT FOR ICE DAM PROTECTION

**Purpose**
To determine the waterproof integrity of the 430 system’s water-resistant barrier membrane with respect to self-sealability around a nail penetration subjected to a 5 in. head of water.

**Requirement**
No water passes through the specimen

**Third-Party Classification & Listing**
PEI

### ASTM D3273 – STANDARD TEST METHOD FOR RESISTANCE TO GROWTH OF MOLD ON THE SURFACE OF INTERIOR COATINGS IN AN ENVIRONMENTAL CHAMBER

**Purpose**

To determine if the 430 base panel is resistant to mold growth using a 0 to 10 rating scale.

**Requirement**

10 rating, no mold growth

**Third-Party Classification & Listing**

MicroStar Lab tests, PEI lists

[astm.org/Standards/D3273.htm](http://astm.org/Standards/D3273.htm)

### ASTM D3330 – STANDARD TEST METHOD FOR PEEL ADHESION OF PRESSURE-SENSITIVE TAPE

**Purpose**

To determine if the 430 system's sealants bond sufficiently to the 430 membrane when peeled at 90° angle.

**Requirement**

1.0 lbf/in. (pli) min.

**Third-Party Classification & Listing**

PEI

[astm.org/Standards/D3330.htm](http://astm.org/Standards/D3330.htm)

### ASTM D4541 – STANDARD TEST METHOD FOR PULL-OFF STRENGTH OF COATINGS USING PORTABLE ADHESION TESTERS

**Purpose**

To determine the pull-off strength of the 430 coating to the base panel.

**Requirement**

16 psi min.

**Third-Party Classification & Listing**

PEI

[astm.org/Standards/D4541.htm](http://astm.org/Standards/D4541.htm)

### ASTM E84 – STANDARD TEST METHOD FOR SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS

**Purpose**

To determine the surface-burning characteristics of Securock® ExoAir® 430 panels.

**Requirement**

Flame spread index less than 25, smoke developed index less than 450

**Third-Party Classification & Listing**

UL

[astm.org/Standards/E84.htm](http://astm.org/Standards/E84.htm)
**ASTM E96 – STANDARD TEST METHODS FOR WATER VAPOR TRANSMISSION OF MATERIALS**

**Purpose**
Determine the water vapor permeance of the 430 system, a measure of the ability of water vapor in air to pass through the 430 panel by diffusion.

**Requirement**
Permeance must be declared at installed thickness for both the water and the dessicant methods.

**Third-Party Classification & Listing**
PEI

[astm.org/Standards/E96.htm](http://astm.org/Standards/E96.htm)

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**ASTM E119 – STANDARD TEST METHOD FOR FIRE TESTS OF BUILDING CONSTRUCTION AND MATERIALS**

**Purpose**
Fire-resistance test used to establish the Type X designation of the 430 panel and to develop USG’s portfolio of fire-resistance wall designs.

**Requirement**
Fire-resistance ratings can be found in the UL Online Certifications Directory ([ul.com](http://ul.com)) listed on the UL Classification Card for File R1319 (CKNX) Type USGX.

**Third-Party Classification & Listing**
UL

[astm.org/Standards/E119.htm](http://astm.org/Standards/E119.htm)

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**ASTM E136 – STANDARD TEST METHOD OF BEHAVIOR OF MATERIALS IN A VERTICAL TUBE FURNACE AT 750˚C**

**Purpose**
Determine the combustion characteristics of the 430 base panel.

**Requirement**
Noncombustible gypsum core

**Third-Party Classification & Listing**
UL

[astm.org/Standards/E136.htm](http://astm.org/Standards/E136.htm)

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**ASTM E331 – STANDARD TEST METHOD FOR WATER PENETRATION OF EXTERIOR WINDOWS, SKYLIGHT, DOORS, AND CURTAIN WALLS BY UNIFORM STATIC AIR PRESSURE DIFFERENCE**

**Purpose**
Determine the ability of the Securock® ExoAir® 430 system to resist water penetration when exposed to water spray and air pressure for classification as a water-resistant barrier.

**Requirement**
No leaks after 15 minutes at 137 Pa

**Third-Party Classification & Listing**
PEI

[astm.org/Standards/E331.htm](http://astm.org/Standards/E331.htm)
### ASTM E831 – STANDARD TEST METHOD FOR LINEAR THERMAL EXPANSION OF SOLID MATERIALS BY THERMOMECHANICAL ANALYSIS

<table>
<thead>
<tr>
<th>Purpose</th>
<th>To determine the thermal expansion coefficient for the 430 panel when subjected to temperature variations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirement</td>
<td>Provide coefficient of linear thermal expansion, (in./(in.·°F))</td>
</tr>
<tr>
<td>Third-Party Classification &amp; Listing</td>
<td>None</td>
</tr>
<tr>
<td><a href="http://astm.org/Standards/E831.htm">astm.org/Standards/E831.htm</a></td>
<td></td>
</tr>
</tbody>
</table>

### ASTM E2178 – STANDARD TEST METHOD FOR AIR PERMEANCE OF BUILDING MATERIALS

<table>
<thead>
<tr>
<th>Purpose</th>
<th>To determine the air permeance of the 430 panel for classification as an air barrier material.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirement</td>
<td>0.004 cfm/ft² @ 1.57 lb/ft² max. air penetration</td>
</tr>
<tr>
<td>Third-Party Classification &amp; Listing</td>
<td>PEI</td>
</tr>
<tr>
<td><a href="http://astm.org/Standards/E2178.htm">astm.org/Standards/E2178.htm</a></td>
<td></td>
</tr>
</tbody>
</table>

### ASTM E2357 – STANDARD TEST METHOD FOR DETERMINING AIR LEAKAGE OF AIR BARRIER ASSEMBLIES (INCLUDES ASTM E283 TEST METHOD FOR RATE OF AIR LEAKAGE THROUGH EXTERIOR WINDOWS, CURTAIN WALLS AND DOORS UNDER SPECIFIC PRESSURE DIFFERENCES ACROSS THE SPECTRUM)

<table>
<thead>
<tr>
<th>Purpose</th>
<th>To determine if the installed Securock® ExoAir® 430 system performs as required for classification as an air barrier assembly.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirement</td>
<td>0.04 cfm/ft² @ 1.57 lb/ft² max. air leakage rate</td>
</tr>
<tr>
<td>Third-Party Classification &amp; Listing</td>
<td>PEI</td>
</tr>
<tr>
<td><a href="http://astm.org/Standards/E2357.htm">astm.org/Standards/E2357.htm</a></td>
<td></td>
</tr>
</tbody>
</table>

### ASTM E2485 – STANDARD TEST METHOD FOR FREEZE/THAW RESISTANCE OF EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS) AND WATER RESISTIVE BARRIER COATINGS

<table>
<thead>
<tr>
<th>Purpose</th>
<th>To determine the effect of repeated freezing and thawing cycles on the physical integrity of 430 panels.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirement</td>
<td>No cracking, checking, crazing, erosion or other characteristics, such as delamination or indications of delamination between components that may affect performance as a water-resistive barrier.</td>
</tr>
<tr>
<td>Third-Party Classification &amp; Listing</td>
<td>PEI</td>
</tr>
<tr>
<td><a href="http://astm.org/Standards/E2485.htm">astm.org/Standards/E2485.htm</a></td>
<td></td>
</tr>
</tbody>
</table>
NFPA 285 – STANDARD FIRE TEST METHOD FOR EVALUATION OF FIRE PROPAGATION CHARACTERISTICS OF EXTERIOR NON-LOAD-BEARING WALL ASSEMBLIES CONTAINING COMBUSTIBLE COMPONENTS

**Purpose**
Fire test procedure for evaluating the suitability of exterior, non-load-bearing wall assemblies and panels used as components of curtain wall assemblies that are constructed using combustible materials or that incorporate combustible components for installation on buildings where the exterior walls are required to be noncombustible.

**Requirement**
Pass/fail criteria that flame propagation must not extend either vertically or horizontally beyond specified acceptable distances from the area of flame plume impingement on or within the two-story wall test assembly. In addition, thermocouples placed throughout the test wall must not exceed defined temperature limits.

**Third-Party Classification & Listing**
UL
nfpa.org/285

LONG-TERM EXPOSURE TESTING – 12 MONTHS UNDER VARYING CONDITIONS

**Purpose**
Test the 430 panel’s endurance to natural exposure to regional weather and UV. Panel strength, membrane bond to base panel, water resistance, color change and sealant adhesion performance are all measured. Locations are Auburn, WA, Phoenix, AZ, Libertyville, IL, and Jacksonville, FL.

**Requirement**
Performance not impacted due to any visual cracking or color change.

**Third-Party Classification & Listing**
None

**Product information**
See securockexoair.com for the most up-to-date product information.
The product is warranted to be free of defects in materials at the time of shipment, but the manufacturer makes no warranty as to appearance or color. Since methods of application and on-site conditions are beyond the manufacturer’s control and can affect performance, the manufacturer makes no other warranty, expressed or implied. ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTY OF MERCHANTABILITY AND THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXPRESSLY DISCLAIMED. The manufacturer’s sole obligation with respect to any product that fails to conform to the warranty set forth herein shall be, at its sole option, to replace or refund the purchase of the quantity of product proven to be defective. In no event shall the manufacturer be liable for any special, incidental or consequential damages in connection with the product or its use.

**Note**
Products described here may not be available in all geographic markets.

**Safety First**
Follow good safety/industrial hygiene practices during installation. Wear appropriate personal protection equipment. Read Safety Data Sheet and literature before specification and installation.

**Manufactured by**
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