DESCRIPTION

Willseal® 600 is a pre-compressed, self-expanding foam joint sealant, engineered to perform as a highly flexible, weather-tight, primary seal in vertical exterior applications. Willseal 600 can also provide the ideal foundation for a large variety of wet sealants, such as silicone, polyurethane, polysulfide, and acrylic if desired.

Unlike conventional wet sealant and backer rod methods, Willseal 600 is not susceptible to breakdowns caused by excessive or rapid joint movements, thus protecting structures against rain, wind, dust, and sound. Willseal 600 is waterproof to a wind driven rain at 12.5psf (70mph) yet it is vapor permeable, making an optimal addition to any air barrier system, cavity wall joint, and interior partition application.

MATERIAL

Willseal 600 consists of 3 elements: a foundation of super-resilient micro-cell polyurethane foam, an impregnation of flame retardant, hydrophobic UV stabilized acrylic emulsion, and a pressure-sensitive adhesive with embedded scrim to prevent stretching or pulling during installation.

Willseal 600 is supplied pre-compressed on a roll or in sticks with the PSA on one side for ease of installation. Willseal 600 is self-extinguishing and has a flame spread of 0 with a smoke development rating of 5 per ASTM E 84 and is chemically compatible with all types of commercial construction. (For fully fire rated joints see Willseal FR per UL 2079.)

APPLICATIONS

- Primary expansion, control, isolation, & retrofit joints
- Secondary construction joints - behind wet applied sealants if desired
- Exterior Panel Systems - Masonry, Stone, EIFS, Curtain Walls
- Pre-cast concrete walls, Tilt-up walls
- Window and flashing applications
- Interior vapor, dust, acoustical & air control

TYPICAL PHYSICAL PROPERTIES

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>TEST METHOD</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Black (Standard) Grey (Upon Request)</td>
<td></td>
</tr>
<tr>
<td>Thermal Conductivity</td>
<td>ASTM C 518</td>
<td>0.28 – 0.30 Btu·in/hr·°F·ft²</td>
</tr>
<tr>
<td>Thermal Resistance</td>
<td>ASTM C 518</td>
<td>3.3 hr – 3.6 hr·°F·ft²/Btu</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>ASTM D 3574</td>
<td>21 psi min.</td>
</tr>
<tr>
<td>Temperature Stability Range</td>
<td>ASTM D 3574</td>
<td>~ 40°C/40°F to 120°C/248°F</td>
</tr>
<tr>
<td>Long Term</td>
<td></td>
<td>~ 40°C/40°F to 90°C/194°F</td>
</tr>
<tr>
<td>Elongation</td>
<td>ASTM D 3574</td>
<td>120% +/-20%</td>
</tr>
<tr>
<td>Compression Set</td>
<td>ASTM D 3574</td>
<td>4.2% max.</td>
</tr>
<tr>
<td>Staining and Bleeding</td>
<td>DIN 18 542</td>
<td>Meets DIN requirements</td>
</tr>
<tr>
<td>Resistance to UV and Moisture</td>
<td>DIN 18 542</td>
<td>Meets DIN requirements</td>
</tr>
<tr>
<td>Shelf Life</td>
<td></td>
<td>2+ years</td>
</tr>
<tr>
<td>Water Resistance</td>
<td>ASTM E 331</td>
<td>12.5 psi²</td>
</tr>
<tr>
<td></td>
<td>ASTM E 547</td>
<td>12.5 psi²</td>
</tr>
<tr>
<td>Fire Testing</td>
<td>ASTM E 84¹</td>
<td>Flame Spread: 0 Smoke Developed: 5</td>
</tr>
<tr>
<td>Compatibility with conventional construction materials</td>
<td>DIN 52 423</td>
<td>No signs of corrosion were observed on zinc, steel, galvanized steel, aluminium and copper; no adverse effects with concrete, aerated concrete, brick, some natural stone, PVC, Plexiglass and wood; for other materials consult willseal</td>
</tr>
<tr>
<td>Ideal Storage Temperature</td>
<td></td>
<td>34 °C– 68 °F</td>
</tr>
<tr>
<td>Performance Guarantee</td>
<td></td>
<td>10 year warranty² on performance</td>
</tr>
<tr>
<td>Comprehensive Performance Test</td>
<td></td>
<td>600 Pascal</td>
</tr>
</tbody>
</table>

1. Attachment method of Willseal 600 was in a single joint compressed to 50% of original foam thickness. Joint material was constructed of calcium silicate board and is representative of field installation of the product.
2. Due to the conditions set by Willseal, certain restrictions apply. Inquire with Willseal for details.
3. For higher driving rain resistance see Willseal 150 which provides 1000Pa versus 600 (12psf).
UNIQUE PROPERTIES

- Driving rain tight to 12.5 psf
- Never under tension or cohesion strain
- Minimal surface prep and no priming required
- Waterbased acrylic with no fillers or VOC's
- Seal gaps or seams as small as 1/8"
- “Breathable” (vapor permeable)
- Paintable with water based paints
- Depth of seal can be changed to increase R-value and sound proofing qualities
- Can be installed under many weather and temperature conditions

COLORS

- Black/Grey (Upon Request)

DIMENSIONS

- Primary: Joint sizes from 1/8" to 1-3/4" in rolls
- Joint sizes from 1-3/4" to 8" in sticks
- Custom sizes available upon request
- For appearance reasons, Willseal 600 should be installed recessed slightly from the joint face

LIMITATIONS

- Use size chart below as a reference. For specific details or custom sizing consult with Willseal technical support
- Not for use in areas with ponding or standing water
- Not for exposure to solvents or corrosive chemicals

MATERIAL SIZING CHART

<table>
<thead>
<tr>
<th>JOINT OPENING</th>
<th>JOINT DEPTH</th>
<th>LFT PER ROLL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8&quot;</td>
<td>3/8&quot;</td>
<td>32.5</td>
</tr>
<tr>
<td>1/5&quot;-1/4&quot;</td>
<td>3/4&quot;</td>
<td>26</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>3/4&quot;</td>
<td>18</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>3/4&quot;</td>
<td>14</td>
</tr>
<tr>
<td>5/8&quot;</td>
<td>1&quot;</td>
<td>10.5</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>1&quot;</td>
<td>21</td>
</tr>
<tr>
<td>1&quot;</td>
<td>1-1/2&quot;</td>
<td>14.5</td>
</tr>
<tr>
<td>1-1/4&quot;</td>
<td>2&quot;</td>
<td>7.5</td>
</tr>
<tr>
<td>1-1/2&quot;</td>
<td>2&quot;</td>
<td>7.5</td>
</tr>
<tr>
<td>1-3/4&quot;</td>
<td>2&quot;</td>
<td>6</td>
</tr>
</tbody>
</table>

Material is supplied in 6.5LF (2M) sticks for joints larger than 1-3/4". Stick depth typically varies with joint width and increases in 1" increments. As a rule of thumb for sizes supplied in rolls (1/8"-2") overestimate total linear feet needed by at least 5% to compensate for end trimming and other waste. Full box purchases are not required, round to next full roll length.

INSTALLATION

- After measuring the joint, choose the appropriate tape size based on the joint size (see sizing chart)
- Cut off the over-compressed parts of the Willseal 600 at the beginning and end of the roll (first 2”)
- Add at approximately 1/2” to the measured length and cut the Willseal 600
- For vertical joints start to work from the bottom and end the Willseal 600 in a butt joint to terminate the willseal tape to tape

SUGGESTED TOOLS

- For installation you need a tape measure, spatula/putty knife, scissors/knife and possibly wood shims

SET-UP/EXPANSION TIME

- Material will self-expand in one direction to fill the joint depending on the storage and ambient temperature. Material will continue to expand and equalize in the joint. This can take an additional day or two depending on temperature. See the times below as a general reference.
- Approximate time to expand into the void. If exposed to direct sunlight it may be slightly faster and slower in shaded areas.
  - 37°F (3°C) 5+ hrs
  - 50°F (10°C) 1 hr
  - 68°F (20°C) 10 min.
  - 86°F (30°C) 5 min.
  - 104°F (40°C) 1 min.

INSTALLATION TIPS: WINDOWS AND PANELS

- Do not bend or fix the tape around corners
- Tape should be installed at the corner to form a butt joint, extra pressure should be used to ensure a firm seal at termination
- During the installation of the prefabricated parts place spaces to prevent over-compression of the Willseal 600
- For horizontal joints put the PSA to the bottom side

TECHNICAL SUPPORT

- Willseal technical support can be reached to help with design, size selection and application techniques at (800) 274-2813. For additional information see willseal.com
Install Instructions

RECOMMENDED TOOLS
Tape Measure • Sharp Knife • Miter Saw • Utility Knife • Duct Tape • Mineral Spirits
Clean Cloth • Isopropyl Alcohol • Margin Trowel • Heat Gun • Compressed Air

MATERIAL SIZING
• Joints must be sized every 5-7 ft (1.524-2.137 m) to ensure gap opening is uniform (1)
• Allow sufficient depth to recess the material 1/8" - 1/4" into the joint (2)

MATERIAL PREPARATION
• Store material at a minimum of 68°F (20°C) for a minimum of 24 hours prior to installation, regardless of temperature at location of installation
• Store materials in a dry, enclosed area, making sure materials are off the ground and out of direct sunlight
• Cutting Details - Roll Material
  • Do not make any cuts until ready to install the material
  • Refer to the Sealant Installation (Rolls) section for further instruction on cutting the roll material
• Cutting Details - Stick Material
  • Use a miter saw to make any cuts to the material before removing the clear shrink packaging. All starting and ending pieces must be square to the termination point (1)
  • Use a sharp knife to make any cuts after the clear shrink packaging has been removed (2)
  • Apply mineral spirits to the knife for a smoother cut
• Install the material directly after removing the packaging to ensure the material does not expand past the joint width
• Refer to the Seams section for further instruction on preparing the material

JOINT PREPARATION
• Verify that the joint is clean, sound, and will provide an appropriate surface for installation of the joint sealant
  • Use compressed air to clean any loose debris from the joint
  • Apply water or alcohol to a clean cloth and wipe the joint walls to the depth of the sealant material plus 1"
• Verify that the joint is uniform and repair any spalls prior to installation
• Check the material for appropriate length, width, and depth
  • Supplied material should be pre-compressed to a size smaller than the intended joint opening
  • Joint depth must allow for the installed material to be recessed in the joint 1/8" - 1/4" into the joint
Install Instructions

WILLSEAL LLC • 34 Executive Drive • Hudson, NH 03051 • 800-274-2813 • 800-416-0550 (Fax) • willseal.com • email: custserv@willseal.com

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Install Instructions

WII-0001     REV D

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willseal
®

600

BREATHABLE PRIMARY SEAL FOR VERTICAL APPLICATIONS

PRIMARY SEALANT: Recess 1/8” - 1/4”

SEALANT INSTALLATION - ROLLS

• When fully prepared to install, remove the outer lining surrounding the joint material (1)
• Be prepared to install the material immediately once the packaging is removed to prevent the material from expanding past the joint width
• Material will expand faster when hot and slower when cold. In cold temperatures, store the material in a heated area 24 hours prior to installation. In hot temperatures, store the material out of direct sunlight and not in an enclosed storage container where temperatures may exceed 100°F
• Cut off the first and last 1”-2” of material using a sharp knife/utility knife (2)
  • Verify that the material is cut square at both ends for proper seams (Refer to the Seams section for more details)
  • All pieces must be square to the termination point
• If the joint runs horizontal, begin installing the material at one side of the joint (either side) and continue to install the material working towards the opposite end. For vertical joints begin installation at the bottom of the joint and work upward (3)
  • The installed rolls will support the subsequent rolls until the material fully expands
• Remove the release liner as the material is installed
• Place the material into the joint while gently pushing the pressure sensitive adhesive (PSA) up against the side of the substrate. Once the material is in place, use a margin trowel to firmly press the adhesive to the substrate and allow the material to expand to fill the joint (4)
• If the PSA is hampering installation, apply a small amount of isopropyl alcohol or a mist of water to the adhesive side of the material. This will not impact the final sealing properties
• If the PSA is not sticking to the substrate, use wooden wedges to hold the material in place while the material expands. Once the material has expanded, the wedges can be removed
• Allow 72 hours for full expansion and material equalization. Expansion and equalization rates are affected by temperature. Material will expand faster when hot and slower when cold

SEALANT INSTALLATION - STICKS

• When fully prepared to install, cut the shrink packaging along the edge of the masonite strapping (1)
• Be prepared to install the material immediately once the packaging is removed to prevent the material from expanding past the joint width
• Material will expand faster when hot and slower when cold. In cold temperatures, store the material in a heated area 24 hours prior to installation. In hot temperatures, store the material out of direct sunlight and not in an enclosed storage container where temperatures may exceed 100°F
SEALANT INSTALLATION - STICKS (CONTINUED)

- Verify that the material is cut square at both ends for proper seams. All pieces must be square to the termination point.
- Remove the release liner on both sides (1).
- Refer to the Material Preparation and Seams section for further instruction.
- For joints that run horizontal, begin installing the material at one side of the joint (either side) and continue to install the material working towards the opposite end. For vertical joints, begin installation at the bottom of the joint and work upward (2).
  - The installed sticks will support the subsequent sticks until the material fully expands.
  - Use a putty knife to press the material against the joint wall. This will activate the pressure sensitive adhesive (PSA) and further help to support the material during expansion (3).
- If the PSA is hampering installation, apply a small amount of isopropyl alcohol or a mist of water to the adhesive side of the material. This will not impact the final sealing properties.
- If the PSA is not sticking to the substrate, use wooden wedges to hold the material in place while the material expands. Once the material has expanded, the wedges can be removed.
- Allow 72 hours for full expansion and material equalization. Expansion and equalization rates are affected by temperature. Material will expand faster when hot and slower when cold.

SEAMS - BUTT SEAMS

- Verify that the new piece of material is cut square and not at an angle to the previous piece installed.
- Overlap extra material (approximately 1/2” - 1”) at seams and splices to ensure that the seam is in compression after installation (1).
- “T” and “+” intersections
  - Install horizontal material first.
  - Butt the vertical material up to the horizontal material following Steps 1+2.
- For joint corners, seam the material as shown (Refer to the Material Preparation section for further information) (2).

FINISH

- Allow 72 hours for full expansion and material equalization (1).
SECTION 1 – PRODUCT IDENTIFICATION

1.1 Product Identifier
Product Form: Article
Product Name: Willseal 600 / Willseal 600S

1.2 Intended Use of the Product
Use of the substance/mixture: Sealant

1.3 Name, Address, and Telephone of the Responsible Party
Company
Willseal LLC
34 Executive Drive
Hudson, NH 03051
T: 800.274.2813
custserv@willseal.com – www.willseal.com

1.4 Emergency Telephone Number: 800.274.2813

SECTION 2 – HAZARDOUS IDENTIFICATION

2.1 Classification of the Substance or Mixture
Classification (GHS-US)
Not Classified

2.2 Label Elements
GHS-US Labeling
No labeling applicable

2.3 Other Hazards
This product is exempt from OSHA hazardous communications regulations. It is defined as an "article" under 29CFR 1910.1200 (c). The data presented is intended to guide the user in the safe handling and use of the product. Within the meaning of the OSHA Hazard Communication Standard [29 CFR 1910.1200]: this product is considered a manufactured article and is not considered a hazard when used in a manner which is consistent with the labeled directions.

2.4 Unknown Acute Toxicity (GHS-US)
No data available

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance: Not applicable
3.2 Mixture: Not applicable

SECTION 4 – FIRST AID MEASURES

4.1 Description of First Aid Measures
First-aid Measures General: Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area.
First-aid Measures After Skin Contact: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
First-aid Measures After Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed
Symptoms/Injuries: None expected under normal conditions of use.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/Injuries After Inhalation: Not expected to present a significant inhalation hazard under anticipated conditions of normal use.

Symptoms/Injuries After Skin Contact: None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing.

Symptoms/Injuries After Eye Contact: For particulates and dust: May cause slight irritation.

SECTION 5 – FIRE FIGHTING MEASURES

5.1 Extinguishing Media
Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use water jet. Use of heavy stream of water may spread fire.

5.2 Special Hazards Arising From the Substance or Mixture
Fire Hazard: Not considered flammable but may burn at high temperatures.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3 Advice for Firefighters
Firefighting Instructions: Exercise caution when fighting any chemical fire.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures
Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use water jet. Use of heavy stream of water may spread fire.

6.1.1 For Non-Emergency Personnel
Protective Equipment: Use appropriate personal protection equipment (PPE).


6.1.2 For Emergency Personnel
Protective Equipment: Use appropriate personal protection equipment (PPE).


6.2 Environmental Precautions
None known.

6.3 Methods and Material for Containment and Cleaning Up
For Containment: Contain and collect as any solid.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely.

6.4 Reference to Other Sections
See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

SECTION 7 – HANDLING AND STORAGE

7.1 Precautions for Safe Handling
Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

7.2 Conditions for Safe Storage, Including Any Incompatibilities:
Storage Conditions: Store in a dry, cool and well-ventilated place.

Incompatible Products: Strong acids, strong bases, strong oxidizers.
7.3 Specific End Use(s): Sealant

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Information on Basic Physical and Chemical Properties
For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

8.2 Exposure Controls
Appropriate Engineering Controls: Ensure all national/local regulations are observed. Avoid dust production.

Personal Protective Equipment: Not generally required. The use of personal protective equipment may be necessary as conditions warrant.

Hand Protection: Chemically resistant gloves are recommended, but not required.

Eye Protection: In case of dust production: Chemical safety goggles.

Respiratory Protection: The following applies to the product if it is cut, sanded or altered in such a way that excessive and/or significant particulates and/or dusts may be generated: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1 Control Parameters
Physical State: Solid
Odor: Characteristic Odor
Odor Threshold: No data available
pH: No data available
Evaporation Rate: No data available
Melting Point: 148.9 °C (300.02 °F)
Freezing Point: No data available
Boiling Point: No data available
Flash Point: No data available
Auto-ignition Temperature: No data available
Decomposition Temperature: No data available
Flammability (solid, gas): No data available
Vapor Pressure: No data available
Relative Vapor Density at 20 °C: No data available
Relative Density: No data available
Specific Gravity: 0.91
Solubility: Water: Not soluble
Partition Coefficient: N-Octanol/Water: No data available
Viscosity: No data available

9.2 Other Information: No additional information available

SECTION 10 – STABILITY AND REACTIVITY

10.1 Reactivity: Hazardous reactions will not occur under normal conditions.

10.2 Chemical Stability: Stable at standard temperature and pressure.

10.3 Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

10.4 Conditions to Avoid: Sparks, heat, open flame and other sources of ignition.


10.6 Hazardous Decomposition Products: Hydrogen chloride gas.
SECTION 11 – TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects
Acute Toxicity: Not classified
Skin Corrosion/Irritation: Not classified
Serious Eye Damage/Irritation: Not classified
Respiratory or Skin Sensitization: Not classified
Germ Cell Mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): Not classified
Specific Target Organ Toxicity (Repeated Exposure): Not classified
Aspiration Hazard: Not classified
Symptoms/Injuries After Inhalation: Not expected to present a significant inhalation hazard under anticipated conditions of normal use.
Symptoms/Injuries After Skin Contact: None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing.
Symptoms/Injuries After Eye Contact: For particulates and dust: May cause slight irritation.
Symptoms/Injuries After Ingestion: Not expected to be a primary route of exposure.
Chronic Symptoms: None known.

SECTION 12 – ECOLOGICAL INFORMATION

12.1 Toxicity: Not established
12.2 Persistence and Degradability: Not established
12.3 Bioaccumulative Potential: Not established
12.4 Mobility In Soil: No additional available
12.5 Other Adverse Effects
   Other Information: Avoid release to the environment

SECTION 13 – DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods: Not established
Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

SECTION 14 – TRANSPORT INFORMATION

14.1 In accordance with DOT: Not regulated for transport
14.2 In accordance with IMDG: Not regulated for transport
14.3 In accordance with IATA: Not regulated for transport

SECTION 15 – REGUALTORY INFORMATION

15.1 US Federal Regulations: Neither this product nor its chemical components appear on any US federal lists
15.2 US State Regulations: Neither this product nor its chemical components appear on any US state lists

SECTION 16 – OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date: 07/10/2015
Other Information: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200. This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.
SPECIFICATION
Sections 07 90 00 / 07 95 00
Willseal 600 by Willseal LLC

SECTION 07930

PREFORMED JOINT SEALANTS

PART 1 – GENERAL

SUMMARY

Section Includes

A preformed, pre-compressed polyurethane foam system impregnated with an acrylic based, flame-resistant, and weatherproofing sealant. The product is non-drying, non-shrinking, and self-expanding. The sealant material is supplied in stick or roll form. Provide where indicated on drawings and as specified in this section.

Related Sections and work specified elsewhere

1. Section 03300--- Cast in Place Concrete
2. Section 03400--- Pre-cast Concrete
3. Section 03470--- Tilt up Pre-cast Concrete
4. Section 04200--- Masonry Units
5. Section 04220--- Clay Masonry Units
6. Section 04220--- Concrete Masonry Units
7. Section 07240--- Exterior Insulation and Finishing System (EIFS)
8. Section 07415--- Metal Wall Panels
9. Section 08560--- Plastic Windows
10. Section 08550--- Wood Windows

PERFORMANCE REQUIREMENTS

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard for Pre-compressed Tapes</td>
<td>DIN 18542</td>
<td>Passes all testing BG1 and BG2</td>
</tr>
<tr>
<td>Density</td>
<td>ASTM D-3574</td>
<td>5.5 - 6.5 lb/ft³ (90-110kg/m³)</td>
</tr>
<tr>
<td>Thermal Conductivity</td>
<td>ASTM C-518</td>
<td>0.28 - 0.30 Btu-in/hr.°F-ft²</td>
</tr>
<tr>
<td>Thermal Resistance</td>
<td>ASTM C-518</td>
<td>3.3 - 3.6 hr.°F-ft²/Btu</td>
</tr>
<tr>
<td>Ideal Storage Temperature</td>
<td></td>
<td>70°F</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>ASTM D-3574</td>
<td>21 psi min.</td>
</tr>
<tr>
<td>Water Resistance</td>
<td>ASTM E-283/330/331/547*</td>
<td>12 psf</td>
</tr>
<tr>
<td>Elongation</td>
<td>ASTM D-3574</td>
<td>120% +/- 20%</td>
</tr>
<tr>
<td>Compression Set</td>
<td>ASTM D-3574</td>
<td>4.2% max</td>
</tr>
<tr>
<td>Staining</td>
<td>DIN 18542</td>
<td>None</td>
</tr>
<tr>
<td>Bleeding</td>
<td>DIN 18542</td>
<td>None</td>
</tr>
<tr>
<td>Shelf Life</td>
<td></td>
<td>2 years</td>
</tr>
</tbody>
</table>

*Must submit independent lab tests to certify passage of all ASTM requirements in addition to the 12psf rating.

SUBMITTALS

Product data in the form of manufacturer's product specifications, installation instructions, and general recommendations for each type of expansion joint sealant system indicated.
Submit under provisions in section 01300

QUALITY ASSURANCE

Manufacturer's Qualifications: Firm with not less than 3 years experience in manufacturing of products similar in quality to those required for this project. Installer’s Qualifications: Firm with not less than 3 years experience in the installation of products. Similar in complexity to those required for this project.

DELIVERY, STORAGE, HANDLING

Deliver joint sealant to the jobsite in manufacturer's original unopened boxes. Handle with care as necessary to prevent damage or deterioration during shipment, handling and storage.
B) Store materials in dry, enclosed area protected from the elements (wind, water, snow, and extreme temperatures).
C) Store materials at 70º F (21º C)
D) Comply with Section 01600.

PROJECT CONDITIONS

Substrate Conditions: Proceed with work only when substrate construction and preparation work is complete and in condition to receive contact from product from manufacturer. Weather Conditions: Do not proceed with installation of foam joint sealant under the following conditions: When ambient substrate temperature conditions are outside the limits permitted by the joint sealant manufacturer.

WARRANTY

Provide manufacturer’s 10 year warranty on performance of physical properties mentioned in product data sheet. For a valid warranty, proper sizing must be followed per the manufacturer’s recommendations. Contact Willseal LLC to obtain a copy of terms and conditions. Warranty information is subject to review on a case-by-case basis pertaining to special applications. Warranty is applied to material not applications. Special applications shall be reviewed with Willseal engineering and/or a registered design professional or architect/engineer prior to the project construction sequence begins as precautionary measures to ensure best practice. Contact Willseal customer service for specific warranty details at 1-800-274-2813.

PART 2- PRODUCTS

2.1 MANUFACTURERS

Willseal LLC, 34 Executive Drive, Hudson, NH 03051
Telephone 1-800-274-2813, Website www.Willseal.com

B. Substitutions: Will be considered in accordance with provisions in of Section 01600.

2.2 MATERIALS

Willseal® 600 can be used in primary seal and secondary seal applications. Examples of these applications include: vertical-plane façade (above grade) applications in window perimeters, other façade penetrations such as doors, store fronts, vents, curtain walls, metal panel joints, log homes, tilt up panels, masonry and brick and pre-cast applications, control joints and expansion joints.

Material to be supplied in roll format. Rolls shall be used when joint designs are up to 1-1/2" in width (from substrate to substrate). Stick form material shall be used when joint design exceeds 1-3/4". Both material designs have a pressure sensitive adhesive on one flank of the joint filling material.
NOTE** SPECIFIER: Choose one of the following configurations to suit your preference or allow the use of either.

A. Material to be installed recessed from the substrate faces to act as the secondary seal behind the installation of an exterior sealant bead of not more than 1/2” thick using appropriate backing material for support.

B. Material to be installed at a depth sufficient to allow proper installation of the primary sealant in accordance with the manufacturer’s recommendations using a backer rod between the Willseal® and the primary sealant.

Pre-compressed Joint Sealant Performance Requirements:
Water resistant (driving rain) per DIN 18542: no penetration of water when compression is less than 35% of original foam thickness (Consult manufacturer for various joint sizes and recommended compression ratios. The maximum compression ratio of Willseal® 600 is not more than 18% of the original foam thickness. The movement capability of the tape is 90%, (consult manufacturer for your application and joint size) based upon the manufacturer’s data and expected width of actual joints under most extreme conditions.

Ultraviolet light resistant DIN 74069 (3 months lab exposure time). Flammability ASTM E-84 (Smoke Development and Flame Spread Characteristics (Consult Willseal for details). Compatibility with conventional construction materials DIN 52423 (No sign of corrosion were observed when Willseal® 600 is in contact with zinc, steel, galvanized steel, aluminum and copper; no adverse effects with concrete, aerated concrete, brick, some natural stone, PVC, Plexiglas and wood; for others consult Willseal technical support.

Manufacturer to provide a Certificate of Compliance with the independent testing requirements for this specification section.

ACCESSORIES
Cleaners or primers for substrates shall be approved by joint sealant manufacturer and substrate manufacturer.

PART 3- EXECUTION

EXAMINATION
Verification of Conditions: Examine areas and conditions under which work is to be performed and identify conditions detrimental to proper and or timely completion. Do not proceed until unsatisfactory conditions have been corrected.
Refer to manufacturer’s installation guide or contact manufacturer for more information.

PREPARATION
Verify that: Joints are clean, dry, smooth, straight and parallel, and otherwise ready to receive the joint sealant.
Joints are clean and free of dust, dirt, and other residues that would inhibit a proper bond. Joint seals are of the correct width to provide the specified compression. Joint configurations and joint surfaces shall be as detailed in the drawings in accordance with the contract specifications and in compliance with requirements in the current technical data available from the manufacturer. Joint sealant size shall be selected based on the mean joint size of the intended opening. All known detrimental conditions shall be reported immediately in writing. Field measurements of the depth and width of the joint shall be supplied to the manufacturer before the material is ordered.

INSTALLATION
Install joint seals in accordance with the manufacturer’s instructions. If manufacturer’s instructions do not apply to specific application, consult a registered architect or a certified design professional. Consideration of surrounding materials shall be taken into consideration in joint design as well as compatibility and system design. These details remain the responsibility of the building owner/architect, design professional. Do not proceed with the installation of material if the joint is other than designed, until written notification of these conditions is submitted to the manufacturer and design professional for the project. A written acknowledgement with an order to proceed shall be provided from the manufacturer or design professional. Design considerations on criteria such as joint movement shall be disclosed to manufacturer in order to select a proper size of material. Material shall be installed in strict accordance with the manufacturer’s instructions and advice of their official representative. Only use material in full pieces freshly unwound off the roll or in stick form. Use immediately after un-packaging. Press adhesive side firmly against one side of full length of the joint. Joint sealant will expand to fill joint. Rate of expansion will depend on temperature.

CLEANING

Clean adjacent surfaces and remove unused product and debris from the project site. Remove all waste materials from the site. Leave work condition satisfactory to the architect/engineer.

PROTECTION

Protect sealant system during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that the joint sealant is without deterioration or damage at time of Substantial Completion. If despite such protection, damage and deterioration occurs, at no additional cost to the Owner, cut out and remove damaged and deteriorated sealant system immediately and replace with new system materials so that installations with repaired areas are indistinguishable from the original work.

END OF SECTION