SEALANTS AND FOAMS GUIDE

2021 EDITION

SOPREMA

INTRODUCTION

Throughout their lifespan, buildings face different variations in temperature and weather conditions. In order to ensure their longevity, it is therefore important to preserve the integrity of buildings and thus prevent the infiltration of water, air and insects that could cause mould and structural damage and have an effect on energy efficiency and an occupant's health.

To do so, SOPREMA has developed its products around the concept that material quality, durability and reliability must be up to the builder's ambitions. For more than 100 years, SOPREMA has been using its expertise to develop a variety of high-end products that perfectly match all the components of construction. The ALSAN line of products have been selected to complete the product offering of RESISTO and SOPREMA. They are complementary to many waterproofing membranes, XPS insulation panels, and several other types of materials.

The main purpose of the ALSAN Sealants and Foams Guide is to suggest proper application methods recommended by RESISTO and SOPREMA, and is therefore a reference tool to facilitate the work of architects, engineers, and contractors.

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PRODUCT LINE

1.0. PRODUCT LINE

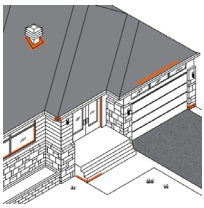
1.1. ALSAN FLEX SEALANTS

In order to prevent any infiltration of water, air and humidity as well as insect infestation in critical areas of the building, ALSAN sealants from SOPREMA provide an effective seal around doors and windows, horizontal and vertical joints of different materials, exterior cladding, penetrations, and many other key areas.

Each ALSAN FLEX sealant has unique properties and is designed for specific applications.

1.1.1. ALSAN FLEX 2711 CO

Polyurethane (PU) sealant



APPLICATION AREAS

- Exterior applications
- Vertical and horizontal joints
- Soundproofing of pipes between concrete and cladding
- Caulking between partitions
- Sealing of constructions

BENEFITS

- Joint movement of ± 25%
- For dry surfaces
- Paintable

RESTRICTIONS

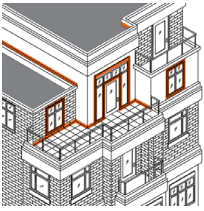
ALSAN FLEX 2711 CO is not suitable for PP (polypropylene), PC (polycarbonate), PMMA (polymethyl methacrylate), PTFE (polytetrafluoroethylene), soft plastics, neoprene and bituminous substrates. It is not suitable in combination with chlorides (pools). A slight yellowing may occur when a white sealant is exposed to ultraviolet rays. Always test and evaluate to ensure adequate adhesion on substrates.

PERFORMANCE STANDARDS

ASTM C920, Type S, Grade NS, Class 25; uses NT, A, and M..

1.1.2. ALSAN FLEX 2935 SB

Polyether adhesive and sealant



APPLICATION AREAS

- Exterior use
- Vertical and horizontal joints, expansion joints, and cladding joints
- Waterproofing of exterior doors and windows
- Weathertightness
- Adhesion without primer to most materials: galvanized steel, aluminum, PVC, glass, brick, concrete, EPDM, SBS-modified bitumen, EPS or XPS foam, vinyl, and stucco.

BENEFITS

- Joint movement: ± 35%
- Application on dry and wet surfaces
- Solvent and isocyanate-free
- Adhesion to various substrates, even resin-based metal cladding
- Does not shrink
- Paintable

RESTRICTION

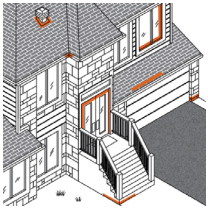
ALSAN FLEX 2935 SB is not suitable in areas subject to continuous immersion. Remove all coatings and sealers before application. Do not use on thermoplastic polyolefin (TPO). A slight yellowing may occur when a white sealant is not exposed to ultraviolet rays.

PERFORMANCE STANDARDS

ASTM C920, Type S, Grade NS, Class 35; uses NT, T2, M, G, A, and O.

1.1.1. ALSAN FLEX 2945 SB

Polyether adhesive and sealant



APPLICATION AREAS

- Exterior use
- Vertical and horizontal joints, and expansion joints
- Roof details
- Preformed concrete, blocks, and masonry
- Waterproofing of exterior doors and windows
- Cladding and parapets
- Weathertightness and shackle joints
- Can be applied in standing water to temporarily repair a leak
- Adhesion without primer to most materials: galvanized steel, aluminum, PVC, glass, brick, concrete, EPDM, SBS-modified bitumen, EPS or XPS foam, vinyl, and stucco.

BENEFITS

- Joint movement: ± 35%
- Application on dry or wet surfaces
- Solvent and isocyanate-free
- Superior adhesive strength
- Does not shrink
- Paintable

RESTRICTIONS

ALSAN FLEX 2945 SB is not suitable in areas subject to continuous immersion. Remove all coatings and sealers before application. Do not use on thermoplastic polyolefin (TPO). A slight yellowing may occur when a white sealant is not exposed to ultraviolet rays.

PERFORMANCE STANDARDS

ASTM C920, Type S, Grade NS, Class 35; uses NT, T2, M, G, A, and O.

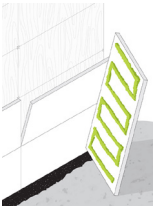
1.2. ALSAN FOAM

SOPREMA's ALSAN FOAMS are formulated to provide airtightness as well as insulation for spaces around doors and windows, wall rails and joists, and around wiring, plumbing and ventilation works, which limits thermal bridges and obtains better energy efficiency.

It is also used to bond certain construction materials, including XPS and EPS insulation panels.

1.2.1 ALSAN FOAM EPS/XPS

Polyurethane adhesive



APPLICATION AREAS

Compatible with polystyrene and urethane insulation panels, including SOPRA-XPS and SOPRA-ISO from SOPREMA

- Adheres to most common building materials such as cementitious materials, brick, wood, aluminum, and galvanized and painted sheet metal

BENEFITS

- High-performance formula
- Adhesive comes out six times faster than a regular cartridge
- Strong adhesion

RESTRICTIONS

- ALSAN FOAM EPS/XPS is not suitable for PE, silicone and PTFE substrates

PERFORMANCE STANDARDS

Class 1*
CAN/ULC-S710.1

1.2.2 ALSAN FOAM UNI W

Polyurethane insulating foam

APPLICATION AREAS

- Exterior and interior use
- Airtightness around doors and windows
- Permanent adhesion to vinyl, wood, and metal
- Sealing around wiring and plumbing works, and heating, ventilation and air conditioning system ducts
- Waterproofing of foundation sills, edge joists, attic access hatches, and pest entry points

BENEFITS

- Air and water tight
- Will not warp door and window frames
- Two functions: an insulator and a sealer
- Application in a wide range of temperatures: -25 °C to 30 °C (-13 °F to 86 °F) for 850 ml format and -20 °C to 30 °C (-4 °F to 86 °F) for 500 ml format
- Mould resistant
- Paintable

RESTRICTIONS

- ALSAN FOAM UNI W is not suitable for PE, silicone and PTFE substrates.

PERFORMANCE STANDARDS

Class 1*
CAN/ULC-S710.1

APPLICATION METHODS

2.0. APPLICATION METHODS

2.1. SEALANTS APPLICATION

2.1.1. Sealant Joint Design

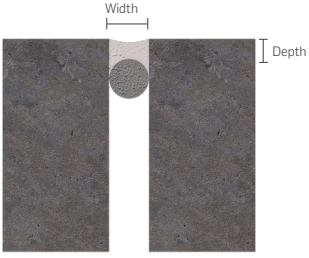
For a sealant joint to be effective, it must be combined with a backing rod. The backing rod is important in controlling the depth and shape of the sealant in the joint. It also makes it possible to fill a gap between two surfaces to make sure that the product is strictly bonded to these two surfaces, ensuring uniform adhesion of the sealant with the substrate and adequate movement of the sealant, thus preventing three-point adhesion.

The backing rod should be 20–30% wider than the joint in order to fit tightly and provide proper support for the sealant. If the type of joint or the gap does not allow the use of a backing rod and avoiding three-point adhesion, use a release tape which will ensure adequate movement and a long-lasting seal.

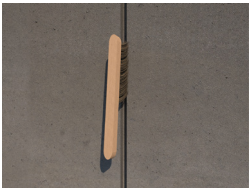
Select the type and shape of rod according to the sealant to be used, the type of joint, and the application method.

The width/depth ratio of the sealant joint to be applied may vary depending on the type of product used and the application to be made. Refer to the sealant's technical data sheet to know the width/depth ratio to use.

The minimum width and depth of a sealant joint must be 6 mm (¼ in) in order to create an adequate and efficient seal.



2.1.2. Surface Preparation



Before application of the sealant joint, make sure that the surfaces are clean, dry, homogeneous, and free from any contamination (oils, grease, dust, and loose or friable particles). Clean the oils or greases with a suitable solvent such as alcohol. Also make sure the surface is free of frost and ice. Cement laitance must be removed. Clean the joint with a wire brush, by grinding or by sawing and remove any dust using compressed air for porous substrates or by wiping with solvent for non-porous substrates. Do not use oil to clean the joint.

2.1.3 . Application Temperatures

Refer to the product's technical data sheet for application temperature. Never apply sealant in the event of rain or snow.

2.1.4 . Tools

- Masking tape

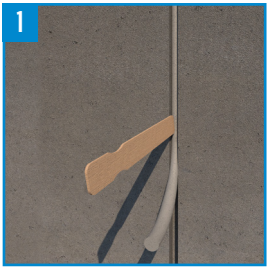
- Sealant gun

  Read the gun manufacturer's instructions for proper use of the application tool.

- Sealant knife

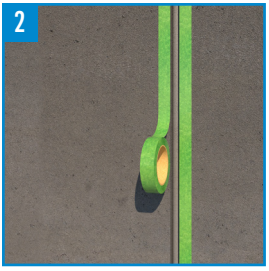
- Backing rod

2.1.5 Application



After proper substrate preparation, insert a suitable backing rod into the joint evenly and at a constant depth.

Refer to the sealant's technical data sheet to know the width/depth ratio to use. Use a straight, smooth tool to avoid damaging the backing rod during installation. Do not use a pointy or sharp tool.

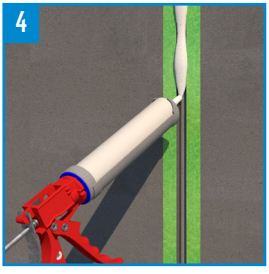


On porous surfaces, install masking tape along the joint and on both sides to achieve clean joint lines.

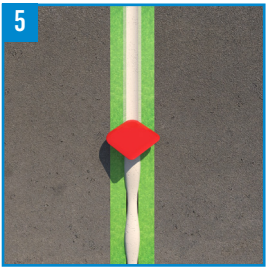
Note :

Sealant should be applied immediately after placement of the sealant support in order to prevent water absorption by rain or condensation.

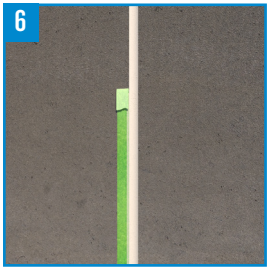
Unscrew the nozzle, cut the external applicator from the cartridge, and screw the nozzle onto it or pierce the seal if necessary. Cut the nozzle to the desired opening. It is recommended to reuse the same nozzle when changing cartridges to ensure that you have the same sealant bead thickness throughout the application.



Apply the sealant evenly into the joint to be filled using a sealant gun, making sure that the nozzle makes good contact with the side of the joint. To ensure proper adhesion, it is essential that the sealant is in direct contact with the sides of the substrate. Avoid creating air bubbles.



After applying the sealant, make a smooth joint with a smoothing liquid and a putty knife so as to create a perfect sealing surface depending on the type of joint desired.



Remove the tape while it is still soft. For sealant drying time, refer to the product technical data sheet.

2.1.6. Repairs

It is important to make a visual inspection of the sealant joints on a regular basis in order to prevent any water infiltration and deterioration of the materials. Any sealant joint that shows installation defects or wear and degradation must be repaired.

1. Remove the old sealant up to the edge of the joint. A residue of 0.5 mm (0.02 in) or less may remain on the surface if the substrate is still in good condition.
2. Clean the joint with a wire brush, by grinding or by sawing, and remove all dust with compressed air. Make sure that the surfaces are clean, dry, homogeneous, and free from any contamination (oils, grease, dust, and loose or friable particles). Use alcohol to clean the seal, do not use oil.
3. Make sure that the backing rod is properly in contact with the two surfaces and in good condition. Replace the backing rod if necessary.
4. Apply a sealant bead by following the previously mentioned steps.

2.1.7. Tool Cleaning

- **Polyurethane (PU) based sealant:** Tools can be cleaned with solvents such as mineral spirits, Varsol, or xylene. When the sealant is hardened, it can be removed by sanding or scraping the substrate.
- **Silyl Terminated Polyesther (STPE) based sealant:** Tools can be cleaned with a solvent such as alcohol. When the sealant is hardened, it can be removed by sanding or scraping the substrate.

2.2. FOAM APPLICATION

2.2.1. Surface Preparation

Before application, make sure that the surfaces are clean, dry, homogeneous and free from any contamination (oils, grease, dust, and loose or friable particles). Cement laitance must be removed. Dry and porous surfaces should be moistened with water.

2.2.2. Application Temperatures

Refer to the product's technical data sheet for application temperature.

2.2.3. Tools and complementary products

ALSAN FOAM CL-F : Ready-to-use cleaner used to remove unhardened foam

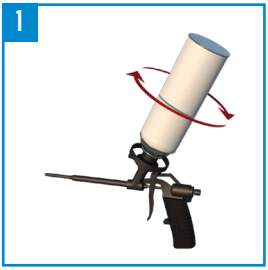
FOAM GUN FG-ST5 : Applicator gun for ALSAN FOAM products and ALSAN FOAM CL-F CLEANER

2.2.4. Application

2.2.4.1. Application of the ALSAN FOAM UNI W Foam

Note:
The recommended container temperature for application is 5 to 20 °C (41 to 68 °F) for ALSAN FOAM UNI W 500 ml format, and 5 to 25 °C (41 to 77 °F) for ALSAN FOAM UNI W 850 ml format. Optimal container temperature is approximately 20 °C (68 °F). If the container temperature is lower, place it in lukewarm water (35 to 40 °C [95 to 104 °F]) for 40 minutes.

1



Shake the foam container vigorously for 60 seconds before use.

Remove the protective cap and screw the can firmly, but not too tightly, onto the FOAM GUN FG-ST5 applicator gun.

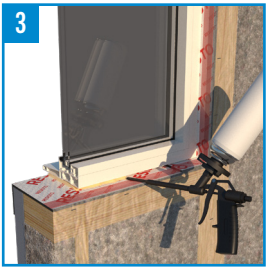
2

Regularly shake the foam can by holding the gun and the can firmly during prolonged use.

Note :

It is important to always keep the can upside down while applying the foam.

3



Hold the trigger of the applicator gun for at least five seconds to release the foam. Apply the foam in a continuous bead, without voids or breaks, around the window or door frame for effective adhesion.

Foam can be sanded, painted or stained after 24 hours. Hardened foam discolours and loses its stability and properties when exposed to UV rays. Paint or cover the exposed foam for better performance. It is important to wait for the product to harden completely before cutting off the excess material.

Notes :

- The can must be completely used within 30 days of the first use.
- During short work interruptions (less than 48 hours), the can may be left screwed onto the gun, but the screw on the back side of the gun must be tightened. The can must be under pressure, otherwise the foam will harden in the gun.
- NEVER leave an applicator gun without a foam can attached unless it has been thoroughly cleaned with ALSAN FOAM CL-F CLEANER.

2.2.4.2. Application of the ALSAN FOAM EPS/XPS

Note:
The recommended container temperature for application is 0 to 30 °C (32 to 86 °F) for ALSAN FOAM EPS/XPS. Optimal container temperature is approximately 20 °C (68 °F). If the container temperature is lower, place it in lukewarm water (35 to 40 °C [95 to 104 °F]) for 40 minutes.

1

Shake the foam container vigorously for 60 seconds before use.

Remove the protective cap and screw the can firmly, but not too tightly, onto the FOAM GUN FG-ST5 applicator gun.

2

Regularly shake the foam can while holdong the applocator gun and the can during prolonged use.

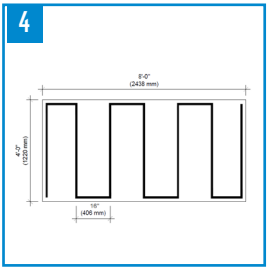
Remarque :

It is important to always keep the can upside down while applying the foam.

3

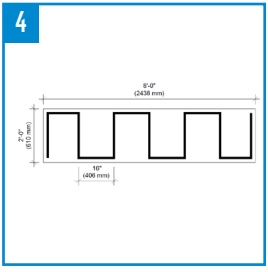
Hold the trigger of the applicator gun for at least five (5) seconds to release the foam.

4



Apply the foam in 2 to 3 cm (3/4 to 1 1/8 in) wide strips, 3 cm (1 1/8 in) from the edges of the insulation board and forming a continuous "S" every 45 cm (16 in).

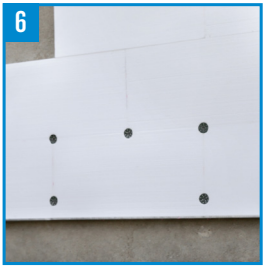
4



5

Wait five (5) minutes before placing the insulation board on the substrate. If the foam bead has formed a skin, remove it and reapply the adhesive.

6



Use mechanical fasteners in all above-ground applications. Assemblies must be under pressure to allow the adhesive to bond to materials effectively.

Notes :

- The can must be completely used within 30 days of the first use.
- During short work interruptions (less than 48 hours), the can may be left screwed onto the gun, but the screw on the back side of the gun must be tightened. The can must be under pressure, otherwise the foam will harden in the gun.
- NEVER leave an applicator gun without a foam can attached unless it has been thoroughly cleaned with ALSAN FOAM CL-F CLEANER.

2.2.5. Cleaning

2.2.5.1. Foam Cleaning

Shake the can containing ALSAN FOAM CL-F well, before use. Insert the black spray activator onto the valve pin of the can. Press the black activator to spray ALSAN FOAM CL-F onto the unhardened foam and wipe with a disposable material. Hardened foam must be removed mechanically and may leave a residue. Hardened foam will wear out over time and is not harmful to health.

2.2.5.2. Foam Gun Cleaning

1. Manually remove any hardened foam residue on the foam gun.
2. Shake the can of ALSAN FOAM CL-F well, before use, and screw it firmly onto the gun adapter.
3. Squeeze the trigger to let ALSAN FOAM CL-F flow through the gun adapter for at least five seconds to allow the solvent to remove any foam residue and make sure it is cleaned off thoroughly. Repeat the operation if necessary.

Note :
For a multiple foam can project, it is not necessary to flush the dispensing unit after every can of the same product. Clean the gun if a new type of foam is used. If switching to a new can of foam, always replace the empty product container immediately.

INNOVATION SINCE 1908

SOPREMA has developed around the idea that the quality, durability and reliability of materials must match builders' ambitions and expectations. For more than 100 years, SOPREMA has been using its expertise to develop a variety of high-end products that meet or exceed all the requirements of the construction field.

ROOFS WALLS FOUNDATIONS PARKING DECKS AND FLOORS CIVIL ENGINEERING STRUCTURES ADDITIONAL EXPERTISE


WATERPROOFING


INSULATION


VEGETATIVE SOLUTIONS


SOUNDPROOFING


ACCESSORY PRODUCTS

SOPREMA is an international manufacturer specializing in the production of waterproofing and insulation products, as well as vegetative and soundproofing solutions, for the building and civil engineering sectors.

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