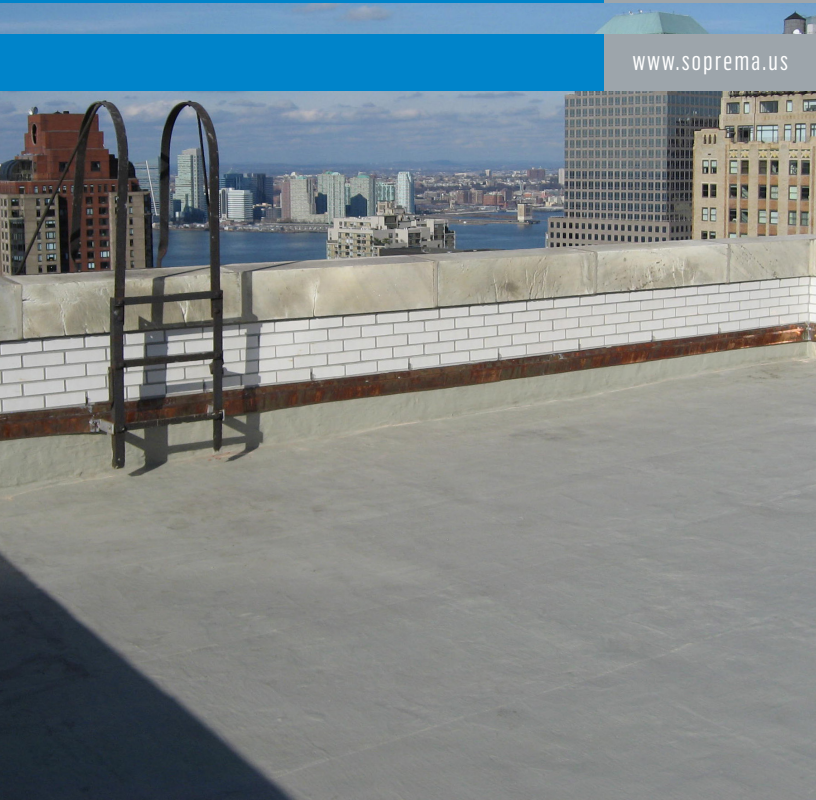




SOPREMA®

ALSAN® RS GUIDE

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ABOUT THIS ALSAN RS GUIDE

This ALSAN RS Guide contains excerpts from the ALSAN RS Technical Manual and the General Requirements. It is intended to provide contractors with a quick reference.

In order to keep the size of this “pocket” guide relatively small, a number of decisions were made about what information to include and what information to exclude. If there is a discrepancy between the ALSAN RS Technical Manual and/or the General Requirements and this guide, the ALSAN RS Technical Manual and the General Requirements will control.

If this guide does not provide you with the information you require, please consult the ALSAN RS Technical Manual and/or the General Requirements or contact SOPREMA's Technical Department at (330) 334-0066.

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1.0 SYSTEM & COMPONENT SELECTION

1.1 ALSAN RS SYSTEM SELECTION

ALSAN RS systems are available as fully or partially reinforced systems based on the following guidelines:

ALSAN RS SYSTEM SELECTION	
Over Occupied And/Or Conditioned Space	ALSAN RS Fully Reinforced Assemblies
Over Cantilever, Open Deck And Slabs On Grade	ALSAN Fully Or Partially Reinforced Assemblies

1.2 ALSAN RS COMPONENT SELECTION

ALSAN RS system components are available as standard or low odor formulations as follows:

ALSAN RS COMPONENT SELECTION		
ALSAN RS COMPONENT	STANDARD APPLICATIONS	LOW ODOR APPLICATIONS
PRIMERS		
ALSAN RS 222 Primer	✓	✗
ALSAN RS 276 Primer	✓	✗
ALSAN RS LO Primer	✓	✓
Acceptable Moisture Mitigation Epoxy Primer	✓	✓

ALSAN RS COMPONENT SELECTION		
ALSAN RS COMPONENT	STANDARD APPLICATIONS	LOW ODOR APPLICATIONS
MEMBRANE RESINS		
ALSAN RS 230 Field	✓	x
ALSAN RS 230 Flash	✓	x
ALSAN RS 260 LO Field	✓	✓
ALSAN RS 260 LO Flash	✓	✓
MORTAR RESINS		
ALSAN RS 233 Self-Leveling Mortar	✓	x
ALSAN RS 263 LO Self-Leveling Mortar	✓	✓

2.0 SUBSTRATE COMPATIBILITY

ALSAN RS systems may be applied over a variety of substrates including, but not limited to, concrete, wood, metals, plastics, insulations, specialty roof board underlay, existing single ply membranes, built-up roofing and coatings as follows:

2.1 ALSAN RS SUBSTRATE COMPATIBILITY

SUBSTRATE COMPATIBILITY		SEE NOTE
ASPHALT BASED SUBSTRATES		
Asphalt or exposed asphalt a laps/seams	✓	
Roofing felt (all)	✓	
SBS-Modified Bitumen (sanded or granulated)	✓	
APP-Modified Bitumen (granulated)	✓	
APP-Modified Bitumen (smooth)	×	
APP/SBS applied with solvent adhesive	×	6
Uncured roof cement or coatings	×	6
Coal tar pitch	×	5
SOPRABOARD	✓	
CEMENTITIOUS BASED SUBSTRATES		
Normal weight concrete, masonry, brick	✓	
Structural lightweight & aerated concrete	✓	1

SUBSTRATE COMPATIBILITY		SEE NOTE
CEMENTITIOUS BASED SUBSTRATES		
LWIC, gypsum, tectum	x	2
Cement based roof board	✓	
Glass faced gypsum based roof board	x	7, 8
METALS		
Steel, aluminium, copper, lead	✓	
Zinc, galvanized steel, stainless steel	✓	3
PLASTICS, SINGLE PLY MEMBRANES & COATINGS		
Acrylics	✓	4
PVC	✓	4
CPE, CSPE	✓	4
EPDM, TPO	x	
EVA	✓	4
PIB	✓	4
Rigid PVC & ABS	✓	
PU (polyurethane)	✓	4
UP (polyester)	✓	4
Rigid fiberglass & GRP	✓	
WOOD PLANK, TIMBER & SHEATHING		
Wood, plywood, dimensional lumber	✓	
Waterborne treated lumber	✓	
Penta treated lumber	x	

SUBSTRATE COMPATIBILITY		SEE NOTE
WOOD PLANK, TIMBER & SHEATHING		
Oriented strand board (OSB)	x	
INSULATION & SHEATHING (WALLS ONLY)		
Polyiso insulation (black organic facer)	x	2, 8
Polyiso insulation (coated glass facer)	x	2
Perlite, Wood Fiber, Rock Wool, Fiberglass, XPS, EPS Insulation	x	2
Cement wall board	✓	
Glass faced wall board	x	7, 8
Paper faced gypsum wall board	x	
OTHER		
Glass, glass block	x	7

2.1.1 SUBSTRATE COMPATIBILITY NOTES

- x NOT acceptable
- ✓ Acceptable
- 1 Typically requires moisture mitigation primer
- 2 No direct application - requires approved overlay
- 3 Requires special preparation
- 4 Field adhesion test required
- 5 Typically not applied over full membrane, but compatible with residue
- 6 Typically ALSAN RS components may be applied once all solvent has evaporated and the material has cured.
- 7 Generally not recommended.
- 8 Multiple coats of primer may be required. SBS base ply preferred

Refer to ALSAN RS Substrate Preparation & Primer Guidelines for additional information and requirements.

2.2 SOPREMA PRODUCT CROSS COMPATIBILITY

ALSAN RS components, flashing and waterproofing may be applied in conjunction with a variety of SOPREMA building envelope products and systems. The following table applies to the general compatibility and use of these products in mixed assemblies:

PRODUCT CROSS COMPATIBILITY		
SOPREMA PRODUCT	PRODUCT APPLIED TO ALSAN RS	ALSAN RS APPLIED TO PRODUCT
ROOFING & WATERPROOFING		
All SBS Products	✓, 4, 5	✓
COLPHENE® BSW-H, V	✓, 4, 5	✓
COLPHENE 3000	✓, 4, 5	✓, 5, 8
COLPHENE LM BARR	✓, 4	×
COLPHENE H/H-EV	✓, 4, 5	✓
SENTINEL®	×	✓
ALSAN Coating AC 400	✓, 4	✓
ALSAN Coating SIL 402	✓, 4	×
SOPRALAST® 50 TV ALU	✓, 4, 5	✓, 3, 5
WALL & AIR BARRIER		
SOPRASEAL® LM 202 VP/203	✓, 4, 5	✓, 5, 8
SOPRASEAL LM 204 VP	✓, 4	×
SOPRASEAL Stick 1100T	✓, 4, 5	✓, 5, 8
SOPRASEAL Stick VP	✓, 4, 5	×, 5, 8

PRODUCT CROSS COMPATIBILITY

SOPREMA PRODUCT	PRODUCT APPLIED TO ALSAN RS	ALSAN RS APPLIED TO PRODUCT
SOPRASOLIN® HD	✓, 4, 5	×
SOPRASEAL Liquid Flashing	✓, 4, 5	×
ACCESSORIES		
ALSAN Flashing	✓, 4	✓*, 6
COLPLY® Adhesive & Cement	✓, 4	*, 1, 2, 6
COLPY EF Adhesive & Cement	✓, 4	✓*, 6, 7
DUOTACK® 365	✓, 4	×, 2
ELASTOCOL® Stick, Zero, H2O	✓, 4	*, 2, 6
SOPRAMASTIC® SBS Cement	✓, 4	*, 1, 2, 6
SOPRAMASTIC SP1 Sealant	✓, 4	*, 6, 7
SOPRABOARD®	×	✓, 5
SOPRAFLASH® UN	×	×
SOPRAVAP'R™	✓, 4, 5	✓, 5, 8

2.2.1 CROSS COMPATIBILITY NOTES

- × NOT acceptable
- ✓ Acceptable
- 1 Not recommended
- 2 No direct application - requires approved overlay
- 3 Requires special preparation
- 4 ALSAN RS membrane must be wiped with ALSAN RS Cleaner prior to application
- 5 Acceptable SOPREMA primer required
- 6 Typically ALSAN RS components may be applied once all solvent has evaporated and the material has cured.
- 7 Substrate must be wiped with acetone or ALSAN RS Cleaner immediately prior to application
- 8 Applied in vertical counter flashing applications only

Refer to individual SOPREMA product and safety data sheets for additional information and requirements.

3.0 GENERAL APPLICATION GUIDELINES

3.1 MATERIAL DELIVERY, STORAGE & HANDLING

SOPREMA ALSAN RS products and components should be delivered to the project site and stored in their unopened, original packaging. Refer to Product Data Sheets (PDS) & Safety Data Sheets (SDS) for storage and handling related hazards and take all necessary measures and precautions to comply with storage and handling requirements.

Generally, ALSAN RS materials should be protected and stored in a dry, well-vented, and weatherproof location out of direct sunlight. Care should be taken to store ALSAN RS Fleece on-end and sufficiently elevated to protect from contact with water and other contaminants. Only materials to be used the same day shall be removed from this location.

When ALSAN RS materials will be stored outdoors, store away from standing water, stacked on raised pallets or dunnage, at least 4 in (100 mm) or more above ground level. Carefully cover storage with “breathable” tarpaulins to protect materials from precipitation and to prevent exposure to precipitation, condensation and sunlight.

ALSAN RS materials should not be stored in quantities that will exceed structural loading capacities, damage the substrate, hinder installation or restrict drainage. All damaged materials shall be removed from job site and replaced with new, suitable materials.

3.2 PROJECT SAFETY

The contractor shall be responsible for complying with all project-related safety and environmental requirements. Before handling ALSAN RS materials, refer to product Safety Data Sheets (SDS) for health, safety, and environment related hazards, and take all necessary measures and precautions to comply with exposure requirements.

Copies of current Safety Data Sheets (SDS) and Product Data Sheets (PDS) for applicable ALSAN RS components or materials must be kept on site and be readily available. Provide all workers with appropriate safety information, training and personal protective equipment as required for the specific materials to be handled and used.

3.3 ODOR CONTROL

Where required by the owner or owner's designated representative, implement odor control measures before mixing and applying any ALSAN RS materials. Odor control measures should be field tested during off-hours and

typically consists of one or more of the following measures:

- Sealing of air intakes with activated carbon filters and at open construction joints to against building exterior walls and penetrations to prevent leakage of unfiltered air into occupied spaces.
- Use of movable enclosures to accommodate resin mixing equipped with odor control measured to prevent odor mitigation outside the enclosure.

3.4 GENERAL SUBSTRATE REQUIREMENTS

Substrate preparation is critical to proper application performance, refer to section 5 for recommended substrate guidelines.

3.5 ENVIRONMENTAL CONDITIONS

Generally, ALSAN RS components may be applied while ambient temperatures remain 5°F (3°C) above the dew point and air temperatures are between 32°F (0°C) to 95°F (35°C) for most resins and between 23°F (-5°C) and 95°F (35°C) for ALSAN RS 230 winter grade resins. However air, substrate and resin temperatures are all factors in the proper application of ALSAN RS components and must be taken into account to determine percentage of ALSAN RS Catalyst Powder addition, pot life and cure times. Take measures to reduce substrate temperature

by using tarps. The recommended air, substrate and resin temperature by ALSAN RS product are as follows:

ALSAN RS PRODUCT	AIR °F (°C)	SUBSTRATE °F (°C)	RESIN °F (°C)
222, 276, 287, 289, Detailer, Paste, Textured Coating	32 - 95 (0 - 35)	32 - 122 (0 - 50)	37 - 86 (3 - 30)
230 Field, 230 Flash (Summer)	37 - 95 (3 - 35)	37 - 122 (3 - 50)	37 - 86 (3 - 30)
230 Field, 230 Flash (Winter)	23 - 50 (0 - 35)	23 - 122 (0 - 50)	37 - 86 (3 - 30)
260 LO Field, 260 LO Flash (Summer)	50 - 95 (10 - 35)	50 - 122 (10 - 50)	50 - 86 (10 - 30)
260 LO Field, 260 LO Flash (Winter)	37 - 68 (3 - 20)	41 - 86 (5 - 30)	41 - 86 (5 - 30)
233 Self-Leveling Mortar	37 - 95 (3 - 35)	37 - 122 (3 - 50)	37 - 86 (3 - 30)
263 LO Self-Leveling Mortar	37 - 95 (3 - 35)	41 - 122 (5 - 50)	37 - 86 (3 - 30)

Monitor ambient, substrate and material temperature, as well as all environmental conditions such as forecasted precipitation, sun, cloud cover, shade, wind, humidity and dew point.

Aside from the percentage of catalyst, resin temperature is the primary influence on pot life and cure time. In high and low ambient temperatures, provide job site protection for resin storage and mixing for optimum pot-life and

workability. In cold weather and winter months keeping resins warm will help accelerate cure times and make resins more workable. In cold conditions store product in warm enclosures or heated spaces. In hot weather keeping resins cool will extend pot-life and working times. In hot conditions store products inside conditioned spaces or shaded locations. When outside, store and mix products under a canopy or shaded location.

In all cases, ensure conditions are satisfactory to begin work and ensure conditions remain satisfactory during the installation of specified materials. Materials and methods shall be adjusted as necessary to accommodate varying project conditions. Materials shall not be installed when conditions are unacceptable to achieve the specified results.

Refer to individual Product Data Sheets (PDS) for specific product environmental restrictions, recommendations or requirements. Do not apply ALSAN RS materials during or with the threat of inclement weather. Refer to section for substrate conditions.

3.6 MASKING & PROTECTION

ALSAN RS products are liquid applied resins. Protect adjacent building surfaces from stains and/or spills during application by use of tarps or other protective measures. When working on

membrane terminations, masking tape should be used to provide clean lines at membrane edges and protect areas adjacent to work. Remove all tape and masking while resin is wet.

3.7 TYPICAL INSTALLATION & STAGING

In typical ALSAN RS applications the substrate is prepared, primed, flashings are installed followed by the application of the field membrane, mortar, surfacing and finish. When applying broadcast aggregate, the aggregate should not be left subject to the elements and therefore must be top-coated with ALSAN RS Finish the same day of application whenever possible.

3.8 MEASURING PRODUCT CONSUMPTION & BATCH MIXING



ALSAN RS components are generally packaged and applied by weight. Typically, resin consumption for ALSAN RS components are provided by kg/ft^2 (kg/m^2) with a comparative reference to kilograms per liter. For job site batch mixing ALSAN RS components can be reliably measured using sturdy, solvent resistant clear

plastic mixing containers calibrated for measuring in liters or using any weight scale capable of reading grams or kilograms. Thoroughly pre-mix the entire drum of RS resin for 2-3 minutes before each use, and prior to pouring it into a secondary container (used for measuring and/or mixing). Refer to individual ALSAN RS Product Data Sheets (PDS) for specific product application rates and consumption.

3.9 STEEP SLOPE APPLICATIONS

ALSAN RS resins are produced ready for application at low slopes, but may be applied at any desired slope by adjusting the resin viscosity with ALSAN RS Liquid Thixo. For slopes exceeding 1½ : 12, ALSAN RS resins may be pre-mixed with ALSAN RS Liquid Thixo at up to 2% by weight. The amount of thixotropic additive needed will vary by slope and temperature. Addition of ALSAN RS Liquid Thixo should be done following the below guidelines:

Thoroughly pre-mix the entire drum of uncatalyzed ALSAN RS resin for 2-3 minutes before each use and prior to pouring off resin into a second container. If batch mixing, use a mixing stick or a slow-speed mechanical mixer, taking care not to aerate. Add the required amount of ALSAN RS Liquid Thixo into the ALSAN RS resin and mix for 2-3 minutes.

- Test the amount of ALSAN RS Liquid Thixo

required by mixing small batches before mixing entire units of product.

- Start adding ALSAN RS Liquid Thixo at 1%
- Resin mixed with ALSAN RS Liquid Thixo must be allowed to stand 20 to 30 minutes before use.
- Approximately (1) TBSP = 20 g. 20 g = 2% per kilogram of resin when measuring ALSAN RS Liquid Thixo.
- The maximum recommended quantity of Liquid Thixo is 2% to uncatalyzed resin.
- Adjust upwards as needed until the desired viscosity is reached.

Note: Storage and working times are not affected by addition of ALSAN RS Liquid Thixo additive to uncatalyzed resin.

3.10 WORK INTERRUPTIONS

If work is interrupted for more than 12 hours, use ALSAN RS Cleaner to clean and prepare ALSAN RS applied primer, resin mortar, flashing or field membrane transition areas. ALSAN RS Cleaner should be allowed a minimum of 20 minutes evaporation time after application and covered within 60 minutes of cleaning.

3.11 APPLICATION QUALITY CONTROL

Determinations of bond strength and substrate

moisture content should be performed periodically by the contractor throughout the course of work.

Bond strength and adhesion can be monitored at the job site using an appropriate adhesion tester. Perform tests on a completely cured sample membrane applied adjacent to work at start-up, and at intervals as required throughout the project assuring specified adhesion with a minimum of three tests per 5000 ft² (465 m²). In the event that the tensile bond strengths are lower than the minimum specified, additional substrate preparation is required. Repeat testing to verify suitability of substrate preparation. The contractor shall immediately notify SOPREMA in the event the tensile bond test results are below the recommended criteria.

3.12 CLEAN UP & DISPOSAL

Remove all masking, protection, equipment, materials and debris from the work and storage areas and leave those areas in an undamaged and acceptable condition.

Cured ALSAN RS components may be disposed of in standard landfills. Before disposal, thoroughly mix all leftover components, mixing buckets, and/or empty cans with residual product residue with ALSAN RS Catalyst Powder and allow time to fully harden. ALSAN RS materials and debris must be handled as required in

individual product SDS and in accordance with local, state and federal regulations.

3.13 PROTECTION

Protect finished application from all other contractors and activities during and after completion. Any damage to the system must be repaired as required or recommended by SOPREMA.

4.0 APPLICATION TOOL GUIDELINES

The SOPREMA ALSAN family of liquid applied products is used for a variety of roofing, waterproofing and protective surfacing applications. ALSAN RS requires very little in the way of materials, tools and equipment for installation. All applications will require the use of approved rollers and brushes. These tools must be specifically designed for the correct delivery and application of all ALSAN RS resins and components. The following tools, equipment and ancillary products are recommended to aid in the successful application of ALSAN RS roofing, waterproofing and protective surfacing systems:

4.1 TOOLS, EQUIPMENT & ANCILLARY PRODUCTS REQUIRED

Substrate Preparation

- ALSAN RS Paste resin (non-traffic bearing substrates only)
- ALSAN RS 233/263 LO Self-Leveling Mortar
- Blower, vacuum & broom
- #1 Kiln dried quartz aggregate
- ½ to ⅝ inch closed cell PE backer rod

- Scarification equipment including shot blaster, floor scarifier & hand held grinders w/ diamond cup wheel
- Square edge trowel
- Screed bar

Mixing

- Plastic tarps or sheeting
- Clean mixing sticks
- Variable speed drill with ½ inch chuck
- 2 large spiral resin agitator/mixers
- 1 tablespoon (15 ml) measure
- Plastic mixing buckets (5 liter)
- Mixing pail (5 gallon)

Application

- Reinforced masking tape
- Razor knife
- 9 inch scissors
- Disposable heavy duty nitrile gloves
- Chalk line
- Tape measure
- Permanent marker

Miscellaneous

- Extension cords
- Clean cotton rags
- Plastic garbage bags
- ALSAN RS Cleaner
- 6 foot long pole handle

The applicator must assess jobsite conditions and determine specific needs for any individual application, including requirements for any special tools, permits or licenses. The tools and equipment recommended here are based on normal practice in typical applications of SOPREMA ALSAN RS supplied products.

4.2 HAND TOOLS REQUIRED

The following tools sold by SOPREMA are recommended for application of specific ALSAN RS components:

ALSAN RS FLASHING MEMBRANE APPLICATION	
All Applications:	4 Inch Roller Naps 4 Inch Roller Handles 4 Inch Brushes

ALSAN RS FIELD MEMBRANE APPLICATION	
Basecoat Normal Application:	$\frac{3}{8}$ Inch Steel V-Notch Trowel Or Rake

ALSAN RS FIELD MEMBRANE APPLICATION

Basecoat Steep Slope Application:	¼ Inch Steel V-Notch Trowel Or Rake
All Applications:	7 Inch Roller Naps 7 Inch Roller Handles

ALSAN RS 233/263 LO SELF-LEVELING MORTAR APPLICATION

Normal Application:	½ Or 7/16 Inch V-Notch Trowel, Stub Roller, Nub Roller Or Rake With Blunted Tips
Steep Slope Applications:	¾ Or ½ Inch V-Notch Trowel Or Rake
All Applications:	Nylon Spiked Roller Spiked Shoes, Nub Roller

ALSAN RS 289 TEXTURED FINISH APPLICATION

Light Pedestrian Traffic:	3/16 Inch V-Notch Trowel Or Rake
Normal Pedestrian Traffic:	¼ Inch Steel V-Notch Trowel Or Rake
Vehicular Traffic:	¾ Inch Steel V-Notch Trowel Or Rake
All Applications:	ALSAN RS Roller Knaps ALSAN RS Roller Handles

ALSAN RS TEXTURED COATING APPLICATION

All Applications:	Square Edge Finishing Trowel ALSAN RS Roller Naps ALSAN RS Roller Handles
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ALSAN RS 287 COLOR FINISH BASE APPLICATION

Smooth Surfaces:	$\frac{1}{8}$ Inch Steel V-Notch Trowel Or Rake
Embedment Coat For #0 Quartz Aggregate:	$\frac{3}{16}$ Inch Steel V-Notch Trowel Or Rake
Sealcoat Over Quartz Aggregate:	Flat Blade Rubber Squeegee
All Applications:	7 Inch Roller Naps 7 Inch Roller Handles

4.3 GENERAL INFORMATION

Rollers & Brushes

All applications will require the use of SOPREMA approved rollers and brushes. These tools must be specifically designed for the correct delivery and application of all ALSAN RS resins and components. Each workman will use approximately 3 to 5 brushes and/or roller naps per hour. Order according to the number of workers and man-days anticipated for each

project. When ordering ALSAN RS tools, the following guidelines would apply:

7 Inch Roller Naps

Used with all ALSAN RS components for application in field and large open areas.

4 Inch Roller Naps

Used with all ALSAN RS components for application on flashings and small tight areas.

2.5 Inch Brushes

Used with all ALSAN RS components for application on flashings, detail work and small tight areas. Brushes are always required to work resin into corners and tight areas that cannot be reached with a roller.

24 Inch Squeegee (Flat Blade & Notched)

Used for application of the resin mortars and topcoat finishes on horizontal substrates.

Resin Mixer/Agitator

Specially designed non-aerating resin mixer/agitator is required for mixing all ALSAN RS components. Using at least two mixer/agitators is recommended for productivity and to avoid cross contamination of catalyzed and non-catalyzed resin products.

Stub Roller

18" stub roller for stand-up application of ALSAN

RS Self-Leveling Mortar. The roller has alternating segments manufactured from high density polyethylene while the end caps are made from ultra-high molecular weight polyethylene.

Stub Roller

Spike roller is used for pinning (to assist in leveling and eliminating air bubbles) ALSAN RS 233/263 LO Self-Leveling Mortar for both pedestrian and vehicular traffic bearing systems.

Spike Shoes

Spike shoes are used when required for pin rolling and broadcasting aggregate on ALSAN RS 233/263 LO Self-Leveling Mortar for both pedestrian and vehicular traffic bearing systems.

Nub Roller

½" nap chemical resistant woven nylon roller cover

4.4 TOOL USE & CARE

Brushes and roller naps are consumable items, and must be discarded once they have stiffened. Consumption of brushes and rollers will vary depending upon temperature and the type of resin being used. For prolonged brush and roller life, remove excess resin during work stoppages (brush or roll dry) using clean cardboard or other disposable material. Eventually the brush and/or

roller nap will harden as resin begins to cure requiring replacement.

Roller handles and metal tools may be cleaned with ALSAN RS Cleaner. To minimize cleaning, wipe reusable handles and tools with clean, dry cloth as needed before resin components cure.

5.0 JOB SITE APPLICATION QUALITY CONTROL

ALSAN RS systems are relatively easy to install, but require monitoring of basic field conditions to assure successful application. All job sites should be equipped with a means to monitor and record:

- Ambient air, substrate & resin temperatures
- Relatively humidity (RH) & dew point
- Moisture content of substrates
- Component adhesion

5.1 SUBSTRATE CONDITIONS

ALSAN RS systems may be applied over a variety of substrates including but not limited to concrete, wood, metals, plastics, insulations, specialty roof board underlay, existing single ply membranes, built-up roofing and coatings. ALSAN RS systems, as with other liquid applied membranes and coatings, require a sound stable dry substrate to ensure proper application, adhesion and performance. At the time of application, the substrate must be clean, dry, free of loose, spalled or weak material, oil, grease, contaminants, abrupt changes in temperature level, waterproofing agents, curing compounds,

and free of projections which could damage ALSAN RS components.

Before applying ALSAN RS components, the substrate must be evaluated to determine:

- Soundness & suitability
- Required surface preparation
- Moisture content

Once the substrate is evaluated and deemed suitable by the applicator, the ALSAN RS application may proceed.

5.2 RECOMMENDED GUIDELINES

SOPREMA recommends substrates be prepared to provide maximum moisture content and ALSAN RS component adhesion with a minimum bond strength as follows unless otherwise noted:

- 75% relative humidity (ASTM F2170)
- 116 psi (0.8 N/mm²) for roofing or non-traffic bearing waterproofing applications
- 220 psi (1.5 N/mm²) on structural substrates, traffic bearing waterproofing and surfacing applications.

Determinations of moisture content and bond strength should be performed by the contractor prior to application of the ALSAN RS components, periodically throughout the course of work, at

intervals as required assuring the specified adhesion and at a minimum of three (3) tests per 5000 ft² (465 m²). If the substrate RH exceeds recommended levels, consult SOPREMA regarding use of an appropriate moisture mitigation primer where acceptable.

For roofing and waterproofing applications the minimum bond strength will vary and be limited by the substrate type or material used. At minimum ALSAN RS roofing and waterproofing systems should resist the design uplift pressures and/or dynamic loading required by the applicable building code for the structure and new waterproofing system.

5.3 RECOVERING EXISTING MEMBRANES & COATINGS

When recovering an existing membrane or coating, ALSAN RS systems are limited by the integrity and adhesion of the existing membrane or coating to the structural substrate. Therefore, in recovery applications any ALSAN RS warranty offered is limited to the adhesion of the ALSAN RS components to the properly prepared surface of the existing membrane or coating.

At a minimum the existing membrane or coating should be intact and bonded to the substrate with adequate adhesion to resist the design uplift pressures and/or dynamic loads

required by the applicable building code for the structure, building components, cladding and new waterproofing system.

5.4 FIELD ADHESION TESTING METHODS

The applicator is responsible to select a suitable means for job site adhesion testing when evaluating substrate suitability. A variety of recognized methods can be used to determine bond strength to a substrate. Commonly used field techniques include peel strips for roofing or waterproofing applications or use of a portable pull-off adhesion tester for traffic bearing waterproofing and surfacing applications.

When determining substrate suitability, both bond strength and test failure mode should be considered. Typically interstitial failure within the membrane (cohesive) is preferred. Adhesive failure at the ALSAN RS component/substrate interface or failure of the substrate would generally indicate either issues with structural integrity or substrate preparation.

Pull Testing

Where required, pull tests should be performed using a portable adhesion tester in accordance with ASTM D4541 Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers, which will provide reliable and

quantitative results when evaluating ALSAN RS traffic bearing waterproofing and surfacing applications.

Pull testing typically requires a loading fixture, commonly called a dolly or stub must be affixed by an adhesive to the in-place cured ALSAN RS sample area. The ALSAN RS sample is cut directly around the dolly down to the substrate, then a uniform load is increasingly applied to the test surface using the portable pull-off adhesion tester until the dolly is pulled off. The force required to pull off the dolly or the force the dolly withstood, yields the tensile strength in pounds per square inch (psi) or mega Pascals (MPa). Failure (the fracture surface) will routinely occur along the weakest plane within the system comprised of the dolly, adhesive, coating system or substrate. A two inch diameter dolly is preferred.

Portable adhesion test equipment is available with mechanical (twist by hand), hydraulic (oil) or pneumatic (air) pressure apparatus, and are classified as being fixed or self-aligning depending upon their ability to ensure a vertical pull-off force. Self-aligning pull testers that ensure the pull-off force acts perpendicular to the surface being tested, using 2 in (50 mm) diameter dollies is preferred.

Peel Test

Peel testing may be used to qualitatively establish whether adhesion of ALSAN RS component to a substrate, coating or membrane (in multi-coat systems) is generally adequate. Peel testing is often used for ALSAN RS roofing and waterproofing applications, but may also be used for any non-traffic bearing ALSAN RS applications, where adequate adhesion normally results in a resin transfer (a residual layer of bonded ALSAN RS resin) onto the substrate. Peel testing is typically performed in accordance with ASTM C794 as follows:

- Choose 3 or more areas, representative of each substrate.
- Clean, prepare and prime substrate as required.
- Cut 1 in (25 mm) wide x 12 in (300 mm) long strips of ALSAN RS Fleece reinforcing fabric.
- Apply ALSAN RS Fleece strips in the appropriate ALSAN RS resin to fully encapsulate an 8 to 9 in (203 to 230 mm) long section of the 12 in (305 mm) strip, leaving a 3 to 4 in (75 to 100 mm) “dry tail” to remain uncoated.
- Allow the ALSAN RS component to fully cure. Samples may be peeled within 2-3 hours of

cure. Certain membranes, e.g., thermoplastic membranes may require additional cure time (3-7 days) to achieve optimum results.

- Grip the “dry tail” end of the ALSAN RS Fleece and pull 180 degrees, parallel with the surface.

For ALSAN RS systems, adequate resistance to peel adhesion is normally demonstrated by cohesive failure where most of the coating remains on the substrate. Any failure of the substrate should be evaluated to determine suitability and degree of surface preparation that may be needed.

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5.5 SUBSTRATE MOISTURE TESTING METHODS

A variety of recognized methods can be used for substrate moisture testing. Common tests used to determine the presence of moisture include calcium chloride (CaCl) and plastic sheet, which measure surface moisture only and have proven unreliable when determining moisture conditions within a substrate. SOPREMA recommends using RH testing for all substrates, which provides accurate moisture measurements, especially in concrete and masonry.

Concrete & Masonry

SOPREMA recommends all concrete and masonry moisture testing be performed by relative humidity (RH) in accordance with ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs or other means suitable to the project application.

ASTM F2170 provides a method with precise guidelines for using relative humidity (RH) testing when measuring moisture content in concrete slabs.

A general guideline of the test method includes:

- Confirm test equipment meets specifications and is correctly calibrated.

- Check job site conditions, assuring the slab and the ambient air above is at service conditions for a minimum of 48 hours before testing.
- Map out sensor count and location. ASTM F2170 requires three test holes for the first 1000 ft² (93 m²) and at least one additional hole for each additional 1000 ft² (93 m²). The total area of the slab and the number of test holes must be recorded.
- Determine the required depth of the test holes calculated based on slab thickness and number of drying sides. Typically this is 40% of the slabs depth when drying from one side; or 20% of the slabs depth drying from two sides.
- Drill and prepare the test holes, insert RH sensors and seal according to manufacturer's directions during equilibration.
- Equilibrate sensors for 72 hours before initial reading. ASTM F2170 requires each sensor to equilibrate at least 72 hours before a documentable reading is recorded.
- Take RH readings for each sensor following the 72 hour equilibration period.

Note: Accurate indication of internal substrate moisture conditions will determine the type

of primer that may be required, impacting the application and long-term performance of ALSAN RS systems. Moisture does not evenly distribute through the slab during the drying process, but once the slab is sealed, any moisture remaining will eventually equilibrate through the slab. This is the moisture level that will remain in contact with any applied primers, membranes or finishes over time.

Other Substrates

For relatively dry substrates, surface moisture can quickly, easily and repeatedly be performed non-destructively using hand-held electronic moisture/RH meters. SOPREMA recommends the use of an electronic hand-held meter specifically designed for measuring moisture/RH utilizing a pin-less meter pad with a minimum $\frac{3}{4}$ inch (19 mm) penetration in accordance with ASTM D7954 Standard Practice for Moisture Surveying of Roofing and Waterproofing Systems Using Non-Destructive Electrical Impedance Scanners. The optimum instrument would measure moisture content, relative humidity, temperature and dew point in concrete and cementitious substrates.

5.6 SUBSTRATE CONTAMINANT & OTHER TESTING

Issues presented or demonstrated through

failures in previously applied materials may dictate additional field and/or laboratory testing to confirm substrate suitability for ALSAN RS systems.

For substrates with unknown history, SOPREMA recommends testing for contaminants (i.e. hydrocarbons, other organic compounds, un-reacted water soluble silicates, chlorides, ASR, sulfurous compounds, etc.) by means of Ion Chromatography and IR Spectroscopy. Projects with contaminated substrates may require pre-treatment, use of specialty primers or application of an appropriate separation screed to block capillary infiltration of oil and/or chemicals from the ground contamination, oil-contaminated slabs, high pH or other conditions.

Consult SOPREMA when suitability of any substrate may be in question and contact a suitable laboratory for testing as needed.

6.0 SUBSTRATE PREPARATION

Prior to application of any ALSAN RS products or materials, the substrate shall be prepared as recommended by SOPREMA and/or required for the intended application.

All substrates must be clean, dry and free from gross irregularities, loose, unsound or foreign material such as dirt, ice, snow, water, grease, oil, release agents, lacquers, or any other condition that would be detrimental to adhesion of ALSAN RS system components to the substrate. Most surfaces will require mechanical abrasion in the form of shot-blasting, scarifying or grinding to achieve a suitable substrate.

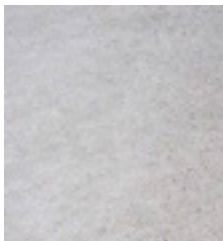
Shot Blast



Scarification



Cup Grind



Inspect all substrates and correct defects before application of ALSAN RS materials.

Unless otherwise noted, all substrates shall comply with the following:

- Substrates shall have a maximum moisture content of 75% relative humidity (RH) tested in accordance with ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes unless otherwise approved.

- Substrates shall be prepared as required to provide the ALSAN RS system to substrate with minimum bond strength of 116 psi (0.8 N/mm²) for roofing and non-traffic bearing waterproofing applications or 220 psi (1.5 N/mm²) for traffic bearing systems tested in accordance with ASTM D4541 Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers.
- Substrates shall be free of surface voids greater than $\frac{1}{16}$ in (1.5 mm) wide x $\frac{1}{16}$ in (1.5 mm) deep and otherwise be corrected as required in accordance with acceptable methods.

Note: SOPREMA recommends confirming substrate preparation and bond strength with field adhesion testing in accordance with ASTM D4541 for all substrates before proceeding with application of ALSAN RS components. Determinations of substrate moisture content and bond strength should be performed periodically by the contractor throughout the course of work.

6.1 SUBSTRATE CATEGORIES

6.1.1 CONCRETE, MASONRY & BRICK

Concrete, masonry and brick substrates must be abrasively cleaned (shot-blast, scarify or grind) in accordance with ASTM D4259 Standard Practice

for Abrading Concrete to provide sound, clean, laitance-free open abraded surface as follows:

- Concrete substrates shall comply with requirements of ACI 301/ACI 308 with minimum 3,500 psi (25 N/mm²) compressive strength for acceptable ALSAN RS primers or cured sufficiently to achieve minimum 2,500 psi (17 N/mm²) compressive strength for acceptable moisture mitigation primers on new concrete and be mechanically prepared to ICRI Concrete Surface Profile CSP 3, CSP 4 or CSP 5; CSP 3 being the preferred profile.
- Masonry & brick substrates shall be structurally sound built of hard kiln dried brick, concrete block, precast tilt-up or cast-in-place concrete construction mechanically prepared to ICRI Concrete Surface Profile CSP 2, CSP 3 or CSP 4; CSP 3 being the preferred profile.
- Areas of spalls, voids, bug holes and other deterioration on vertical or horizontal surfaces shall be repaired as required in accordance with acceptable methods.

Note: ALSAN RS components must not be applied over spalling concrete, soft or scaling brick or block, faulty mortar joints, or walls with structural damage, cracks, and/or other deficiencies. Hollow tile walls or other materials allowing moisture infiltration from the

backside are not suitable to receive ALSAN RS components unless properly waterproofed to prevent moisture infiltration from above or behind.

Structural Concrete

Properly designed and installed structural concrete decks with 4 in (100 mm) minimum thickness are recommended. When steel form decking is used and will remain in place, only products with factory punched vent slots or tabs should be used, as decks installed over non-vented metal decks or pans may allow for trap moisture in the deck assembly.

Light Weight Structural & Aerated Concrete

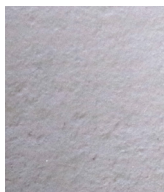
Typically, lightweight structural concrete has a minimum density of 50 lb/ft³ (800 kg/m³), but weighs less than standard concrete due to use of lower density aggregates. New concrete production often uses natural aggregates of volcanic origin (pumice, tuff, scoria), or processed aggregates like expanded slag, shale or clay. In some cases synthetic aggregates and/or recycled materials may also be used.

High-performance aerated structural concrete, in addition to using lightweight aggregates, typically involves "enhancing" the concrete to improve performance in a severe or specialized environment. This type of lightweight structural concrete is produced by introducing tiny air

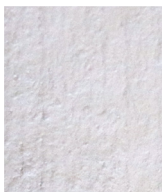
pockets into the concrete mixture through a chemical reaction using hydrogen peroxide or aluminum powder.

As there are numerous possible combinations of aggregates, admixtures, and processes for "lightweight structural concrete" and "aerated structural concrete" resulting in varied compressive strengths and physical properties, each pour must be evaluated individually to determine suitability as a substrate for any ALSAN RS system on a job-by-job basis.

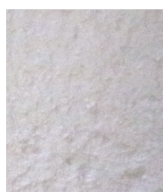
Concrete/Masonry Surface Preparation



CSP 3



CSP 4



CSP 5

Generally speaking, ALSAN RS roofing, waterproofing and certain traffic bearing waterproofing applications may be considered over structural lightweight or aerated concrete that is 100 lb/ft³ (1,600 kg/m³) density or higher and with compressive strength 3,000 psi (25 N/mm²) or greater. If both criteria are met, an adhesion test is recommended to confirm cohesive integrity of the lightweight concrete

and suitability for application of the ALSAN RS system.

Testing and acceptance of all substrates, including structural lightweight concrete, is the applicators responsibility. However, for any application over lightweight concrete SOPREMA's warranty would be limited to bond of ALSAN RS to the lightweight structural concrete, but not imply acceptability or warrant integrity of the lightweight structural concrete deck itself.

NOTE: Where application of ALSAN RS systems will proceed over an acceptable lightweight structural concrete, the substrate must be prepared in accordance with the recommendations for structural concrete. Also, in all applications over structural lightweight concrete, an appropriate moisture mitigation primer must be used due to the potential for latent moisture contained in the lightweight aggregates.

Light Weight Insulating Concrete (LWIC)

Typically, lightweight insulating and cellular concrete have densities of between 22-38 lb/ft³ (352-609 kg/m³), using perlite or vermiculite as a filler. Also, in older buildings cinder (a by-product of coal or coke combustion) concrete was often used for sloped fill and/or insulation. Neither lightweight insulating concrete and cinder

concrete are acceptable as a substrate for direct application of ALSAN RS systems.

Consult SOPREMA technical support for recommendations for an acceptable SBS base ply as a substrate for ALSAN RS roofing and waterproofing system when LWIC is encountered.

Green Concrete Applications

SOPREMA recommends ALSAN RS systems not be applied over green concrete, wet concrete, substrates with RH above recommended levels or substrates where latent moisture is suspect. When such applications are necessary due to project conditions or scheduling, use of an acceptable moisture mitigation primer is required. In all cases, substrates should have proper means to completely hydrate and dry laterally or downward.

When using an acceptable moisture mitigation primer, the structural concrete substrate must have minimum 7 day cure, reached minimum 2,500 psi (17 N/mm²) compressive strength, and be mechanically prepared (i.e. Shot blast or scarified) to a concrete surface profile (CSP) 3 – 5 per the International Concrete Repair Institute (ICRI) Guideline No. 301-2R-2013.

The final prepared concrete substrate must be clean, abraded, free of moisture-sensitive patching and leveling materials, adhesives,

coatings, curing compounds, concrete sealers, efflorescence, dust, grease, oils and any other materials or contaminants that can act as bond breakers.

Split Slab Construction

Application of ALSAN RS systems applied over "split slab" construction is not recommended due to potential for trapped moisture within the existing assembly and potential issues that can result. Latent moisture in substrates (especially in split slab construction) can lead to a host of problems including blistering, delamination, condensation, mold and structural damage. The best solution for split slab construction is to remove the overburden and existing membrane, assure a dry substrate and apply new waterproofing direct to the structural slab.

Consult SOPREMA technical support for options and recommendations for all projects where split slab construction is encountered or suspected.

6.1.2 METALS

Clean and prepare metal to near-white metal in accordance with The Society for Protective Coatings formerly the Steel Structures Painting Council (SSPC) standard SP3 Power Tool Cleaning to a point maximum $\frac{1}{8}$ in (3 mm) beyond the termination of ALSAN RS components and wipe with ALSAN RS Cleaner to remove oils, debris or

contaminants.

SOPREMA recommends confirming metal substrate preparation and bond strength with field adhesion testing in accordance with ASTM D4541 Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers.

Typically ferrous metals (carbon steel, cast iron), aluminum and copper are ready to receive ALSAN RS Metal Primer following the above preparation.

Stainless steel varies by alloy and grade, but generally all have low carbon content with smoother surfaces than carbon steel which can adversely affect ALSAN RS component adhesion. Following the above preparations, some stainless steel may require use of an acceptable 2-component epoxy primer to achieve adequate adhesion.

For galvanized and zinc rich metals, the surface applied passivator must be completely removed by mechanical abrasion prior to applying ALSAN RS components. This can be confirmed by applying a coat of copper sulfate solution to the prepared and cleaned galvanized/zinc metal. A properly prepared surface will turn black indicating the passivator has been removed. If the surface does not turn black, additional abrasive

cleaning will be required.

All overlaps or butt joints in break-metal components, flashing or sheet metal must be covered with minimum 1 in (25 mm) wide bond breaker tape followed with minimum 6 in (150 mm) wide strips of ALSAN RS Flash reinforced membrane centered over joint. Anchors or nails required through flashing components should be held back 1½ inch minimum from perimeter edges of ALSAN RS membrane. See SOPREMA ALSAN RS typical drawings for treatment and detailing of specific conditions.

SOPREMA recommends priming all metals with ALSAN RS Metal Primer to promote adequate adhesion. For ferrous metals, any exposed metal beyond the edge of ALSAN RS materials should be coated with an appropriate rust-inhibitive paint.

6.1.3 RIGID PLASTICS (PVC & ABS)

Rigid plastics should be lightly abraded and wiped with ALSAN RS Cleaner. Extend preparation maximum ¼ in (3 mm) beyond the specified termination of the ALSAN RS materials.

6.1.4 WOOD PLANK, TIMBER & SHEATHING

Hygroscopic building materials such as wood plank, timber or plywood sheathing will normally have higher moisture content (e.g. range of 8% to 12%) as they adsorb or desorb moisture to

reach an equilibrium moisture content with the surrounding air. ALSAN RS components should not be applied to damp or wet sheathing materials, but may be applied to materials with higher moisture contents as indicated above, provided the exposed surface is clean and dry. Determinations of moisture content and the resulting bond strength should be performed periodically to confirm acceptability. If poor adhesion or blistering occurs, substrate will require additional drying time before proceeding.

Plywood sheathing should be structural panels performance-rated pursuant to National Institute of Standards and Technology (NIST) voluntary product standard PS-1-95; identified by the American Plywood Association (APA) grade designations as follows:

WOOD DECK SUBSTRATES	
Single Layer	$\frac{3}{4}$ in (19 mm) minimum thickness, APA A-C, Group 1, Exterior or Exposure 1, 48 in (1220 mm) x 96 in (2440 mm) tongue & groove panels
Double Layer	$\frac{15}{32}$ " minimum thickness per layer, APA A-C, Group 1, Exterior or Exposure 1, 48 in (1220 mm) x 96 in (2440 mm) square edge panels with staggered joints

Always install panels with “best” side up, edges supported by blocking or structural framing, fastened using only non-corrosive screw fasteners with heads installed flush with

sheathing applied at 6 in (150 mm) minimum o.c. along panel edges and 12 in (300 mm) o.c. over intermediate supports and/or additional fastening as required by jurisdictional codes.

For ALSAN RS applications directly to wood, the following is required:

- Prime all wood substrates with an appropriate ALSAN RS primer, then fill joint gaps, holes and cracks with ALSAN RS Paste or ALSAN RS Self-Leveling Mortar. ALSAN RS Self-Leveling Mortar must be used for applications where an ALSAN RS pedestrian waterproofing and surfacing system will be applied direct to plywood.
- All joints in wood or sheathing must be covered with minimum 1 in (25 mm) wide bond breaker tape followed with minimum 6 in (150 mm) wide strips of ALSAN RS flash reinforced membrane centered over joint. Knot holes, cracks or other surface deficiencies should be patched with ALSAN RS flash reinforced membrane as required.

Note: OSB (oriented strand board) is NOT acceptable for use with ALSAN RS components or systems.

6.1.5 ROOF COVERBOARDS & SHEATHING

For direct application over acceptable roof cover

boards and/or sheathing the following is required:

- Prime sheathing/cover boards with an appropriate ALSAN RS primer, then fill joint gaps, holes and cracks with ALSAN RS Paste or ALSAN RS Self-Leveling Mortar.
- All joints in sheathing/cover boards must be covered with minimum 4 in (100 mm) wide strips of ALSAN RS flash reinforced membrane centered over joint.

Contact SOPREMA for acceptable coverboards required over rigid foam board insulation.

6.1.6 FRAMED WALL CONSTRUCTION

Frame walls are not acceptable to receive ALSAN RS flashings unless suitable solid backing for the flashing is provided. At a minimum, sheet metal, plywood or cement backer board should be used as wall sheathing. Walls sheathed with gypsum wall board or other paper-faced gypsum based products are not acceptable as a substrate for ALSAN RS components. Suitable stops should be provided at the top of the flashing in curtain wall construction, to ensure a watertight seal for flashings.

6.1.7 ASPHALT BUILT-UP ROOFING

ALSAN RS membrane can be used for reroof overlays, flashings, and tie-ins of asphalt built-up roofing. Remove all dust, dirt and debris from the

surface of the built-up roof (BUR) membrane as required. For gravel surfaced BUR membranes, gravel should be removed by spudding and power vacuuming. BUR membranes with gravel surfacing removed generally require a leveling coat of ALSAN RS resin-mortar, an acceptable roof recovery board and/or base sheet overlay. In recovery applications, all blisters, ridges and deficiencies must be cut and patched ALSAN RS resin-mortar or an acceptable base sheet overlay to provide a reasonably level substrate. Following the necessary substrate preparations, the entire substrate must be primed with an appropriate ALSAN RS primer.

6.1.8 GRANULATED SURFACE SBS & APP MODIFIED BITUMEN MEMBRANES

ALSAN RS can be used for reroof overlays, flashings and tie-ins of sanded and/or granulated SBS and APP modified bitumen roofing. Remove all loose granules, dust, dirt and debris from the surface of the membrane as required. In recovery applications, all blisters, ridges or deficiencies must be cut and patched with ALSAN RS resin-mortar or an acceptable base sheet overlay to provide a reasonably level substrate. Following the necessary substrate preparations, an appropriate ALSAN RS primer is recommended for all applications and required over any exposed (raw) asphalt.

6.1.9 SMOOTH SURFACE APP MODIFIED BITUMEN OR EMULSION COATED MEMBRANES

ALSAN RS components should NOT be applied directly to smooth surface APP modified bitumen or emulsion coated membranes. When ALSAN RS membranes will be used in these applications for reroof overlays, flashings and tie-ins special substrate preparations are required. In recovery applications, all blisters, ridges and deficiencies must be cut and patched ALSAN RS resin-mortar or an acceptable base sheet overlay to provide a reasonably level substrate. Following the necessary substrate preparations, an appropriate ALSAN RS primer is recommended for all applications and required over any exposed asphalt.

Smooth Surface APP

SOPREMA recommends smooth surface APP modified bitumen membranes have an acceptable roof recovery board and/or base sheet overlay prior to applying ALSAN RS components or membrane. For flashing tie-ins, an acceptable granulated target sheet can be applied over the in-place smooth APP membrane. For direct recovery where an overlay is not used, the smooth APP membrane must be heated and broadcast with #1 (0.7 - 1.2 mm) quartz aggregate to full cover. Using a torch

or hot-air welder, sufficiently soften the top surface of the in-place membrane and embed aggregate aggregate into the softened asphalt. After the asphalt has cooled, remove all loose granules, dust and dirt from the surface of the membrane by broom, blower and/or and power vacuuming.

Emulsion Coated Membranes

SOPREMA recommends emulsion coated membranes have an acceptable, properly secured roof recovery board and/or base sheet overlay prior to applying ALSAN RS components. For direct recovery where an overlay is not used, the emulsion coating must be heated and broadcast with #1 (0.7 - 1.2 mm) quartz aggregate to full cover. Using a torch or hot-air welder, sufficiently soften the top surface of the in-place membrane and embed aggregate into the softened asphalt. After the asphalt has cooled, remove all loose granules, dust and dirt from the surface of the membrane by broom, blower and/or and power vacuuming.

6.1.10 COAL TAR PITCH BUR & COAL TAR MODIFIED BITUMEN MEMBRANES

Due to the low melt and cold flow characteristics of coal tar pitch, SOPREMA ALSAN RS is not recommended for recover applications. However, ALSAN RS may be applied over coal tar pitch

residue from tear-offs. Following the necessary substrate preparations, an appropriate ALSAN RS Primer is recommended for all applications and required over any exposed coal tar pitch residue.

6.1.11 SINGLE PLY MEMBRANES

ALSAN RS membranes can be used for reroof overlays, flashings and tie-ins over SOPREMA SENTINEL PVC and other qualified single ply roofing. Remove all dust, dirt and debris from the surface of the single ply membrane as required. Unless otherwise noted, all acceptable single ply substrates shall be prepared as follows:

- Scrub the single ply membrane surface to receive application of ALSAN RS components using a heavy duty solvent resistant synthetic fiber scouring pad thoroughly wetted with ALSAN RS Cleaner.
- Using a clean rag, wipe the single ply membrane surface removing any excess ALSAN RS Cleaner.
- Allow ALSAN RS Cleaner 15-20 minutes to completely flash-off prior to applying ALSAN RS components.

Note: ALSAN RS membranes should NOT be applied to EPDM (ethylene propylene diene monomer synthetic rubber) or TPO (thermoplastic polyolefin) membranes. Some single ply

membranes may require additional preparation or use of an appropriate ALSAN RS primer when required or recommended by SOPREMA.

6.1.12 GLASS & GLAZING

SOPREMA does not recommend bonding ALSAN RS membrane to glass or glazing substrates. Typically limited bond can be obtained to most glass surfaces pre-cleaned with acetone to remove all surface contaminants. Any tie-in or attachment to glass or glazing is considered a non-warrantable condition.

6.1.13 OTHER SUBSTRATES

Remove all contaminants as required. Surface preparation shall be performed by means approved by SOPREMA. Contact SOPREMA for preparation and treatment of substrates not specifically indicated above.

7.0 SUBSTRATE REPAIR

7.1 GENERAL SUBSTRATE REPAIRS

Before the application of any ALSAN RS membranes or surfacing components all substrate deficiencies must be corrected. The substrate should be sounded and visually inspected to identify all spalls, voids, cavities, blisters, blow holes and depressions on vertical or horizontal surfaces requiring attention.

SOPREMA recommends all substrate leveling, patching and repairs be completed using ALSAN RS Paste or ALSAN RS 233/263 LO Self-Leveling Mortar. For certain applications, ALSAN RS Paste and ALSAN RS 233/263 LO Self-Leveling Mortar can combined with kiln-dried quartz aggregate to form ALSAN RS resin-mortars. ALSAN RS repair materials provide fast-set times (45 minutes or less) allowing the ALSAN RS application to continue without interruption, unlike polymer modified cement-based materials that require several days to cure.

Unless otherwise noted, all substrate filling, leveling, patching and repairs should be done using trowel applied ALSAN RS Paste, ALSAN RS233/263 LO Self-Leveling Mortar or respective ALSAN RS resin-mortar as follows:

Traffic bearing substrates:

Use only ALSAN RS 233/263 LO Self-Leveling Mortar or ALSAN RS 233/263 LO Self-Leveling repair mortar.

Non-traffic bearing substrates:

Use ALSAN RS Paste or ALSAN RS 233/263 LO Self-Leveling Mortar or ALSAN RS resin-mortar.

- Apply ALSAN RS Paste, ALSAN RS 233/263 LO Self-Leveling Mortar or respective resin-mortar over fully cured ALSAN RS primer.
- Substrate should be dry and free of any dust or loose particles.
- Apply catalyzed ALSAN RS Paste, ALSAN RS 233/263 LO Self-Leveling Mortar or respective resin-mortar using appropriate pressure and smoothing trowel required to work material into voids and cavities or over the substrate for complete coverage and adhesion.
- Apply ALSAN RS Paste, ALSAN RS 233/263 LO Self-Leveling Mortar or respective resin-mortar placed in lifts no greater than the maximum thicknesses recommended.
- If additional lifts are required, while wet broadcast top surface of the ALSAN RS Paste, ALSAN RS233/263 LO Self-Leveling Mortar or respective resin-mortar with clean dry #1 (0.7 - 1.2 mm) kiln-dried quartz aggregate at

approximately 25% coverage while wet. Place next lift once the applied ALSAN RS Paste, ALSAN RS 233/263 LO Self-Leveling Mortar or respective resin-mortar has cured.

7.2 BOND BREAKER/BOND BREAKER TAPE

Certain conditions require the use of an acceptable bond breaker beneath the ALSAN RS membrane to accommodate movement. Typically in these applications, two or three plies of ALSAN RS membrane is required over the bond breaker. The bond breaker tape should be premium high performance crepe paper masking tape designed to perform well in most industrial painting situations. Numerous products are available, including the following products previously tested and found acceptable:

- Scotch Masking Tape #2020 (high adhesion)
- Scotch-Blue Painter's Tape for Multi-Surfaces #2090
- Scotch Performance Masking Tape 231/231A
- 3M General Purpose Masking Tape 234

7.3 SUBSTRATE CRACKS & JOINTS

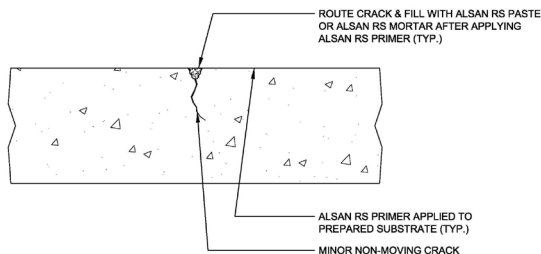
Before applying ALSAN RS membrane or surfacing all substrate cracks and cold joints on horizontal and vertical substrates must be repaired using an appropriate ALSAN RS

material as recommended in General Substrate Repairs for traffic bearing and non-traffic bearing substrates. Unless otherwise noted, all substrate cracks and cold joints should be treated as follows:

Non-moving/Static Cracks

($\frac{1}{32}$ " (1 mm) or less):

Determine that crack is non-moving. Remove any existing filler and clean out the crack by brushing and oil-free compressed air. Fill crack with ALSAN RS Paste, ALSAN RS 233/263 LO Self-Leveling Mortar or respective ALSAN RS resin-mortar as required.

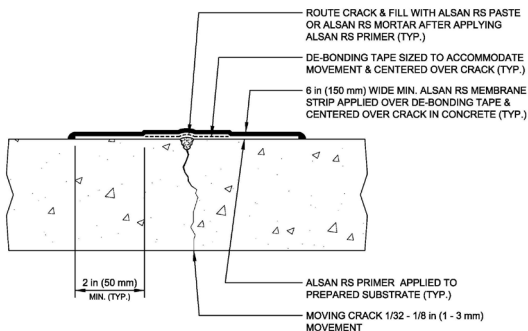


Moving/Dynamic Cracks

($\frac{1}{32}$ " (1 mm) or less):

Determine that the crack is moving. Remove any existing filler and clean out the crack by brushing and oil-free compressed air. Fill the crack with ALSAN RS Paste, ALSAN RS 233/263 LO Self-Leveling Mortar or respective ALSAN RS resin-

mortar as required, allow to cure, then apply a minimum 4 in (100 mm) wide strip of ALSAN RS flash fleece reinforced membrane centered over the crack.

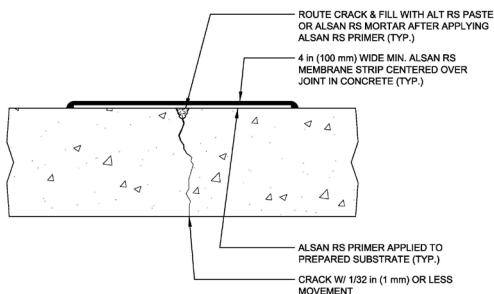


Moving/Dynamic Cracks

($\frac{1}{32}$ - $\frac{1}{8}$ " (1 to 3 mm)):

Determine that the crack is moving. Remove any existing filler and clean out the crack by brushing and oil-free compressed air. Fill the crack with ALSAN RS Paste, ALSAN RS 233/263 LO Self-Leveling Mortar or respective ALSAN RS resin-mortar as required and allow to cure. Then apply an acceptable bond breaker tape 5 times in width greater than the maximum anticipated expansion and cover with ALSAN RS flash fleece reinforced membrane centered over the crack or joint. The ALSAN RS membrane cover strip should be sized to provide 2 in (50 mm) minimum cover beyond

all side of the bond breaker tape but no less than 6 in (150 mm) minimum width.

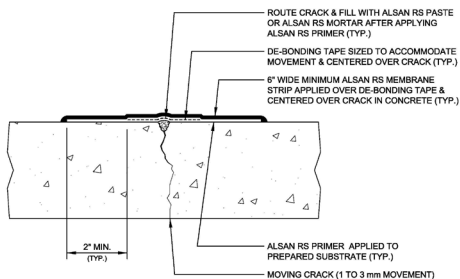


Moving/Dynamic Cracks ($\frac{1}{8}$ " (3 mm) or more):

Moving cracks greater than $\frac{1}{8}$ in (3 mm) must be treated as an expansion joint. Remove any existing filler then route and clean out the crack as required to form an appropriate expansion cavity. Fill the expansion cavity with an appropriately sized backer rod, ALSAN RS Paste, ALSAN RS 233/263 LO Self-Leveling Mortar or respective ALSAN RS resin-mortar as required and allow to cure. Then apply an acceptable bond breaker tape 5 times in width greater than the maximum anticipated expansion and cover with ALSAN RS flash fleece reinforced membrane centered over the crack or joint. The ALSAN RS membrane cover strip should be sized to provided 2 in (50 mm) minimum cover beyond all sides of the bond breaker tape but no less than 6 in (150

mm) minimum width.

Note: See SOPREMA ALSAN RS typical drawings for treatment and detailing of specific conditions.



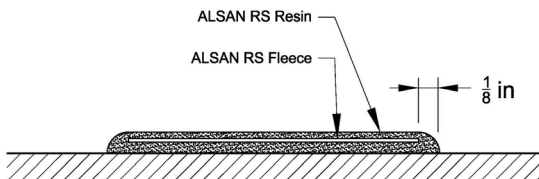
ALSAN RS Membrane Crack/Joint Cover Strips

Using an ALSAN RS detail roller apply an even base layer of ALSAN RS resin, working the ALSAN RS Fleece reinforcement into the wet resin while removing trapped air and assuring full saturation of the fleece. Apply an even topcoat of ALSAN RS resin to achieve uniform coverage and finished membrane thickness.

Base Coat: Minimum of 0.21 kg/ft² (2.3 kg/m²)

Top Coat: Minimum of 0.01 kg/ft² (1.0 kg/m²)

Note: On exposed edges of flashings, ALSAN RS resin should NOT extend more than 1/8 in past edges of ALSAN RS Fleece.



End Laps:

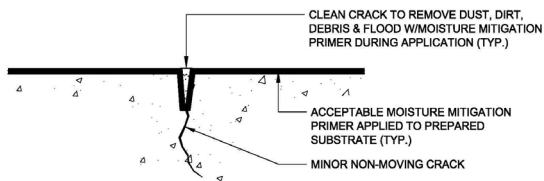
Maintain a minimum 4 in (100 mm) overlap at all end laps of membrane stripping.

Substrate Cracks & Joints with Moisture Mitigation Applications

Concrete and masonry substrates with moisture issues must be treated with an acceptable moisture mitigation primer prior to application of ALSAN RS components. When using moisture mitigation primers, special treatment for cracks and cold joints on horizontal and vertical substrates is also required as follows:

Non-moving/Static Cracks ($\frac{1}{32}$ " (1 mm or less)):

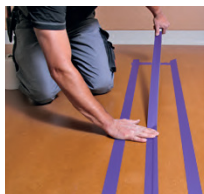
Determine that the crack is non-moving. Remove any existing filler and clean out the crack by brushing and oil-free compressed air. Flood the crack with moisture mitigation primer and allow to cure. Where required, fill residual crack with ALSAN RS Paste, ALSAN RS 233/263 LO Self-Leveling Mortar or respective ALSAN RS resin-mortar as required.



Membrane Cover Strip Installation

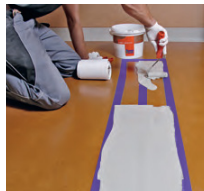
Step 1

Apply bond breaker tape and masking tape if required.



Step 2

Apply ALSAN RS resin basecoat.



Step 3

Embed ALSAN RS Fleece in resin basecoat.



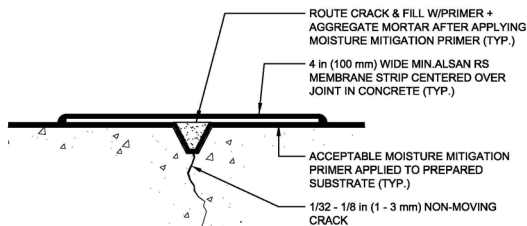
Step 4

Apply ALSAN RS resin topcoat.



Non-moving/Static Cracks (up to $\frac{1}{8}$ " (3 mm)):

Remove any existing filler then route and clean out the crack as required. Apply moisture mitigation primer over the substrate and routed crack joint and allow to cure. Then fill the routed crack using a moisture mitigation primer combined with kiln-dried quartz aggregate to form a resin-mortars, allow to cure, then apply minimum 4 in (100 mm) wide strip of ALSAN RS flash fleece reinforced membrane centered over the crack.

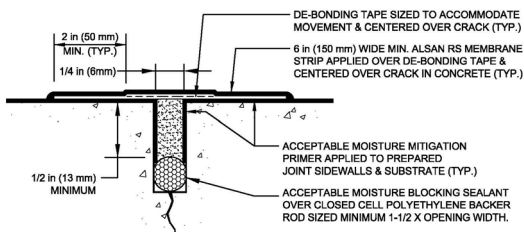


Moving/Dynamic Cracks (up to $\frac{1}{16}$ " (1.5 mm)):

Moving cracks up to $\frac{1}{16}$ in (1.5 mm) must be chased and filled. Remove any existing filler then cut a crack chase $\frac{1}{4}$ in (6 mm) wide x $\frac{1}{2}$ in (13

mm) deep minimum. Prime the substrate and side of the crack chase with moisture mitigation primer. After allowing the primer to cure, fill the chase cavity with an appropriately sized closed cell polyethylene backer rod followed by a bond breaker tape and an acceptable blocking sealant.

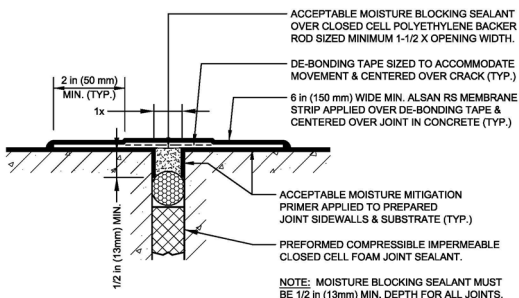
After allowing the sealant to fully cure, apply an ALSAN RS flash fleece reinforced membrane strip centered over the crack or joint. The ALSAN RS membrane cover strip should be sized to provided 2 in (50 mm) minimum cover beyond all sides of the crack chase but no less than 6 in (150 mm) minimum width.



Moving/Dynamic Cracks & Expansion Joints ($\frac{1}{16}$ - $\frac{1}{2}$ in (1.5 mm) up to $\frac{1}{2}$ in (1.5 - 13 mm) width):

Moving cracks greater than $\frac{1}{16}$ in (1.5 mm) must be treated as an expansion joint. For cracks up to $\frac{1}{2}$ in (13 mm) width, remove any existing filler then cut a crack chase $\frac{1}{2}$ in (13 mm) maximum wide x $\frac{1}{2}$ in (13 mm) minimum deep. Prime the substrate and side of the crack chase with a

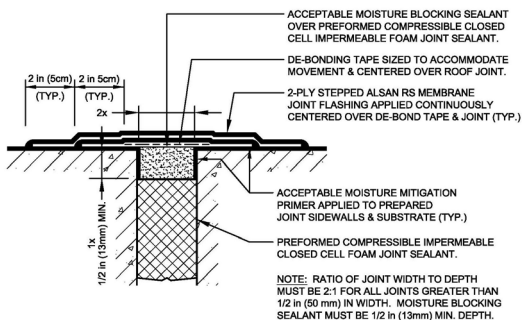
moisture mitigation primer. After allowing the primer to cure, fill the chase cavity with an appropriately sized, closed cell polyethylene backer rod followed by an acceptable moisture blocking sealant. After allowing the sealant to fully cure, apply an acceptable bond breaker tape 5 times in width greater than the maximum anticipated expansion and cover with ALSAN RS flash fleece reinforced membrane centered over the crack or joint. The ALSAN RS membrane cover strip should be sized to provided 2 in (50 mm) minimum cover beyond all sides of the bond breaker tape but no less than 6 in (150 mm) minimum width.



Expansion Joints ($\frac{1}{2}$ in up to 2 in (13 - 50 mm) width):

For expansion joints up to 2 in (13 mm)width, remove any existing filler and prepare the joint cavity as required. Prime the substrate and side of the joint recess with moisture mitigation

primer. After allowing the primer to cure, fill the joint cavity with an impermeable preformed compressible closed cell foam joint and backer rod followed by an acceptable moisture blocking sealant. After allowing the sealant to fully cure, apply an acceptable bond breaker tape 5 times in width greater than the maximum anticipated expansion and cover with two plies of ALSAN RS Flash fleece reinforced membrane centered over the joint. The ALSAN RS membrane cover strip should be stepped and sized to provide 4 in (100 mm) minimum cover beyond all sides of the bond breaker tape but no less than 10 in (250 mm) minimum width.



7.4 ALSAN RS SUBSTRATE REPAIR MORTAR

Typically, all substrates require some measure of leveling, patching and repair. Before application of any ALSAN RS membrane or surfacing components all substrate deficiencies must be corrected. The substrate should be sounded and visually inspected to identify all spalls, voids, cavities, blisters, blow holes, and depressions on vertical or horizontal surfaces requiring attention.

7.5 ALSAN RS REPAIR MORTAR

ALSAN RS “repair mortar” is reference to ALSAN RS Paste or ALSAN RS 233/263 LO Self-Leveling Mortar used alone or combined with kiln-dried quartz aggregate. Unlike polymer modified cement-based repair materials that require several days to cure, ALSAN RS repair mortars offer fast-set times (45 minutes or less) allowing the ALSAN RS application to continue without interruption.

SOPREMA recommends all substrate leveling, patching, repairs be completed using ALSAN RS repair mortar. Unless otherwise noted, all substrate filling, leveling, patching and repairs should be done using trowel applied ALSAN RS repair mortar as follows:

ALSAN RS Paste or ALSAN RS 233/263 LO Self-Leveling Mortar	Non-traffic bearing horizontal & vertical substrates
ALSAN RS 233/263 LO Self-Leveling Mortar	ALL traffic bearing substrates

When required, mix ALSAN RS Paste or ALSAN RS 233/263 LO Self-Leveling Mortar with clean dry #1 (0.7 - 1.2 mm) angular grain, washed, dust-free kiln-dried quartz aggregate at the following weight ratios:

ALSAN RS Component	Ratio Resin to Quartz
ALSAN RS Paste	1 : 1
ALSAN RS 233/263 LO Self-Leveling Mortar	1 : 0.75

NOTE: Vertical applications, formed cants and transitions may require addition of ALSAN RS Liquid Thixo to increase repair mortar viscosity.

Mix: Thoroughly mix the entire drum of ALSAN RS Paste or ALSAN RS 233/263 LO Self-Leveling Mortar for 2-3 minutes before mixing with kiln-dried quartz filler. Transfer the RS resin component to a clean, dry container large enough to accommodate the combined resin and quartz components leaving adequate room for mixing. Using a slow-speed mechanical mixer with spiral agitator, slowly add the kiln-dried quartz to the uncatalyzed ALSAN RS resin component while

stirring; continue mixing for a minimum of 2 minutes or until achieving a smooth lump-free mortar consistency. Catalyze only the amount of material that can be placed within 10-15 minutes. Thoroughly mix catalyst into resin-mortar for 2 minutes, assuring to incorporate any dry material along the side and bottom of the mixing container. Remix un-catalyzed resin-mortar before each use, and prior to pouring off into a second container if batch mixing.

NOTE: ALSAN RS Catalyst Powder addition is based on weight of the resin component (not the combined mortar and quartz) and temperature.

Apply: After mixing, apply catalyzed ALSAN RS repair mortar to clean, prepared and primed substrate as required. ALSAN RS resin-mortar should be placed in lifts no greater than the maximum thicknesses indicated and as follow:

	Maximum Depth Per Lift	Approximate Coverage		
		kg/mm/ft ² @ 1/32 in (1 mm) depth	kg/ft ²	per unit ft ² (m ²) per can
ALSAN RS Paste	1/8 in (3 mm)	0.11	32.6	+/-136 (12.7)
ALSAN RS Paste + Quartz	3/8 in (10 mm)	0.14	42.2	+/-214 (19.9)
ALSAN RS 233/263 LO Self-Leveling Mortar	3/8 in (10 mm)	0.16	47.8	+/-206 (19.2)
ALSAN RS 233/263 LO Self-Leveling Mortar + Quartz	3/4 in (20 mm)	0.15	45.7	+/-385 (35.8)

For leveling and smoothing applications, spread and plane the repair mortar with a flat blade squeegee and trowel to achieve a flat surface. For patching and repairs, fill cavities with repair mortar and trowel to achieve a flat surface.

If additional lifts are required, broadcast the top surface of the wet ALSAN RS repair mortar with clean dry #1 (0.7 - 1.2 mm) kiln-dried quartz aggregate at approximately 25% coverage while wet. Place next lift once the applied ALSAN RS repair mortar has cured.

Cure: Allow ALSAN RS repair mortar to fully cure before applying the next ALSAN RS component.

Changing project conditions should be monitored throughout the day to adjust catalyst ratios and cure time.

7.6 VERTICAL & STEEP SLOPE APPLICATIONS

ALSAN RS repair mortar may require the addition of ALSAN RS Liquid Thixo to increase viscosity to allow application on steep slopes or vertical substrates. For slopes exceeding 1-1/2 : 12, add ALSAN RS Liquid Thixo as required to form a slump-free mortar. The amount of thixotropic additive needed will vary by slope and temperature. Addition of ALSAN RS Liquid Thixo should be done following the below guidelines:

Thoroughly re-mix the entire container of uncatalyzed ALSAN RS repair mortar for 2-3 minutes before each use, and prior to pouring off resin into a second container if batch mixing, using a slow-speed mechanical mixer with spiral agitator or stirring stick taking care not to aerate. Add the required amount of ALSAN RS Liquid Thixo into the ALSAN RS mortar and mix for 2-3 minutes.

- Test the amount of ALSAN RS Liquid Thixo required by mixing small batches before mixing entire units of product.
- Start adding ALSAN RS Liquid Thixo at 1% addition

- Resin mortar mixed with ALSAN RS Liquid Thixo must be allowed to stand 20 to 30 minutes before checking viscosity or use. Adjust the amount of ALSAN RS Liquid Thixo as needed until the desired viscosity is reached.
- Approximately (1) TBSP = 20g or 2% of ALSAN RS Liquid Thixo per kg of ALSAN RS resin

Note: Storage and working times are not affected by the addition of ALSAN RS Liquid Thixo mixed with uncatalyzed resin.

7.7 ALSAN REPAIR MORTAR TOUCH-UP

When required, ALSAN RS repair mortar can be touched up and corrected to create a smooth blemish free surface. Inspect the applied and cured ALSAN RS repair mortar looking for lines, lumps, bumps and other blemishes. Remove any protrusions using a sander or hand-held cup grinder as needed. Where required, additional ALSAN RS repair mortar may be applied over the in-place mortar which can be feathered in with the same grinding/sanding procedure.

7.8 RAPID-HYDRATING OR POLYMER MODIFIED PATCHING MATERIALS & CEMENTS

If required, rapid-hydrating or polymer modified patching materials and cements may also be

used for substrate leveling, patching and repair. SOPREMA recommends performing an adhesion test with any proposed products prior to application in the field, in order to determine if a suitable bond can be achieved.

Recommendations regarding substrate moisture content also apply to patching, leveling and repair materials. When using rapid-hydrating, polymer modified or epoxy based patching materials and cements, determinations of bond strength and moisture content must be performed throughout the course of work, and are the responsibility of the applicator.

In general, cements will required a 28 day minimum cure, while rapid-hydrating or polymer modified patching materials normally will require 3 to 7 days minimum for off-gassing and curing. Curing times may vary depending upon the type of product used, temperature and relative humidity. With proper hydration and favorable weather conditions acceptable moisture content can be achieved with cure periods for common patching materials as follows:

Patching Material	Cure Period
• Concrete (standard weight)	28 day min.
• Polymer modified	7 day min.
• Epoxy based	1 day min.

If not properly cured, membrane blistering or delamination over the repair area may occur. To avoid the possibility of blistering, delamination and curing delays, SOPREMA recommends using ALSAN RS repair mortars for all substrate repairs wherever possible.

After placement and adequate cure, the patch or infill material must be mechanically ground, bead blasted or scarified to remove the laitance (the weak surface which occurs during the placement and setting process). Please refer to the individual manufacturer recommendations in the proper application and use of proposed products.

8.0 ALSAN RS PRIMER

8.1 ALSAN RS PRIMER APPLICATION GUIDELINES

Primers are a pretreatment used to promote and improve adhesion of ALSAN RS components to certain substrates. All substrates must be prepared as necessary prior to the application of primers. Surfaces must be free from gross irregularities, loose, unsound or foreign material such as dirt, ice, snow, water, grease, oil, release agents, lacquers or any other condition that would compromise the primers adhesion to the substrate.

SOPREMA offers several primers used for a variety of applications. A list of these primers and associated uses are as follows:

Primer	General Description & Use
ALSAN RS 222	Asphalt blocking primer used on substrates requiring a semi-rigid primer
ALSAN RS 276	Used on traffic assemblies or substrates requiring a rigid primer
ALSAN RS LO	Low-odor applications
ALSAN RS Metal	Metal terminations & tie-ins
Moisture Mitigation	Approved moisture blocking primer used on concrete & masonry

Refer to SOPREMA ALSAN RS product data sheets and published general requirements for application rates and cure times.

8.2 ALSAN RS PRIMER APPLICATION

Apply masking tape at both top and bottom edge terminations and on substrate when ALSAN RS primer and flashing will be applied over an in place membrane. Thoroughly mix and apply an appropriate primer resin to clean and prepared substrate at the required consumption using ALSAN RS approved v-notched squeegees, rollers or brushes as recommended at the following rates:

ALSAN RS 222 / 276 PRIMER RECOMMENDED COVERAGE RATES	
Substrate	kg/ft ² (kg/m ²)
Smooth (CSP3)	0.037 (0.4)
Medium (CSP4)	0.046 (0.5)
Rough (CSP5)	0.075 (0.8)

ALSAN RS LO PRIMER RECOMMENDED COVERAGE RATES	
Substrate	gal/ft ² (l/m ²)
Smooth (CSP3)	0.005 (0.20)

ALSAN RS METAL PRIMER RECOMMENDED COVERAGE RATES	
Substrate	gal/ft ² (l/m ²)
SSPC-SP3	0.004 (0.16)

ALSAN RS MITIGATION EPOXY PRIMER COVERAGE RATE U.O.N. BY PRIMER MANUFACTURER	
Substrate	gal/ft ² (l/m ²)
Smooth (CSP3)	0.01 (0.41)

Allow primer to fully cure before applying the next ALSAN RS component. Changing project conditions should be monitored throughout the day to adjust catalyst ratios and cure time. At membrane tie-ins, clean cured ALSAN RS membrane with ALSAN RS Cleaner before application of adjacent membrane.

Primer Installation

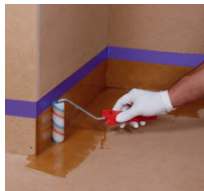
Step 1

Apply masking tape at top edge termination and on substrate when ALSAN RS flashing will be applied over an in place membrane.



Step 2

Apply ALSAN RS primer starting on vertical substrates then horizontal.



Step 3

Remove masking before primer resin cures.



8.3 ALSAN RS 222 & RS 276 PRIMER MIXING & APPLICATION

Mix: Thoroughly mix the entire drum of resin for 2-3 minutes before each use, and prior to pouring off resin into a second container. If batch mixing, using a mixing stick or slow-speed (200 - 400 rpm) mechanical mixer with spiral agitator taking care not to aerate the resin. Catalyze only the amount of material that can be used within 10-15 minutes. Add pre-measured ALSAN RS Catalyst Powder to the resin component, stir for 2-4 minutes or until the catalyst has sufficiently dissolved before applying to substrate. ALSAN RS Catalyst Powder addition is based on the weight of resin being used and temperature.

8.4 ALSAN RS LO PRIMER

Mix: Thoroughly mix the entire drum of component A for 2-3 minutes until a uniform consistency is achieved, then add component B and remix until both components are evenly mixed using a slow-speed (200 to 400 rpm) mechanical mixer with spiral agitator taking care not to aerate.

Apply: After mixing, apply resin to clean and prepared substrate at the required consumption using ALSAN RS approved v-notch squeegees, rollers or, when needed, brushes to cut-in at corners and around penetrations. The resin should be applied evenly onto the surface using care not to spread the primer too thin or pool in low areas. To reduce potential for pinholes and bubbles due to "off-gassing", apply ALSAN RS LO Primer preferably with falling temperatures. When the primer will be left exposed for more than 12 hours, while wet broadcast #1 (0.7 – 1.2 mm) kiln-dried quartz into the applied ALSAN RS LO primer at the rate of 30 lbs/100 ft² (1.5 kg/m²).

Cure & Recoat: Allow primer to fully cure and apply the next ALSAN RS component within 24 hours of primer application unless broadcast with quartz.

8.5 ALSAN RS METAL PRIMER

Mix: Thoroughly mix primer resin approximately

2-3 minutes using a mixing stick or slow-speed (200 to 400 rpm) mechanical mixer with spiral agitator taking care not to aerate the resin.

Apply: After mixing, apply resin to clean and prepared substrate at the required consumption using ALSAN RS approved rollers or brushes. The resin should be applied evenly onto the surface using care not to spread the primer too thin or pool in low areas.

Cure: Allow primer to fully cure before applying the next ALSAN RS component. Changing project conditions should be monitored throughout the day to adjust primer cure time. Primer should be covered with the next ALSAN RS component as soon as possible, up to a maximum of 24 hours.

8.6 MOISTURE MITIGATION PRIMER

Refer to approved moisture mitigation primer manufacturers product data sheets and published general requirements for application rates and specific installation instructions. Moisture mitigation primer must be applied free of pinholes with all cracks and joints properly sealed to block moisture transmission.

Cure: Allow primer to fully cure before applying the next ALSAN RS component. Changing project conditions should be monitored throughout the day to primer cure time. Primer should be covered with the next ALSAN RS component as soon as possible, up to a maximum of 24 hours.

When the moisture mitigation primer will be left exposed for more than 24 hours, apply a second coat of moisture mitigation primer broadcast with #1 (0.7 – 1.2 mm) kiln-dried quartz while wet at the rate of 30 lb/100 ft² (1.5 kg/m²).

8.7 STEEP SLOPE APPLICATIONS

ALSAN RS and other recommended primers are produced ready for application at all slopes. ALSAN RS primers typically do not require mixing with ALSAN RS Liquid Thixo. However, for ramps, steep slope roofing, waterproofing and high vertical wall applications, ALSAN RS primers may be peppered while wet with broadcast #1 (0.7 – 1.2 mm) kiln-dried quartz to provide limited slip resistance and “grab” for application of subsequent ALSAN RS components.

NOTE: With moisture mitigation primer applications, aggregate must be applied in a subsequent sacrificial layer of moisture mitigating primer as previously discussed.

8.8 GALVANIZED & ZINC RICH METALS

Galvanized and zinc rich metals are typically passivated or coated with oil requiring special preparation. The passivator must be completely removed by mechanical abrasion for ALSAN RS Metal Primer to obtain sufficient long-term bond. This can be confirmed by applying a coat of copper sulfate solution to the prepared galvanized metal surface. A properly prepared

surface will turn black indicating the passivator has been removed. If the surface does not turn black, additional abrasive cleaning will be required. In certain applications with zinc rich or stainless steel metals, an acceptable pre-primer may be required prior to application of ALSAN RS Metal Primer. Consult SOPREMA for recommendations regarding specific applications.

8.9 PROTECTION & RECOAT TIMES

In some applications, applied primers may be left exposed to the elements and/or trafficked prior to application of subsequent ALSAN RS components due to weather, scheduling or other interruptions. In all cases, care should be taken by the applicator to protect and keep the primer layer clean. Any damage or contamination (dirt, dust, debris) must be corrected prior to applying subsequent ALSAN RS components.

Recommended minimum cure and maximum recoat times should be followed for all primers. When primer is left exposed to the elements for longer than the recommended period or has been contaminated or damaged beyond cleaner or repair, the primer must be completely removed and re-applied.

8.10 PRIMER & SUBSTRATE GUIDELINES

The following tables provide general guidelines regarding acceptable substrates, recommended primer and basic surface preparation:

ASPHALT BASED SUBSTRATES

Substrate	Prep	222	276	RS LO	Metal
Asphalt or asphalt bleed out at laps/seams	1	✓**	✗	✓	✗
Roofing Felt (all)	1	✓**	✗	✓	✗
SBS-Modified Bitumen (sanded or granulated)	1,3	✓**	✗	✓	✗
APP Modified Bitumen (granulated)	1,3	✓**	✗	✓	✗
APP Modified Bitumen (smooth)	1,4,9	✓**	✗	✓	✗
Coal Tar Pitch (residue)	1,9	✓	✗	✗	✗

CEMENTITIOUS BASED SUBSTRATES

Substrate	Prep	222	276	RS LO	Metal
Structural Concrete, Masonry, Brick	1,2	✓	✓	✓	✗
Structural Lightweight & Aerated Concrete	1,2,9	✓	✓	✗	✗
LWIC	0	✗	✗	✗	✗
Cement Based Roof Board	1	✓	✓**	✓	✗
Glass Faced Gypsum Roof Board	0	✓**	✗	✓	✗

METALS

Substrate	Prep	222	276	RS LO	Metal
Steel	1,5	✗	✗	✓	✓
Galvanized Steel	1,5,8	✗	✗	✓	✓
Stainless Steel	1,5	✗	✗	✓	✓
Aluminum	1,5	✗	✗	✓	✓

METALS

Substrate	Prep	222	276	RS LO	Metal
Copper	1,5	×	×		✓
Zinc	1,5,8	×	×	✓	✓
Lead	1,6	×	×	✓	✓

WOOD PLANK, TIMER & WOOD SHEATHING

Substrate	Prep	222	276	RS LO	Metal
Wood, Plywood Dimensional Lumber	1	✓**	✓	✓	×
Treated Lumber With Waterborne Preservatives	1	✓**	✓	✓	×
Penta Treated Lumber	0	×	×	×	×

PLASTICS, SINGLE PLY MEMBRANES & COATINGS

Substrate	Prep	222	276	RS LO	Metal
PVC	1,6,9	✓	×	✓	×
CPE, CSPE	1,6,9	×	×	✓	×
EPDM, TPO	0	×	×	×	×
EVA	1,6,9	✓	×	✓	×
PIB	1,6,9	✓	×	✓	×
Rigid PVC & ABS	1,6,9	✓	×	✓	×
PU (Polyurethane)	1,6,9	✓	×	✓	×
Acrylics	1,7	✓	×	✓	×
UP (polyester)	1,6,9	✓	×	✓	×
Rigid Fiberglass & GRP	1,6,9	✓	✓	✓	×

Substrate Preparation Notes

- Substrate NOT acceptable
 - × Primer NOT acceptable
 - ** Preferred primer for this application
 - ✓ Acceptable Primer
- 0 Substrate NOT acceptable
 - 1 Surface should be clean, dry and dust free
 - 2 Shot blast, scarify, or cup grind *see section 6.0 for surface preparation requirements
 - 3 Primer recommended but not required except for exposed asphalt and asphalt bleed out at laps & seams
 - 4 Aggregate surfacing required on smooth surface APP. Apply coverboard, SBS base ply or soften asphalt surface by application of heat, and immediately blind with quartz aggregate
 - 5 Heavily abrade metals and hard plastics, thoroughly wipe with ALSAN RS Cleaner
 - 6 Lightly scratch and scour surface, thoroughly wipe with ALSAN RS Cleaner
 - 7 Thoroughly wipe with ALSAN RS Cleaner
 - 8 Passivator must be completely removed by mechanical abrasion. Apply coat of copper sulfate solution to the prepared galvanized metal surface to assure removal of passivator. Properly prepared surface will turn black indicating the passivator has been removed
 - 9 Contact SOPREMA to confirm primer requirements

Refer to ALSAN RS "Substrate Preparation Guidelines" for additional information and requirements.

Note: Primer suitability and substrate preparation requirements should be confirmed by the applicator with field adhesion testing at the time of application.

9.0 ALSAN RS REINFORCED MEMBRANE APPLICATION

ALSAN RS reinforced membranes and flashings are required for all roofing and waterproofing applications over conditioned and/or occupied space. ALSAN RS reinforced membrane systems may be applied as stand-alone systems or in combination with ALSAN RS mortar, ALSAN RS finish or ALSAN RS surfacing.

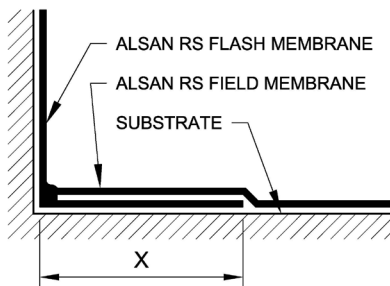
9.1 GENERAL FLASHING GUIDELINES

On typical ALSAN RS systems penetration and transition flashings are installed before field areas of roofing, waterproofing or traffic surfacing assemblies.

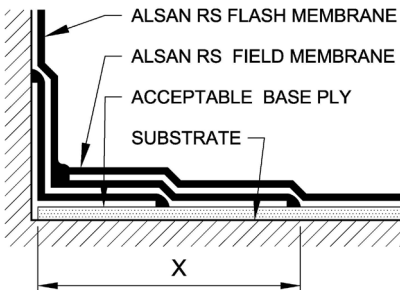
All ALSAN RS flashings are applied using ALSAN RS 230 Flash, ALSAN RS 260 LO Flash or ALSAN RS Detailer as applicable in accordance with industry-accepted practice with a recommended vertical height of 8 in (200 mm) wherever possible or as allowed or recommended by SOPREMA. Flashings should never be applied over existing through-wall flashings, weep holes or overflow scuppers and be of sufficient height to accommodate the highest potential water level that could result from deluging rain or poor slope. The horizontal leg for all ALSAN RS flashings should be as follows unless otherwise noted:

Tie-In Condition	Min. x Dimension Inch (mm)
ALSAN RS Full System	4 (100)
Full ALSAN RS Cap Ply Over SBS Base	4 (100)
ALSAN RS Inter-ply Flashing On SBS Hybrid	8 (200)
ALSAN RS Flashing Top Applied On SBS, BUR & Single-ply	8 (200)

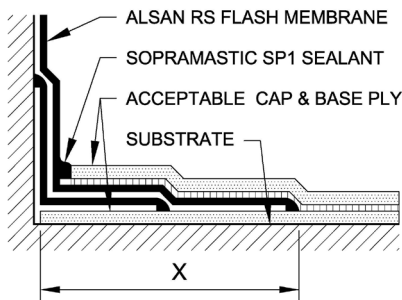
ALSAN RS Full System Assemblies:



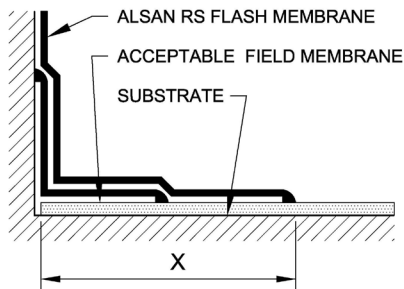
ALSAN RS Cap Ply Over SBS Base:



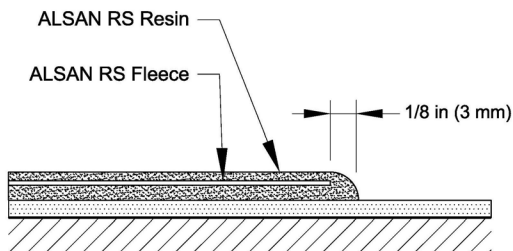
Hybrid SBS/ALSAN RS Flashings Applied Inter-ply:



ALSAN RS Flashing Applied Over Top:



Note: On exposed edges of flashings, ALSAN RS resin should NOT extend more than $\frac{1}{8}$ in (3 mm) past edges of ALSAN RS Fleece.



Masking tape should always be used to achieve a straight and professional looking membrane edge and to avoid excess resin extending too far beyond the fleece line.

9.2 FLEECE CUTTING GUIDELINES

All ALSAN RS waterproofing systems require reinforced flashings at transitions and penetrations applied using ALSAN RS flash resin with ALSAN RS Fleece.

ALSAN RS Fleece can be easily cut into patterns and shapes using a sharp, clean pair of scissors. Each penetration or condition should be field measured, with the measurements transferred and marked onto the fleece accordingly. Once the pattern layout is complete, cut the fleece pattern to suit. Be sure to mark the topside of the fleece before cutting sections from the roll. For all details, ALSAN RS Fleece should be applied with proper overlap. See the reference appendix for

typical fleece cutting pattern guidelines.

9.3 COMMON PENETRATION & TRANSITION FLASHING

Refer to SOPREMA ALSAN RS detail drawings for specific information and flashing requirements. Unless otherwise noted, the following are typical requirements for common flashing conditions:

Walls, Curbs and Bases:

Wall, curb and base flashings should extend up and over tops of walls, curbs and bases wherever possible. All flashings should terminate into a reglet or be covered by an appropriate metal counter-flashing.

Supports, Posts, Pipes, Conduits and Unusual Shaped Penetrations:

Angles, I-beams, pipes, conduits and other similar items must be separated with 1 in (25 mm) minimum clearance or as required to adequately waterproof each individual penetration. All penetrations must be flashed individually, not ganged together, using an ALSAN RS Fleece reinforced vertical wrap finger flashing and deck target skirt applied with an appropriate ALSAN RS Flash resin.

Warm/Hot Pipes, Stacks & Flues:

ALSAN RS components can withstand continuous

service temperatures from indirect heat sources up to 150°F (65.5°C). When flashing warm and/or hot pipes, stacks or flues with short-term, intermittent or continuous service temperatures above this limit, ALSAN RS must be applied to an intermediate “cool” sleeve insulated as required to keep contact surface temperatures at or below 150°F (65.5°C).

Sleeves should be fabricated using an acceptable thickness and type of sheet metal in the form of a tube or metal cone and flashed following recommended procedures for ALSAN RS pipe penetrations and capped with an appropriate independent metal rain hood secured to the pipe penetration.

Flexible Penetrations:

Flexible penetrations such as cables and braided wire should not be flashed directly with ALSAN RS. Flexible penetrations should be installed through a weather-tight gooseneck conduit secured to the deck and flashed following recommended procedures for ALSAN RS pipe penetrations using an ALSAN RS Fleece reinforced vertical wrap finger flashing and deck target skirt applied with an appropriate ALSAN RS Flash resin.

Expansion Joints:

ALSAN RS may be used to flash a variety of

expansion joint conditions and configurations. All ALSAN RS expansion joints require a minimum 2-ply ALSAN RS Fleece reinforced membrane with an un-adhered area minimum 5 times larger than the maximum anticipated joint expansion. Depending upon the joint configuration, the “free” membrane spanning joints can be achieved using an acceptable expansion tube, backer rod or bond breaker tape applied over and supported by an appropriate joint filler.

Drains:

Drain flashings should be applied using an ALSAN RS Fleece reinforced drain bowl finger flashing and deck target skirt. Finger flashings should extend beyond the drain bowl a minimum 3 in (75 mm) covered by a skirt extending minimum 12 in (300 mm) horizontally beyond the drain bowl sump. The ALSAN RS flashing should not restrict or reduce the drain inlet in size.

Non-standard Flashing Details:

When required, consult SOPREMA for recommendations regarding acceptable flashing details of non-standard conditions, penetrations or protrusions.

Flashings Subject To Vehicle Impact:

ALSAN RS flashings applied on curbs, walls and penetrations subject to mechanical damage

from vehicles should be protected using metal bollards, stand-offs, steel plate or other means as necessary.

Bonding/Protection Layer:

When asphalt paving, concrete, cement or mortar setting beds will be installed directly over an ALSAN RS membrane, SOPREMA recommends applying a supplemental coat of ALSAN RS resin fully blinded with kiln-dried quartz aggregate to provide mechanical bonding and protection.

Using an ALSAN RS resin roller, apply an even layer of ALSAN RS resin at the minimum consumption of 0.14 kg/ft² (1.5 kg/m²) and broadcast #1 (0.7 - 1.2 mm) kiln-dried quartz aggregate to excess for full coverage while wet. Allow resin bonding layer to cure, then remove excess unadhered aggregate using broom, vacuum or oil-free blower. ALSAN RS resin should be allowed minimum 6 hour cure time before applying loading or overburden.

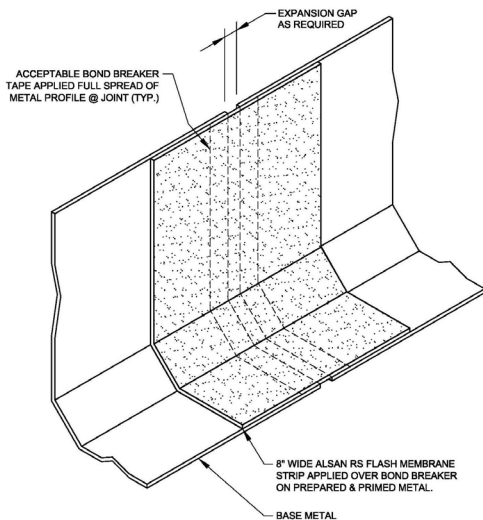
Metal Gravel Stops, Drips & Base:

Metal gravel stops, drips, bases and other similar items that will be flashed into ALSAN RS assemblies should be fabricated from an acceptable metal type/thickness with 3-½ in (90 mm) minimum horizontal flanges and prepared per SOPREMA ALSAN RS substrate preparation guidelines prior to installation. All metal

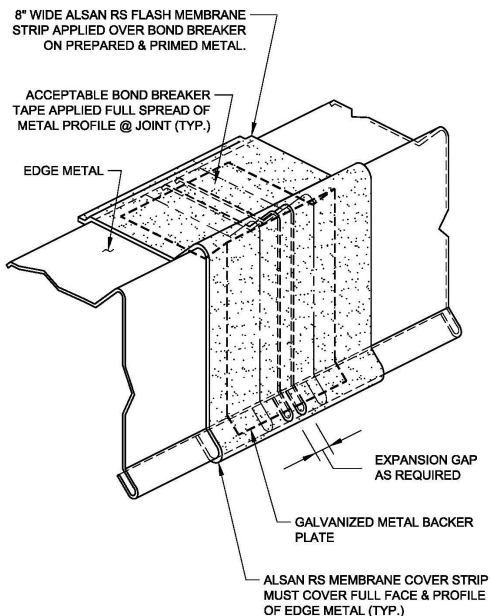
components should be prepared and primed with ALSAN RS Metal Primer, installed over the in-place ALSAN RS field membrane and stripped in using stacked overlap 2-ply ALSAN RS fleece reinforced membrane.

All joints at overlaps and adjoining sections of metal components must be covered with an acceptable bond breaker tape and ALSAN RS flash fleece reinforced membrane strip similar to the following details:

Edge Metal:



Base Metal:



9.4 ALSAN RS FLASHING MEMBRANE

ALSAN RS flashings may be applied directly to the deck over acceptable prepared substrates or over an appropriate SBS base ply in hybrid applications. ALSAN RS/SBS hybrid assemblies are preferred for all roofing and waterproofing applications other than ALSAN RS traffic bearing waterproofing & surfacing systems which must

be applied directly to the deck. Flashings are typically installed running the length of roof edges, walls and penetrations for standard height flashings. For high flashings at walls, parapets or steep slopes, it is recommended to run the fleece rows perpendicular to the wall or slope.

Apply masking tape at the top edge termination and on substrate when ALSAN RS flashing will be applied over an in place membrane. Precut ALSAN RS Fleece reinforcement as required prior to mixing and applying with ALSAN RS flash resin. The ALSAN RS Fleece should conform to terminations, transitions and penetrations being flashed. Ensure a minimum 2 in (50 mm) overlap of fleece at side laps and extend flashing horizontally onto deck as indicated or required for specific conditions.

Mix: Thoroughly mix the entire drum of resin for 2-3 minutes before each use, and prior to pouring off resin into a second container if batch mixing, using a slow-speed mechanical mixer with spiral agitator or stirring stick taking care not to aerate. Catalyze only the amount of material that can be used within 10-15 minutes. Add pre-measured catalyst to the resin component, stir for 2 minutes before applying to substrate. ALSAN RS Catalyst Powder addition is based on the weight of resin being used and temperature.

Apply: After mixing, apply resin to clean and prepared substrate at the required consumption using ALSAN RS approved rollers or brushes. Apply base coat of catalyzed ALSAN RS Flash resin onto the substrate and immediately apply the ALSAN RS Fleece reinforcement into the wet base using appropriate pressure and then apply a resin topcoat fully encapsulating the fleece. Avoid any folds and wrinkles. Note: ALSAN RS Flash resin is applied at an approximate ration of $\frac{2}{3}$: $\frac{1}{3}$ basecoat and topcoat respectively at the following consumption rates:

RECOMMENDED COVERAGE RATES KG/FT ² (KG/M ²)			
Substrate	Total	Basecoat	Topcoat
Smooth	0.28 (3.0)	0.19 (2.0)	1.10 (1.0)
Typical	0.31 (3.3)	0.21 (2.3)	
Granulated	0.36 (3.8)	0.26 (2.8)	
Rough	0.40 (4.3)	0.30 (3.3)	

Cure: Allow ALSAN RS flashings to fully cure before applying the next ALSAN RS component. Changing project conditions should be monitored throughout the day to adjust catalyst ratios and cure times. At membrane tie-ins, clean cured ALSAN RS Flash membrane with ALSAN RS Cleaner before application of adjacent membrane.

Flashing Membrane Installation:

Step 1

Apply basecoat of ALSAN RS resin.



Step 2

Embed ALSAN RS Fleece in resin basecoat.



Step 3

Apply ALSAN RS resin topcoat and remove masking tape before resin cures.



9.5 ALSAN RS FIELD MEMBRANE APPLICATION

ALSAN RS field membrane may be applied directly to the deck over acceptable prepared substrates or over an appropriate SBS base ply in hybrid applications. ALSAN RS/SBS hybrid assemblies are preferred for all roofing and waterproofing applications other than ALSAN RS waterproofing & traffic surfacing systems which must be applied directly to the deck.

ALSAN RS waterproofing membranes must be reinforced with ALSAN RS Fleece applied with a minimum 2 in (50 mm) overlap at side laps and a minimum 4 in (100 mm) overlap at end laps. Though fleece direction and configuration generally are not an issue, the following is recommended:

- When applying ALSAN RS as a cap ply over SBS in hybrid applications, ALSAN RS Fleece should run parallel to the SBS plies wherever possible.
- On slopes, ALSAN RS Fleece is typically applied top down, allowing the top fleece edge to act as a dam stopping resin from running down the slope.
- On very steep slope applications, ALSAN RS Fleece should parallel to the slope.

Mix: Thoroughly mix the entire drum of resin for 2-3 minutes before each use, and prior to pouring off resin into a second container. If batch mixing, using a mixing stick or slow-speed (200 to 400 rpm) mechanical mixer with spiral agitator taking care not to aerate the resin. Catalyze only the amount of material that can be used within 10-15 minutes. Add pre-measured ALSAN RS Catalyst Powder to the resin component, stir for 2-4 minutes or until the catalyst has sufficiently dissolved before applying to substrate. ALSAN RS Catalyst Powder addition is based on the weight of the resin being used and temperature.

Apply: After mixing, apply resin to clean and prepared substrate at the required consumption using ALSAN RS approved v-notched squeegees, rollers or brushes. Apply basecoat of catalyzed ALSAN RS resin onto the substrate using:

Normal Application	$\frac{3}{8}$ in steel v-notch rake
Steep Slope	$\frac{1}{4}$ in steel v-notch rake
All Conditions	7 in ALSAN RS roller

Embed ALSAN RS Fleece reinforcement into the wet base using appropriate pressure with the ALSAN RS roller. Immediately apply resin topcoat with ALSAN RS rollers to fully encapsulating the fleece. Avoid any folds and wrinkles. Note: ALSAN RS resin is applied at an approximate

ratio of $\frac{2}{3}$: $\frac{1}{3}$ basecoat and topcoat respectively at the following consumption rates:

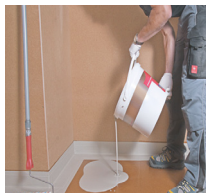
RECOMMENDED COVERAGE RATES KG/FT ² (KG/M ²)			
Substrate	Total	Basecoat	Topcoat
Smooth	0.28 (3.0)	0.19 (2.0)	0.01 (1.0)
Typical	0.31 (3.3)	0.21 (2.3)	
Granulated	0.36 (3.8)	0.26 (2.8)	
Rough	0.40 (4.3)	0.30 (3.3)	

Cure: Allow ALSAN RS to fully cure before applying the next ALSAN RS component. Changing project conditions should be monitored throughout the day to adjust catalyst ratios and cure times. At membrane tie-ins, clean cured ALSAN RS membrane with ALSAN RS Cleaner before application of adjacent membrane.

Field Membrane Installation:

Step 1

Pour basecoat of ALSAN RS resin.



Step 2

Spread ALSAN RS resin using a roller or notched squeegee.



Step 3

Roll out and embed ALSAN RS Fleece in resin basecoat.



Step 4

Pour and spread ALSAN RS resin topcoat with a roller.



9.6 STEEP SLOPE APPLICATIONS

ALSAN RS 230/260 LO resins are produced ready for application at low slopes, but may be applied at any desired slope by adjusting the resin viscosity with ALSAN RS Liquid Thixo.

For slopes exceeding 1½ : 12, ALSAN RS 230/260 LO resin should be pre-mixed with ALSAN RS Liquid Thixo at up to 2% addition by weight.

The amount of thixotropic additive needed will vary by slope and temperature. Addition of ALSAN RS Liquid Thixo should be done following the below guidelines:

Thoroughly mix the entire drum of ALSAN RS 230/260 resin for 2-3 minutes before each use, and prior to pouring off resin into a second container if batch mixing, using a mixing stick or slow-speed (200 to 400 rpm) mechanical mixer with spiral agitator taking care not to aerate the resin. Add the required amount of ALSAN RS Liquid Thixo into the ALSAN RS resin and mix for 2-3 minutes.

- Test the amount of ALSAN RS Liquid Thixo required by mixing small batches before mixing entire units of product.
- Start adding ALSAN RS Liquid Thixo at 1% addition.

- Resin mixed with ALSAN RS Liquid Thixo must be allowed to stand 20 to 30 minutes before checking the viscosity or use. Adjust the amount of ALSAN RS liquid Thixo as needed until the desired viscosity is reached.
- Approximately (1) TBSP = 20g or 2% of ALSAN RS Liquid Thixo per kg of ALSAN RS resin.

Note: Storage and working times are not affected by addition of ALSAN RS Liquid Thixo mixed with uncatalyzed resin.

9.7 APPLICATION QUALITY CONTROL

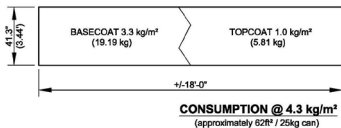
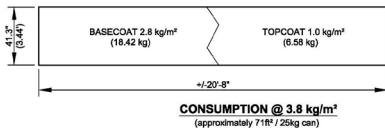
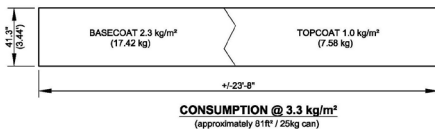
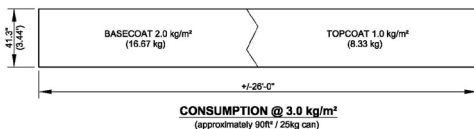
Wet film thickness gauges cannot be used to measure wet film mil thickness and resin consumption with fleece reinforced membrane. For ALSAN RS reinforced membranes, resin consumption and membrane thickness is gaged by monitoring surface profile, distances and kilograms of resin applied.

The following table shows typical consumptions per 25 kg can of ALSAN RS Field resin using 41 in (1049 mm) wide ALSAN RS Fleece:

APPROXIMATE ALSAN RS FIELD RESIN COVERAGE PER 25KG CAN USING 41" WIDE ALSAN RS FLEECE

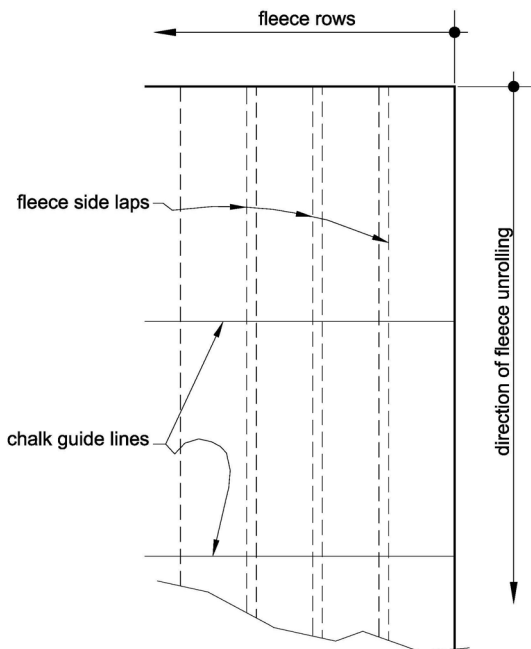
Substrate	Total ft ²	Basecoat (kg)	Topcoat (kg)	Application Distance
Smooth	90	16.67	8.33	+/- 26'
Typical	81	17.42	7.58	+/- 23' - 8"
Granulated	71	18.42	6.58	+/- 20' - 8"
Rough	62	19.19	5.81	+/- 18"

A graphic representation of coverages presented in the above table follows:



After confirming the approximate surface profile and recommended resin consumption, a chalk-line grid can be applied on the substrate defining coverage distances per can of resin.

The grid should be applied perpendicular to the fleece roll-out direction as follows:



Membrane Adhesive Bond Testing:

Determinations of bond strength and moisture content should be performed periodically by the contractor throughout the course of work. Bond strength and adhesion can be monitored at the job site using both qualitative and quantitative means depending on the type of system application.

For most roofing and waterproofing applications, bond testing may be performed by means of an adhesive peel test. For waterproofing and surfacing applications, bond testing should be performed with an appropriate adhesion tester.

Tests should be performed on completely cured sample membrane applied adjacent to work at start-up and intervals as required throughout the project, assuring specified adhesion with a minimum of three tests per 5000 ft² (464.5 m²). In the event the tensile bond strengths are lower than the minimum recommended, additional substrate preparation should be performed and testing repeated to verify suitability of substrate. Contractor shall immediately notify SOPREMA if the tensile bond test results are below recommended criteria.

Refer to section 5.0 of this guide regarding field adhesion testing for information.

9.8 CREW SIZE & WORKFORCE

The appropriate workforce must be determined by the applicator on a job-by-job basis based on the project size, complexity, scheduling and access. A typical size crew usually consists of approximately 5 people, with a designated mixer, runner and 3 applicators.

Application of the roof field typically requires two workers per run working a roll. Larger applications may have multiple staggered runs working at the same time. Flashing large runs of walls are also done best with two workers together, while small penetrations and flashings can be done by a single individual.

10.0 ALSAN RS MORTAR APPLICATION

10.1 ALSAN RS 233 / 263 LO SELF-LEVELING MORTAR APPLICATION

ALSAN RS 233/263 LO Self-Leveling Mortar is a trowel applied resin-mortar used as a thick coating system for interior and exterior waterproofing and surfacing applications. ALSAN RS Mortar may be applied directly over cantilever balconies, open deck structures and slab on grade substrates or in combination with ALSAN RS reinforced membranes for waterproofing and surfacing applications over conditioned or occupied space.

10.2 GENERAL FLASHING GUIDELINES

ALSAN RS reinforced perimeter, penetration and transition flashings are recommended for all ALSAN RS 233/263 LO Self-Leveling Mortar applications. ALSAN RS reinforced flashings are installed before ALSAN RS Mortar waterproofing or traffic surfacing components following standard guidelines, practices and details for ALSAN RS reinforced membrane systems.

Refer to SOPREMA ALSAN RS detail drawings for specific information and flashing requirements for common flashing conditions.

10.3 ALSAN RS 233 / 263 LO SELF-LEVELING MORTAR APPLICATION

ALSAN RS mortar may be applied directly to the deck over acceptable prepared and primed substrates or ALSAN RS fleece reinforced membranes.

Surface Preparation: Where ALSAN RS mortar will be applied over ALSAN RS reinforced flashings or membranes, edges and laps should be pretreated with ALSAN RS mortar applied in spackle fashion to smooth the transition over these locations. If not pretreated as indicated, lap line and fleece edges may telegraph through the ALSAN RS mortar layer.

Mix: Thoroughly mix the entire drum of ALSAN RS 210/240 resin for 2-3 minutes before mixing with ALSAN RS 223 Mixing Powder. Transfer the ALSAN RS 210/240 resin component to a clean, dry container large enough to accommodate the combined resin and powder components leaving adequate room for mixing. Using a slow-speed (200 to 400 rpm) mechanical mixer with spiral agitator, slowly add the entire bag of ALSAN RS 223 Mixing Powder to the ALSAN RS 210/240 resin component while stirring; continue mixing for 2-5 minutes or until achieving a smooth lump-free mortar consistency. The mixing ratio is 1 to 2.3 resin to filler respectively. Catalyze only the amount of material that can be placed within

10-15 minutes. Thoroughly mix the pre-measured ALSAN RS Catalyst Powder into resin-mortar for 2-3 minutes, assuring to incorporate any dry material along the side and bottom of the mixing container. Remix uncatalyzed resin-mortar before each use, and prior to pouring off into a second container if batch mixing.

NOTE: ALSAN RS Catalyst Powder addition is based on weight of the resin component (not the mixed mortar) and temperature.

Apply: Plan and tape-out the area of work in a checkerboard fashion using reinforced masking tape. After mixing, apply mortar to clean, prepared and primed substrate at the required consumption using a stub roller, steel v-notch trowel or rake as follows:

Normal Application	stub roller $\frac{1}{2}$ in x $\frac{7}{16}$ in deep v-notch trowel or rake with blunted tips
Steep Slope	$\frac{3}{8}$ in or $\frac{1}{2}$ in v-notch trowel or rake as required
All Conditions	spiked nylon roller

Mortar should be uniformly spread across substrate and rolled with a pin roller as required to knock-down any high spots before the mortar begins to gel. Before mortar cures, remove all masking tape.

Mortar Installation:

Step 1

Pour mortar onto prepared & primed substrate.



Step 2

Spread mortar using a notched trowel.



Step 3

Pin roll mortar to eliminate bubbles and even out application.



APPROXIMATE COVERAGE PER 33KG			
Substrate	kg/ft ² (kg/m ²)	ft ² (m ²)	mils (mm)
Smooth	0.42 (4.5)	80 (7.4)	88 (2.2)

Cure: Allow ALSAN RS mortar to fully cure before applying the next ALSAN RS component. Changing project conditions should be monitored

throughout the day to adjust catalyst ratios and cure times. At membrane tie-ins, clean cured ALSAN RS mortar with ALSAN RS Cleaner before application of next ALSAN RS component or surfacing.

10.4 STEEP SLOPE APPLICATIONS

ALSAN RS 233/263 LO Self-Leveling Mortar is produced ready for application at low slopes, but may be applied at any desired slope by adjusting the resin viscosity with ALSAN RS Liquid Thixo.

For slopes exceeding 1½ : 12, ALSAN RS 233/263 LO Self-Leveling Mortar should be pre-mixed with ALSAN RS Liquid Thixo at up to 2% addition by weight. The amount of thixotropic additive needed will vary by slope and temperature. Addition of ALSAN RS Liquid Thixo should be done following the below guidelines:

Thoroughly mix the entire pre-mixed drum of ALSAN RS 233/263 LO Mortar Self-Leveling for 2-3 minutes before each use and prior to pouring off resin into a second container if batch mixing, using a slow-speed (200 to 400 rpm) mechanical mixer with spiral agitator taking care not to aerate the resin mortar. Add the required amount of ALSAN RS Liquid Thixo into the ALSAN RS mortar and mix for 2-3 minutes.

- Test the amount of ALSAN RS Liquid Thixo required by mixing small batches before

mixing entire units of product.

- Start adding ALSAN RS Liquid Thixo at 1% addition.
- Mortar mixed with ALSAN RS Liquid Thixo must be allowed to stand 20 to 30 minutes before checking the viscosity and use. Adjust the amount of ALSAN RS Liquid Thixo as needed until the desired viscosity is reached.
- Approximately (1) TBSP = 20 g. 20 g = 2% per kilogram of resin when measuring ALSAN RS Liquid Thixo.

Note: Storage and working times are not affected by addition of ALSAN RS Liquid Thixo mixed with uncatalyzed resin.

10.5 BROADCAST AGGREGATE

Approved kiln dried quartz aggregate may be added into ALSAN RS 233/263 LO Self-Leveling Mortar to create slip-resistant surfacing. All surfacing aggregates shall be washed, kiln-dried, dust-free, suitable for broadcast, angular grain, and sized as recommended by SOPREMA.

When required as part of the traffic surfacing, broadcast #1 (0.7 - 1.2 mm) kiln-dried quartz aggregate into the applied wet ALSAN RS mortar to excess for full coverage at an approximate consumption of:

- 140 lb/100 ft² (7.0 kg/m²).

Aggregate should be cast upward, allowing it to fall vertically downward into the mortar resin to avoid creating “waves” in the resin. Where required on vertical surfaces, cast aggregate into the wet resin with a perpendicular hand motion. Vertical and horizontal surfaces should be cast separately, applying vertical surfaces first followed by deck areas using appropriate protection and masking.



Note: Broadcast aggregate must be properly sealed with ALSAN RS finish. Prior to applying finish seal coat, remove excess aggregate from surface by broom, vacuum or oil-free blower. See ALSAN RS finish application guidelines for information regarding application of ALSAN RS finish and surfacing components.

10.6 ALSAN RS MORTAR TOUCH-UP

When ALSAN RS mortar will be applied without broadcast aggregate, i.e., another ALSAN RS

surfacing component will be applied over the mortar; the mortar layer can be touched up and corrected to create a smooth blemish free surface.

Imperfections telegraph through surfacing & finish and therefore must be corrected before proceeding. Minor imperfections in ALSAN RS mortar or ALSAN RS membrane can be ground down before applying surfacing or finish. Using a hand held grinder with an appropriate abrasive disk or diamond cup, lightly grind the top surface of any imperfections using care not to damage the in-place membrane. If the membrane has been damaged or compromised, repair the membrane as needed and feather edges by grinding.

Inspect the applied and cured ALSAN RS mortar looking for line, lumps and other blemishes. Remove any protrusions the hand-held cup grinder as needed, taking care not to damage the membrane.

Where required, additional ALSAN RS mortar may be applied over the in-place mortar which can be feathered in with the same grinding/sanding procedure. This surface preparation is recommended on applications using ALSAN RS textured finish or ALSAN RS finish with broadcast aggregates.

10.7 APPLICATION QUALITY CONTROL

Typically ALSAN RS mortar consumption and thickness is gaged by monitoring surface profile, distances and kilograms of resin applied.

Membrane Bond Testing:

Determinations of bond strength and moisture content should be performed periodically by the contractor throughout the course of work.

Bond strength and adhesion can be monitored at the job site using an adhesion tester. Perform tests on completely cured sample membrane applied adjacent to work at start-up, and intervals as required throughout the project assuring specified adhesion with a minimum of three tests per 5000 ft² (465 m²). In the event the tensile bond strengths are lower than the minimum specified, additional substrate preparation is required. Repeat testing to verify suitability of substrate preparation. Contractor shall immediately notify SOPREMA if the tensile bond test results are below recommended criteria.

11.0 ALSAN RS FINISH & SURFACE APPLICATION

ALSAN RS finish and surfacing can be used with various interior and exterior waterproofing, traffic surfacing and roofing applications. ALSAN RS finishes are applied using trowel, squeegee or roller depending on the ALSAN RS component used and required surfacing. ALSAN RS components available for finish and surfacing are:

- ALSAN RS 288 Finish
- ALSAN RS 281 Clear Finish
- ALSAN RS 289 Textured Finish
- ALSAN RS Textured Coating
- ALSAN RS Quartz Aggregate
- ALSAN RS Acrylic Chips

The above products may be used alone or in combination. Refer to SOPREMA ALSAN RS specifications for information regarding specific system requirements.

11.1 GENERAL APPLICATION

ALSAN RS finish and surfacing may be applied to dry, dust free and clean fully cured ALSAN RS primer, membrane or mortar layers. When applying ALSAN RS finish or surfacing over an

ALSAN RS waterproofing membrane, the in-place membrane should be inspected for deficiencies and corrected prior to application of any finish or surfacing component. This is especially important with regards to correcting blister or delamination that may be present in any reinforced ALSAN RS membrane.

Where ALSAN RS finish or surfacing will be applied over ALSAN RS reinforced flashings or membrane, edges and laps should be pretreated with ALSAN RS mortar for traffic bearing waterproofing applications or ALSAN RS Paste or ALSAN RS Self-Leveling Mortar for non-traffic bearing waterproofing applications, applied in spackle fashion to smooth the transition over these locations. If not pre-treated as indicated, lap line and fleece edges may telegraph through the ALSAN RS finish or surfacing.

NOTE: Imperfections telegraph through surfacing & finish, and therefore must be corrected before proceeding. Minor imperfections in ALSAN RS mortar or ALSAN RS membrane can be ground down before applying surfacing or finish. Using a hand held grinder with an abrasive disc or appropriate diamond cup wheel, lightly grind the top surface of any imperfections taking care not to damage the in-place membrane. If the membrane has been damaged or compromised,

repair the membrane as needed and feather edges by grinding.

11.2 USING COLOR BREAKS

ALSAN RS finish and surfacing are designed as topcoats for roofing, waterproofing and traffic surfacing systems. Although ALSAN RS waterproofing and surfacing systems are often used for balconies, terraces, parking structures and more, the primary function of any ALSAN RS system is waterproofing.

Since all ALSAN RS components are rapid-setting, the way finishes and surfacing are applied will have a dramatic impact on aesthetics of the completed application. Applying ALSAN RS finishes and surfacing with color breaks provides several benefits to the appearance and repair-ability of any ALSAN RS project. Color breaks help to:

- hide variations in surface gloss and texture
- hide minor variations in color
- allow for localized repairs if needed

Example of applied Color Breaks:



Before starting any project, color breaks should be planned and mapped out by the project designer working with the owner. Things to consider when planning color breaks are:

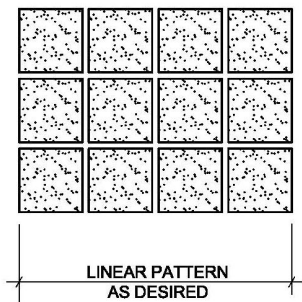
- what type of pattern is desired
- locations of doors, windows or other focal points that might be impacted
- locations of expansion or other moving joints

Once a plan has been approved, the pattern can be masked-off and made ready for application.

Surfacing or finish may be applied in a variety of patterns, color combinations and textures

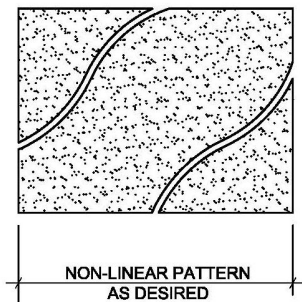
depending upon the designers needs and imagination. Generally, color breaks are applied in two patterns as follows:

Linear Pattern Color Breaks:



Linear patterns are the easiest to work with, and can designed to simulate tile or pavers applied square or at angles.

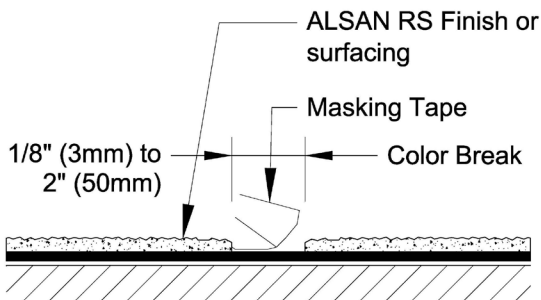
Non-Linear Pattern Color Breaks:



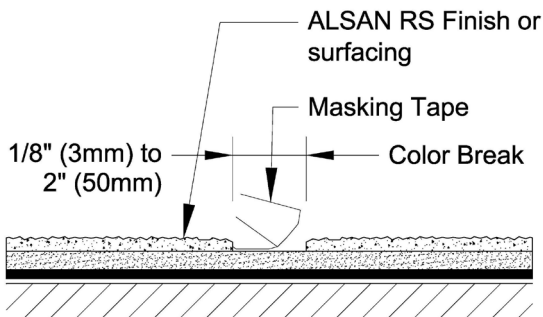
Non-linear patterns can be designed in any shape or configuration. Complex patterns can be also be applied with pre-cut templates prepared by third party vendors typically used for commercial paint applications.

Regardless of style or pattern, the color break must be applied at the appropriate layer of ALSAN RS installation depending upon the system and surfacing type. Four typical color break locations are as follows:

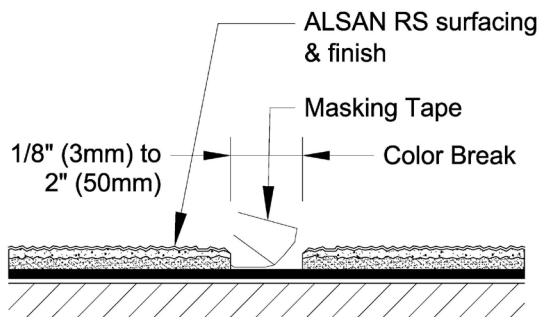
Color Breaks with ALSAN RS finish or surfacing applied over ALSAN RS membrane:



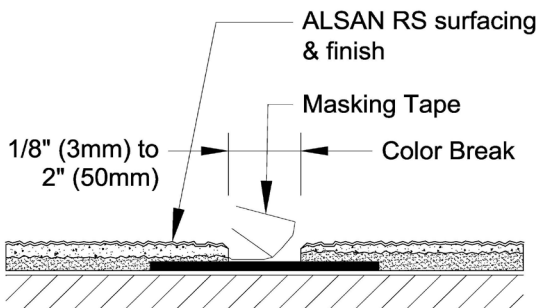
Color breaks with ALSAN RS finish or surfacing applied over ALSAN RS 233/263 LO Self-Leveling Mortar:



Color breaks aggregate broadcast directly into ALSAN RS 233/263 LO Self-Leveling Mortar applied over ALSAN RS membrane:



Color breaks aggregate broadcast directly into ALSAN RS 233/263 LO Self-Leveling Mortar applied direct to substrate:



Note: With aggregate broadcast into ALSAN RS 233/263 Self-Leveling Mortar applied directly to the substrate, color breaks must be applied over previously applied reinforced ALSAN RS flash membrane strips. This requires additional coordination to layout and install these strips before applying the ALSAN RS 233/263 LO Self-Leveling Mortar.

11.3 APPLICATION AT PERIMETERS & EXPANSION JOINTS

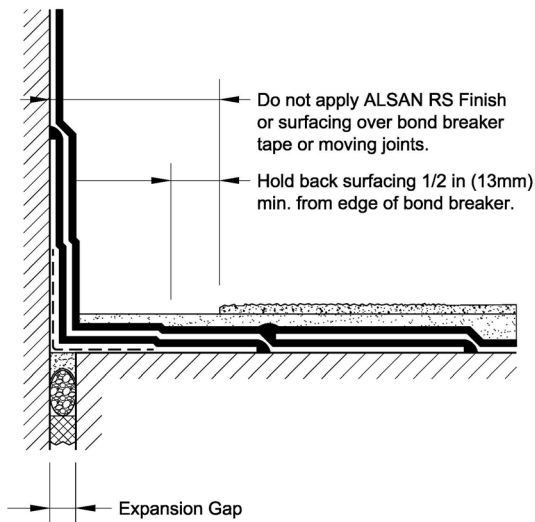
ALSAN RS finish and surfacing are semi-rigid materials formulated for durability and performance. As semi-rigid components, when applied over softer or more flexible materials

such as ALSAN RS waterproofing membranes, cracks and micro fissures may occur in the surfacing and finish layer. Although this does not affect the ALSAN RS system waterproofing or performance, it will impact the cosmetic appearance of the surfacing and finish.

To help reduce or avoid potential cosmetic cracks or fissures, the ALSAN RS surfacing and finish should not be applied over areas of potential movement including the following:

- Hold surfacing & finish back $\frac{1}{2}$ in (13 mm) from horizontal to vertical transitions at walls, penetrations and leading edges of any bond breaker.
- Do not apply surfacing & finish over any metal components stripped in with ALSAN RS membrane.
- Do not apply surfacing & finish over expansion joints or other joints where movement is possible.

ALSAN RS Finish & Surfacing Typical Joint Treatment:



11.4 STEEP SLOPE APPLICATIONS

ALSAN RS 287 Color Finish, ALSAN RS 281 Clear Finish, ALSAN RS 289 Textured Finish and ALSAN RS Textured Coating resins are produced ready for application at low slopes, but may be applied at any desired slope by adjusting the resin viscosity with ALSAN RS Liquid Thixo. For vertical substrates or slopes exceeding $1\frac{1}{2} : 12$, ALSAN RS finish resins should be pre-mixed with ALSAN

RS Liquid Thixo at up to 2% addition by weight. The amount of thixotropic additive needed will vary by slope and temperature. Addition of ALSAN RS Liquid Thixo should be done following the below guidelines:

Mix: Thoroughly mix the entire drum of ALSAN RS finish resin for 2-3 minutes before each use, and prior to pouring off resin into a second container if batch mixing, using a mixing stick or slow-speed (200 to 400 rpm) mechanical mixer with spiral agitator, taking care not to aerate the resin. Add the required amount of ALSAN RS Liquid Thixo into the uncatalyzed ALSAN RS finish resin and mix for 2-3 minutes.

- Test the amount of ALSAN RS Liquid Thixo required by mixing small batches before mixing entire units of product.
- Start adding ALSAN RS Liquid Thixo at 1% addition.
- Resin mixed with ALSAN RS Liquid Thixo must be allowed to stand 20 to 30 minutes before checking viscosity or use. Adjust the amount of ALSAN RS Liquid Thixo needed until the desired viscosity is reached.
- Approximately (1) TBSP = 20 g. 20 g = 2% per kilogram of resin when measuring ALSAN RS Liquid Thixo.

Note: Storage and working times are not affected by addition of ALSAN RS Liquid Thixo mixed with uncatalyzed resin.

11.5 APPLYING ALSAN RS 281 CLEAR FINISH & ALSAN RS 288 COLOR FINISH

ALSAN RS Finish is available as ALSAN RS 281 Clear Finish or ALSAN RS 287 Color Finish. ALSAN RS 287 Color Finish is a smooth monochromatic color topcoat made by combining ALSAN RS 287 Color Finish Base resin (un-pigmented) with ALSAN RS Color Additive as follows:

Mix: Thoroughly mix the entire drum of ALSAN RS 287 Color Finish Base resin for 2-3 minutes using a slow-speed mechanical mixer with spiral agitator. Slowly add the entire contents of ALSAN RS Color Additive to ALSAN RS 287 Color Finish Base resin component while stirring; continue mixing for 2 to 5 minutes or until achieving a uniform streak-free color.

Note: ALSAN RS 281 Clear Finish must be mixed before use, but is not combined with ALSAN RS Color Additive. Remix before each use, and prior to pouring off resin into a second container if batch mixing. Catalyze only the amount of material that can be used within 15-20 minutes. Add pre-measured ALSAN RS Catalyst Powder to resin component and stir for 2-3 minutes using a

mixing stick or slow-speed mechanical agitator. ALSAN RS Catalyst Powder addition is based on weight of the resin component used and temperature. Combining ALSAN RS Color Additive to ALSAN RS 287 Color Finish Base resin does not affect shelf-life or storage.

Apply: Plan and tape-out the area of work in a checkerboard fashion using fiber reinforced masking tape. After mixing, apply ALSAN RS finish resin to clean, prepared and dry substrate at the required consumption as follows:

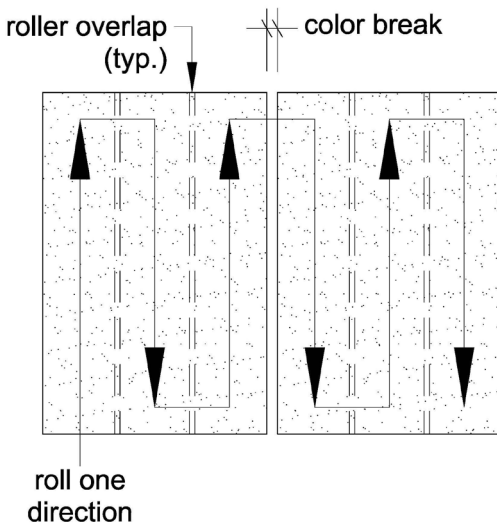
APPROXIMATE COVERAGE PER 10KG UNIT			
Substrate	kg/ft ² (kg/m ²)	ft ² (m ²)	mils (mm)
Smooth	0.05 (0.6)	179 (16.7)	23 (0.58)
#0 Quartz	0.06 (0.7)	154 (14.3)	26 (0.67)
#1 Quartz	0.07 (0.8)	135 (12.5)	30 (0.78)

APPLICATION METHOD	
Smooth surfaces (ALSAN RS primer, ALSAN RS membrane & mortar)	1/8 in steel v-notch trowel or rake
Embedment coat for #0 quartz aggregate	3/16 in steel v-notch trowel or rake
Sealcoat over quartz aggregate	Flat blade rubber squeegee
All applications	ALSAN RS roller

ALSAN RS 281 Clear Finish and ALSAN RS 287 Color Finish should be uniformly spread across substrate with the required steel v-notch rake; using a roller to remove puddles. Finish the topcoat by lightly rolling in one direction slightly overlapping previously rolled sections to create a single uniform application. The same finish roller procedure and direction should be used throughout the entire application to produce the most consistent and uniform sheen possible.

Before ALSAN RS 281 Clear Finish or ALSAN RS 287 Color Finish cures, remove all masking tape.

Cure: Allow ALSAN RS 281 Clear Finish and ALSAN RS 287 Color Finish to fully cure before applying loads or traffic. Changing project conditions should be monitored throughout the day to adjust catalyst ratios and cure time.



11.6 BROADCAST AGGREGATE

Approved quartz aggregate, ceramic granule or mineral surfacing may be applied to ALSAN RS systems as aesthetic and/or slip-resistant surfacing. All surfacing aggregates shall be washed, kiln-dried, dust-free, suitable for broadcast, angular grain and sized as recommended by SOPREMA. When applying colored quartz, SOPREMA recommends using a blend of three different colored aggregates.

Broadcast ALSAN RS 281 Clear Finish or ALSAN

RS 288 Color Finish to excess while wet using:

- #0 (0.4 - 0.8 mm) kiln-dried quartz aggregate
- approximate rate 100 lb/100 ft² (5.0 kg/m²)

Aggregate should be cast upward, allowing it to fall vertically downward into the resin to avoid creating “waves” in the resin. Where required on vertical surfaces, cast aggregate into the wet resin with a perpendicular hand motion. Vertical and horizontal surfaces should be cast separately, applying vertical surfaces first followed by deck areas using appropriate protection and masking.

Note: All broadcast aggregate must be properly sealed with ALSAN RS finish. Prior to applying finish seal coat, remove excess aggregate from surface by broom, vacuum or oil-free blower.

11.7 BROADCAST ALSAN RS ACRYLIC CHIPS

ALSAN RS Acrylic Chips may be applied to ALSAN RS systems as an aesthetic element. When applying ALSAN RS Acrylic Chips, SOPREMA recommends using a blend of two to three different colors.

Broadcast ALSAN RS Acrylic Chips into ALSAN RS 287 Color Finish in excess while wet using a popcorn gun and or hand feeder at:

- approximate rate 100 lb/100 ft² (5.0 kg/m²)

ALSAN RS Acrylic Chips should be cast upward by hand or with a hopper gun, allowing it to fall vertically downward into the resin. Where required on vertical surfaces, cast aggregate into the wet resin with a perpendicular hand motion. Vertical and horizontal surfaces should be cast separately, applying vertical surfaces first followed by deck areas using appropriate protection and masking.

Note: Any ALSAN RS Acrylic Chips not fully embedded into ALSAN RS 287 Color Finish can be removed using a stiff bristle broom after the resin has cured and prior to applying an ALSAN RS 281 Clear Finish seal coat if used.



11.8 APPLYING ALSAN RS 289 TEXTURED FINISH

ALSAN RS 289 Textured Finish is available as an aggregate filled monochromatic color topcoat

made by combining ALSAN RS 289 Textured Base resin (un-pigmented) with ALSAN RS Color Additive as follows:

Mix: Thoroughly mix the entire drum of ALSAN RS 289 Textured Base resin for 2-3 minutes using a slow-speed (200 to 400 rpm) mechanical mixer with spiral agitator. Slowly add the entire contents of ALSAN RS Color Additive to ALSAN RS 289 Textured Base resin component while stirring; continue mixing for 2 to 5 minutes or until achieving a uniform streak-free color. Note: Remix before each use and prior to pouring off resin into a second container if batch mixing. Catalyze only the amount of material that can be used within 15-20 minutes. Add pre-measured ALSAN RS Catalyst Powder to resin component and stir for 2-4 minutes using a mixing stick or slow-speed mechanical agitator.

NOTE: ALSAN RS Catalyst Powder addition is based on weight of the resin component used and temperature. Combining ALSAN RS Color Additive to ALSAN RS 289 Textured Base resin does not affect shelf-life or storage.

Apply: Plan and tape-out the area of work in a checkerboard fashion using fiber reinforced masking tape. After mixing, apply ALSAN RS 289 Textured Base resin to clean, prepared and dry substrate at the required consumption as follows:

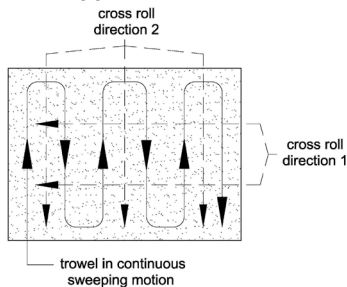
APPROXIMATE COVERAGE PER 15KG UNIT			
Use	kg/ft ² (kg/m ²)	ft ² (m ²)	mils (mm)
Pedestrian Light Traffic	0.07 (0.8)	202 (18.7)	21 (0.53)
Pedestrian Normal Traffic	0.12 (1.3)	124 (11.5)	35 (0.87)
Vehicular Traffic	0.17 (1.8)	89 (8.3)	48 (1.2)
APPLICATION METHOD			
Light Pedestrian Traffic	³ / ₁₆ in steel v-notch trowel or rake		
Normal Pedestrian Traffic	¹ / ₄ in steel v-notch trowel or rake		
Vehicular Traffic	³ / ₈ in steel v-notch trowel or rake		
All Applications	ALSAN RS roller		

ALSAN RS 289 Textured Finish should be uniformly spread across the substrate with the required v-notched trowel or rake; using a roller to remove puddles and cross roll two directions to even out coverage. Finish the topcoat by lightly rolling in one direction slightly overlapping previously rolled sections to create a single uniform application.

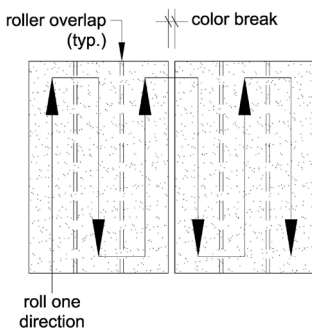
The same finish roller procedure and direction should be used throughout the entire application

to produce the most consistent and uniform sheen possible.

Trowel/Rake Application:



Finish Rolling:



When required for additional slip resistance, immediately after the final roller passes are completed, random broadcast 0.047 (1.2 mm) aluminum oxide to the desired degree onto the coating and lightly back roll one final time.

Before ALSAN RS 289 Textured Finish cures, remove all masking tape.

Cure: Allow ALSAN RS 289 Textured Finish to fully cure before applying loads or traffic. Changing project conditions should be monitored throughout the day to adjust catalyst ratios and cure time.

11.9 APPLYING ALSAN RS TEXTURED COATING

ALSAN RS Textured Coating is a factory mixed aggregate filled monochromatic color topcoat used primarily with vehicular traffic installations at ramps, turning radii and areas of heavy traffic. ALSAN RS Textured Coating may also be used for roof walkways, qualifying cantilever balconies, walkways and other traffic surfaces.

Mix: Thoroughly mix the entire drum of ALSAN RS Textured Coating resin for 2-3 minutes using a slow-speed mechanical mixer with spiral agitator until achieving a uniform streak-free color.

Note: Remix before each use and prior to pouring off resin into a second container if batch mixing. Catalyze only the amount of material that can be used within 15-20 minutes. Add pre-measured ALSAN RS Catalyst Powder to resin component and stir for 2-4 minutes using a slow-speed mechanical mixer with spiral agitator. ALSAN RS

Catalyst Powder addition is based on weight of the resin component used and temperature.

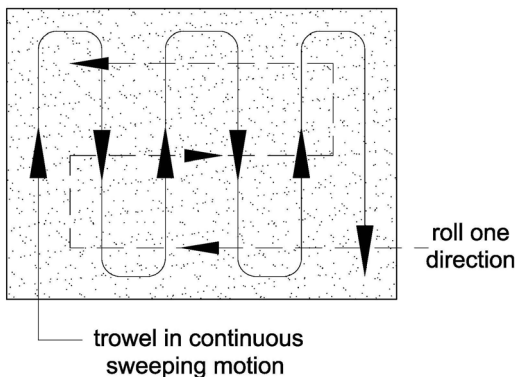
Apply: Plan and tape-out the area of work in a checkerboard fashion using fiber reinforced masking tape. After mixing, apply ALSAN RS Textured Coating resin to clean, prepared and dry substrate at the required consumption as follows:

APPROXIMATE COVERAGE PER 15KG UNIT			
Use	kg/ft ² (kg/m ²)	ft ² (m ²)	mils (mm)
Standard	0.33 (3.5)	46 (4.3)	76 (1.89)

APPLICATION METHOD	
Standard	Square edge finishing trowel & roller

ALSAN RS Textured Coating should be uniformly spread across substrate with the required steel square edge finishing trowel; using a dry roller to remove trowel marks and imperfections. If required, ALSAN RS Textured Coating may be lightly rolled in one direction slightly overlapping previously rolled sections to create a single uniform application. The same finish roller procedure and direction should be used throughout the entire application to produce the most consistent and uniform sheen possible.

Trowel Application:



Before ALSAN RS Textured Coating cures, remove all masking tape.

Cure: Allow ALSAN RS Textured Coating to fully cure before applying loads or traffic. Changing project conditions should be monitored throughout the day to adjust catalyst ratios and cure time.

Summary

ALSAN RS finish & surfacing may be used for a variety of applications including colored or slip-resistant topcoats and traffic surfacing. See SOPREMA ALSAN RS systems and selection guide for assemblies using an appropriate finish and surfacing topcoat.

12.0 STAGING, TIE-IN & REPAIR GUIDELINES

ALSAN RS components should be installed the same day without delays or stoppage wherever possible. This principal applies to primer, interface details, membrane, mortar, topcoat and finishes. When this is not possible due to work interruptions, (i.e., weather, jobsite conditions, other unforeseen circumstances) or to complete repairs of damaged in-place ALSAN RS membrane or components, the following guidelines apply.

12.1 WORK INTERRUPTIONS

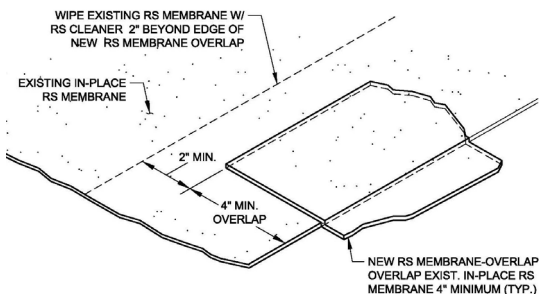
Subsequent ALSAN RS components (i.e., membrane, flashings, mortar, topcoat or finish) or daily start-up tie-ins should be applied within 12 hours of the previously applied ALSAN RS component whenever possible. If work is interrupted for more than 12 hours, use ALSAN RS Cleaner to wipe down, clean and prepare the in-situ ALSAN RS component.

Using clean lint-free cotton rags wet with ALSAN RS Cleaner, wipe the in-place ALSAN RS component as required to remove any dust, dirt or debris. Allow the ALSAN RS Cleaner a 20 minute evaporation time, and over-coat within 60 minutes of application. Wipe and clean all transition areas,

tie-ins or in-place ALSAN RS components to be overlaid.

12.2 ALSAN RS TIE-INS

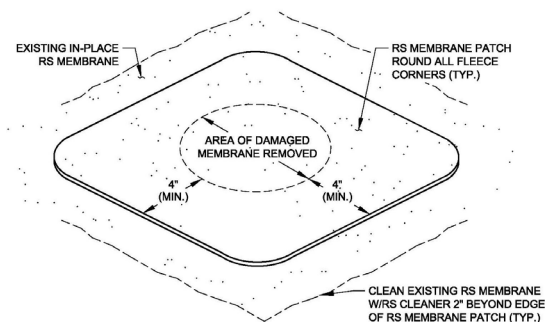
At work tie-ins, an area equal to the required ALSAN RS component overlap plus 2 in (50 mm) beyond in all directions should be wiped, cleaned and prepared with ALSAN RS Cleaner. Subsequent layers of ALSAN RS membrane or mortar must overlap the in-place ALSAN RS component 4 in (100 mm) minimum. For ALSAN RS fleece reinforced membranes, the overlap must include both ALSAN RS resin and ALSAN RS fleece reinforcement.



12.3 ALSAN RS MEMBRANE PATCHES & REPAIRS

When ALSAN RS membrane is cut, torn, punctured, de-bonded or damaged from abuse,

impact, or blistering the following repair procedures should be followed:



Step 1: Check the disturbed area to determine the extent of damage. In areas where the membrane has de-bonded, cut and remove the loose membrane back to a securely bonded point on the substrate. Where the substrate is exposed remove any loose material, grind off any damaged or un-adhered primer and prepare the substrate for re-priming with an appropriate ALSAN RS primer where required. For older membrane repairs, depending upon the age and condition of the in-place membrane, primer may be extended onto the membrane transition area if necessary.

Step 2: Fill the area where loose membrane was removed with ALSAN RS Paste or ALSAN RS

233/263 LO Self-Leveling Mortar as required.

Note: ALSAN RS 233/263 LO Self-Leveling Mortar must be used on all traffic bearing waterproofing applications. ALSAN RS 233/263 LO Self-Leveling Mortar or ALSAN RS Paste may be used on non-traffic bearing waterproofing (horizontal or vertical) applications. Allow the ALSAN RS or ALSAN RS 233/263 LO Self-Leveling Mortar to fully cure before applying an ALSAN RS fleece reinforced membrane patch.

Step 3: Cut a patch of ALSAN RS Fleece reinforcement (circular or rectangular with rounded corners) a minimum of 4 in (100 mm) larger in all directions of the repair area. A minimum of 4 in (100 mm) overlap onto sound in-place ALSAN RS membrane is required.

Step 4: Where applicable, grind and remove all ALSAN RS finish, topcoats or aggregate surfacing down to virgin ALSAN RS membrane on an area equal to the fleece patch plus 2 in (50 mm) beyond in all directions.

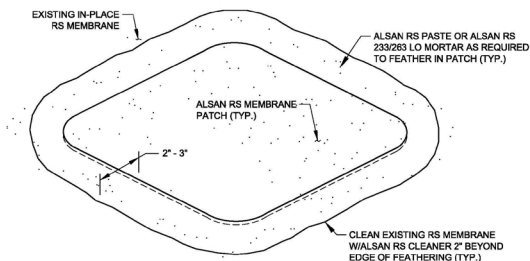
Step 5: Thoroughly wipe and clean the interface area of the in-place ALSAN RS membrane and substrate where applicable using ALSAN RS Cleaner as indicated previously for work interruptions. Then apply the ALSAN RS membrane patch (resin/reinforcement/resin) following standard application procedures and

guidelines. After the membrane patch has cured, re-apply surfacing treatments as needed to match the existing where applicable.

Step 6: Where ALSAN RS mortar, finish or surfacing will be applied over the membrane patch, feather-in the patch edges with ALSAN RS Paste or ALSAN RS 233/263 LO Self-Leveling Mortar.

Note: ALSAN RS 233/263 LO Self-Leveling Mortar must be used on all traffic bearing waterproofing applications. ALSAN RS 233/263 Mortar or ALSAN RS Paste may be used on non-traffic bearing waterproofing (horizontal or vertical) applications.

After the ALSAN RS membrane patch has cured, apply ALSAN RS Paste or ALSAN RS 233 Self-Leveling Mortar in a 2 - 3 in (50 – 80 mm) wide band around the edges of the patch using a putty knife and finishing trowel. Spread, feather edge and finish the applied paste or mortar to create a smooth transition.



Imperfections telegraph through surfacing & finish and therefore must be corrected before proceeding. Minor imperfections in the applied paste or mortar can be ground down before applying surfacing or finish using a handheld grinder with an abrasive disk or appropriate diamond cup wheel, lightly grind the top surface of any imperfections and adjust feathering taking care not to damage the in-place membrane.

12.4 ALSAN RS FINISH & SURFACING REPAIRS

When ALSAN RS finish or surfacing is damaged, repairs can be easily made back to a planned color break and/or designated break point as follows:

Step 1: Check the disturbed area to determine the extent of damage. Using care, grind and remove all ALSAN RS finish, topcoats or aggregate surfacing to expose the underlying ALSAN RS membrane.

Step 2: Thoroughly wipe and clean the in-place membrane using ALSAN RS Cleaner as indicated previously for work interruptions.

Step 3: Re-apply ALSAN RS finish and/or surfacing components as needed to match the existing.

See section 11.0 of this guide for additional guidance and recommendations for applying ALSAN RS finish and surfacing.

13.0 REFERENCE / APPENDIX

13.1 ALSAN RS SYSTEM COMPONENT CHARTS

ALSAN RS SUBSTRATE PRIMERS (ALL SYSTEMS)						
ALSAN RS Component	Unit Size	Substrate Profile	Application Rate kg/ft ² (kg/m ²) U.O.N.	Approx. Gross ft ² (m ²) / Unit	Approximate Dry Times	
Primer Options					Rain Proof	Next Coat
ALSAN RS 222 / 276	10 kg	CSP3 Smooth	0.037 (0.4)	269 (25.0)	30 Minutes	45 Minutes
		CSP4 Sanded	0.046 (0.5)	215 (20.0)		
		CSP4 Granulated	0.055 (0.6)	179 (16.7)		
		CSP5 Rough	0.075 (0.8)	135 (12.5)		
ALSAN RS LO	2 Gal	CSP3 Smooth	200 (18.6)/Gal	400 (37.2)	2 Hours	3 Hours
	5 Gal			1000 (92.9)		
AQUAFIN SG3	2.4 Gal	CSP3 Smooth	100 (9.3)	240 (22.3)	6 Hours	12 Hours
ALSAN RS Metal	1 Gal	SSPC SP3	250 (23.2)/Gal	250 (23.2)	4 Hours	6 Hours

ALSAN RS FLASHING (FULLY REINFORCED FLASHINGS - ALL SYSTEMS)

ALSAN RS Component	Unit Size	Substrate Profile	Application Rate kg/ft ² (kg/m ²) U.O.N.	Approx. Gross ft ² (m ²) / Unit	Approximate Dry Times	
					Rain Proof	Next Coat
ALSAN RS 230 / 260 LO	12 kg		-		30 - 45 Minutes	1 - 1.5 Hours
Basecoat		Smooth	0.19 (2.0)	43 (4.0)		
		Typical	0.21 (2.3)	39 (3.6)		
		Granulated	0.26 (2.8)	34 (3.2)		
		Rough	0.30 (3.3)	30 (2.8)		
Topcoat		-	0.09 (1.0)	included above		
ALSAN RS Fleece	164 lf	-	-	varies by width		

ALSAN RS ROOFING & WATERPROOFING (FULLY REINFORCED - ALL SYSTEMS)

ALSAN RS Component	Unit Size	Substrate Profile	Application Rate kg/ft ² (kg/m ²) U.O.N.	Approx. Gross ft ² (m ²) / Unit	Approximate Dry Times	
					Rain Proof	Next Coat
ALSAN RS 230 / 260 LO	25 kg				30 - 45 Minutes	1 - 1.5 Hours
Basecoat		Smooth	0.19 (2.0)	90 (8.3)		
		Typical	0.21 (2.3)	81 (7.6)		
		Granulated	0.26 (2.8)	71 (6.6)		
		Rough	0.30 (3.3)	62 (5.8)		
Topcoat		-	0.09 (1.0)	included above		
ALSAN RS Fleece (41")	164 lf	-	-	535 (49.7)		

ALSAN RS ROOFING & WATERPROOFING SURFACING & FINISH OPTIONS

ALSAN RS Component	Unit Size	Substrate Profile	Application Rate kg/ft ² (kg/m ²) U.O.N.	Approx. Gross ft ² (m ²) / Unit	Approximate Dry Times	
					Rain Proof	Trafficable
ALSAN RS 287 Color Finish Base	10 kg	Smooth	0.05 (0.6)	179 (16.7)	30 - 45 Minutes	3 Hours
ALSAN RS 289 Textured Finish	15 kg	Smooth	0.07 (0.8)	201 (18.7)	45 Minutes	3 Hours
ALSAN RS Textured Coating	15 kg	Smooth	0.33 (3.5)	46 (4.3)	30 Minutes	2 Hours
Bonding / Protection Layer: ALSAN RS 230 /260 LO Resin Coat	25 kg	Smooth	0.14 (1.5)	179 (16.7)	30 - 45 Minutes	1 -1.5 Hours
#1 (0.7 - 1.2mm) Quartz	22.7 kg	-	0.65 (7.0)	35 (3.3)		

**ALSAN RS FULLY REINFORCED TRAFFIC BEARING WATERPROOFING
& SURFACING SYSTEM**

ALSAN RS Component	Unit Size	Substrate Profile	Application Rate kg/ft ² (kg/m ²) / U.O.N.	Approx. Gross ft ² (m ²) / Unit	Approximate Dry Times	
					Rain Proof	Next Coat
ALSAN RS 230 / 260 LO	25 kg				30 - 45 Minutes	1 - 1.5 Hours
Basecoat		Smooth	0.19 (2.0)	90 (8.3)		
		Typical	0.21 (2.3)	81 (7.6)		
		Granulated	0.26 (2.8)	71 (6.6)		
		Rough	0.30 (3.3)	62 (5.8)		
Topcoat		-	0.09 (1.0)	included above	35 - 45 Minutes	1 - 1.5 Hours
ALSAN RS Fleece (41")	164 lf	-	-	535 (49.7)		
ALSAN RS 233 / 263 LO	33 kg					
Mortar Coat		CSP3 Smooth	0.37 (4.0)	90 (8.3)		

**ALSAN RS PARTIALLY REINFORCED TRAFFIC BEARING WATERPROOFING
& SURFACING SYSTEM**

ALSAN RS Component	Unit Size	Substrate Profile	Application Rate kg/ft² (kg/m²) / U.O.N.	Approx. Gross ft² (m²) / Unit	Approximate Dry Times	
					Rain Proof	Next Coat
ALSAN RS 233 / 263 LO	33 kg				30 - 45 Minutes	1 - 1.5 Hours
Mortar Coat		CSP3 Smooth	0.37 (4.0)	90 (8.3)		
		CSP4	0.40 (4.3)	81 (7.6)		
		CSP5 Rough	0.44 (4.8)	71 (6.6)		

ALSAN RS PEDESTRIAN TRAFFIC SURFACING FINISH OPTIONS

ALSAN RS Component	Unit Size	Substrate Profile	Application Rate kg/ft ² (kg/m ²) / U.O.N.	Approx. Gross ft ² (m ²) / Unit	Approximate Dry Times	
					Rain Proof	Trafficable
#1 (0.7 - 1.2mm) Quartz Cast Into RS Mortar	22.7 kg	-	0.65 (7.0)	35 (3.3)	30 Minutes	60 Minutes
ALSAN RS 287 Color Finish Base	10 kg	#1 Quartz	0.07 (0.8)	134 (12.5)	30 - 45 Minutes	3 Hours
ALSAN RS 287 / 281 Bedding Coat	10 kg	Smooth	0.05 (0.6)	179 (16.7)	30 - 45 Minutes	45 - 60 Minutes
#0 (0.4 - 8mm) Quartz Cast Into ALSAN RS 287	22.7 kg	Smooth	0.46 (5.0)	49 (4.5)	30 - 45 Minutes	45 - 60 Minutes
ALSAN RS 287 / 281 Topcoat	10 kg	#0 Quartz	0.06 (0.7)	154 (14.3)	30 - 45 Minutes	3 Hours
ALSAN RS 289 Textured Finish	15 kg	Smooth	0.17 (1.8)	89 (8.3)	45 Minutes	3 Hours
ALSAN RS Textured Coating	15 kg	Smooth	0.33 (3.5)	46 (4.3)	30 Minutes	2 Hours
ALSAN RS Chips	1 kg	-	0.001 (0.01)	1076 (100)	30 - 45 Minutes	3 Hours
ALSAN RS 287 Color Finish Base	10 kg	Smooth	0.05 (0.6)	179 (16.7)	30 - 45 Minutes	3 Hours

ALSAN RS VEHICULAR TRAFFIC SURFACING & FINISH OPTIONS						
ALSAN RS Component	Unit Size	Substrate Profile	Application Rate kg/ft ² (kg/m ²) / U.O.N.	Approx. Gross ft ² (m ²) / Unit	Approximate Dry Times	
					Rain Proof	Trafficable
#1 (0.7 - 1.2mm) Quartz Cast Into Mortar	22.7 kg	-	0.65 (7.0)	35 (3.3)	30 - 45 Minutes	3 Hours
ALSAN RS 287 Color Finish Base	10 kg	#1 Quartz	0.07 (0.8)	134 (12.5)	30 - 45 Minutes	3 Hours
ALSAN RS 289 Textured Finish	15 kg	Light Duty	0.0 (0.8)	89 (8.3)	45 Minutes	3 Hours
		Medium Duty	0.12 (1.3)	124 (11.5)	45 Minutes	3 Hours
ALSAN RS Textured Coating	15 kg	Smooth	0.33 (3.5)	46 (4.3)	30 Minutes	2 Hours

13.2 ALSAN RS CATALYST DOSAGE CHART

NOTE: ALSAN RS Metal Primer & ALSAN RS LO Primer do not use or require mixing with ALSAN RS Catalyst Powder.

Add pre-measured catalyst to the resin component, mix for 2 - 4 minutes and apply to substrate. Approximately 1 tablespoon (TBSP) = 10 g or 1% of ALSAN RS Catalyst Powder. Refer to individual product data sheets for specific recommendations and requirements for the resin being used. The amount of catalyst added to ALSAN RS resins varies by resin type,

quantity of resin to be mixed, and by the ambient temperature during mixing and installation.

ALSAN RS 222 Primer ALSAN RS 276 Primer	6% Catalyst °F (°C)	4% Catalyst °F (°C)	2% Catalyst °F (°C)
	32 - 50 (0 - 10)	50 - 68 (10 - 20)	68 - 95 (20 - 35)
10 kg can Packets	6 x 0.1 kg	4 x 0.1 kg	2 x 0.1 kg
1 kg (~1 liter) TBSP (kg)	6 (0.06)	4 (0.04)	2 (0.02)

ALSAN RS Detailer ALSAN RS Paste	6% Catalyst °F (°C)	4% Catalyst °F (°C)	2% Catalyst °F (°C)
	32 - 50 (0 - 10)	50 - 68 (10 - 20)	68 - 95 (20 - 35)
15 kg can Packets	9 x 0.1 kg	4 x 0.1 kg	2 x 0.1 kg
2 kg can TBSP (kg)	12 (0.12)	8 (0.08)	4 (0.04)
1 kg can TBSP (kg)	6 (0.06)	4 (0.04)	2 (0.02)
1 kg (~1 liter) TBSP (kg)	8 (0.08)	6 (0.06)	3 (0.03)

ALSAN RS 230 Field ALSAN RS 230 Flash	6% Catalyst °F (°C)	4% Catalyst °F (°C)	2% Catalyst °F (°C)
SUMMER FORMULATION	32 - 50 (0 - 10)	50 - 68 (10 - 20)	68 - 95 (20 - 35)
WINTER FORMULATION	23 - 37 (-5 - 3)	37 - 50 (3 - 10)	50 - 68 (10 - 20)
12 kg can Packets	7 x 0.1 kg	5 x 0.1 kg	2.5 x 0.1 kg
25 kg can Packets	15 x 0.1 kg	10 x 0.1 kg	5 x 0.1 kg
1 kg TBSP (kg)	6 (0.06)	4 (0.04)	2 (0.02)
1 kg (~1.2 liter) TBSP (kg)	7 (0.07)	5 (0.05)	2.5 (0.03)

ALSAN RS 260 LO Field ALSAN RS 260 LO Flash	6% Catalyst °F (°C)	4% Catalyst °F (°C)	2% Catalyst °F (°C)
SUMMER FORMULATION	37 - 50 (3 - 10)	50 - 68 (10 - 20)	68 - 95 (20 - 35)
WINTER FORMULATION	32 - 37 (0 - 3)	37 - 50 (3 - 10)	50 - 68 (10 - 20)
12 kg can Packets	7 x 0.1 kg	5 x 0.1 kg	2.5 x 0.1 kg
25 kg can Packets	15 x 0.1 kg	10 x 0.1 kg	5 x 0.1 kg
1 kg TBSP (kg)	6 (0.06)	4 (0.04)	2 (0.02)
1 kg (~1.3 liter) TBSP (kg)	8 (0.08)	5 (0.05)	2.5 (0.03)

ALSAN RS 233 Mixing Powder ALSAN RS 263 LO Self-Leveling MORTAR	6% Catalyst °F (°C)	4% Catalyst °F (°C)	2% Catalyst °F (°C)
	37 - 50 (3 - 10)	50 - 68 (10 - 20)	68 - 95 (20 - 35)
33 kg Work Pack Packets	6 x 0.1 kg	4 x 0.1 kg	2 x 0.1 kg
1 kg TBSP (kg)	2 (0.02)	1 (0.01)	0.5 (0.005)
1 liter (~1.8 kg) TBSP (kg)	3 (0.03)	2 (0.02)	1 (0.01)

ALSAN RS 287 Color Finish Base ALSAN RS 281 Clear Finish	6% Catalyst °F (°C)	4% Catalyst °F (°C)	2% Catalyst °F (°C)
	32 - 50 (0 - 10)	50 - 68 (10 - 20)	68 - 95 (20 - 35)
10 kg can Packets	6 x 0.1 kg	4 x 0.1 kg	2 x 0.1 kg
1 kg (~1 liter) TBSP (kg)	6 (0.06)	4 (0.04)	2 (0.02)

ALSAN RS 289 Textured Finish	6% Catalyst °F (°C)	4% Catalyst °F (°C)	2% Catalyst °F (°C)
	32 - 50 (0 - 10)	50 - 68 (10 - 20)	68 - 95 (20 - 35)
15 kg can Packets	9 x 0.1 kg	6 x 0.1 kg	3 x 0.1 kg
1 kg TBSP (kg)	6 (0.06)	4 (0.04)	2 (0.02)
1 kg (~1 liter) TBSP (kg)	9 (0.09)	(0.06)	3 (0.03)

ALSAN RS Textured Coating	6% Catalyst °F (°C)	4% Catalyst °F (°C)	2% Catalyst °F (°C)
	32 - 50 (0 - 10)	50 - 68 (10 - 20)	68 - 95 (20 - 35)
15 kg can Packets	9 x 0.1 kg	6 x 0.1 kg	3 x 0.1 kg
1 kg TBSP (kg)	6 (0.06)	4 (0.04)	2 (0.02)
1 liter (~1.9 kg) TBSP (kg)	11 (0.11)	7 (0.07)	3.5 (0.035)

13.3 COMMON FLEECE CUTTING PATTERNS

All ALSAN RS waterproofing systems require reinforced flashings at transitions and penetrations applied using ALSAN RS flash resin with ALSAN RS Fleece.

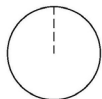
ALSAN RS Fleece can be easily cut into patterns and shapes using a sharp, clean pair of scissors. Each penetration or condition should be field measured, with the measurements transferred and marked onto the fleece accordingly. Once the pattern layout is complete, cut the fleece pattern to suit. Be sure to mark the topside of the fleece before cutting sections from the roll. For all details, ALSAN RS Fleece should be applied with proper overlap conforming to the following typical fleece cutting pattern guidelines:

Fleece Dimension Key	Recommended Minimum - In			
Tie-In Condition	A	B	C	D
ALSAN RS Full System	8	4	2 - 3	1.5
ALSAN RS Cap Ply Over SBS Base	8	4	2 - 3	1.5
ALSAN RS Flashing Inter-ply On SBS Hybrid	8	8	2 - 3	1.5
ALSAN RS Flashing Top Applied On SBS, BUR & Single-ply	8	8	2 - 3	1.5

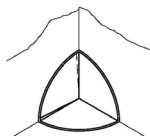
Inside Corners:

Step 1:

Cut & apply bullet patch at corner, deform fleece as needed.

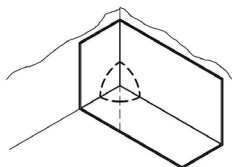
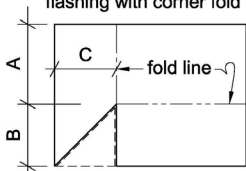


±2" to 3" dia.



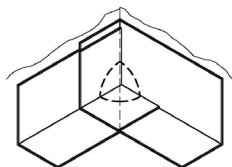
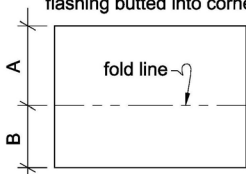
Step 2:

Cut & apply right side base flashing with corner fold



Step 3:

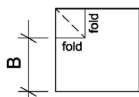
Cut & apply left side base flashing butted into corner



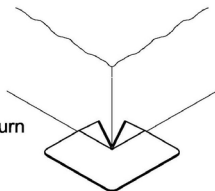
Outside Bottom Corners:

Step 1:

Cut & apply corner piece,
deform fleece as needed.

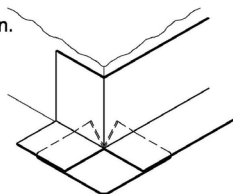
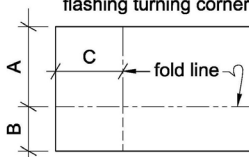


size piece to
provide 1/2" upturn
onto vertical



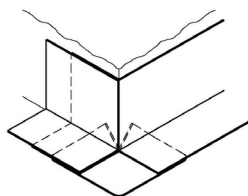
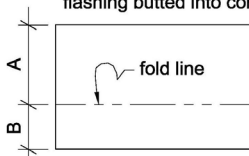
Step 2:

Cut & apply right side base
flashing turning corner 2" min.



Step 3:

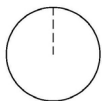
Cut & apply left side base
flashing butted into corner



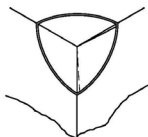
Outside Top Corners:

Step 1:

Cut & apply bullet patch at corner,
deform fleece as needed.

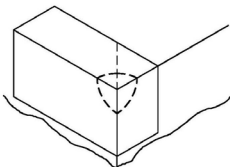
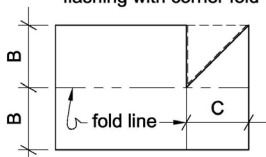


± 2 to 3" dia.



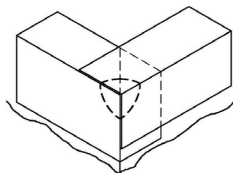
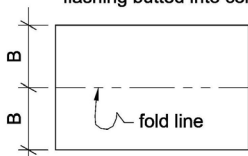
Step 2:

Cut & apply left side edge
flashing with corner fold



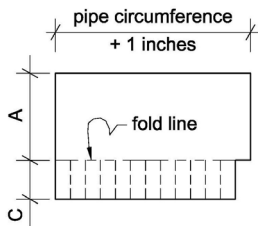
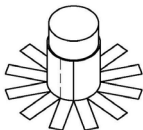
Step 3:

Cut & apply right side edge
flashing butted into corner

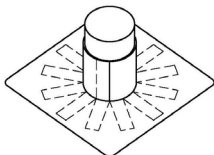


Pipe Penetrations:

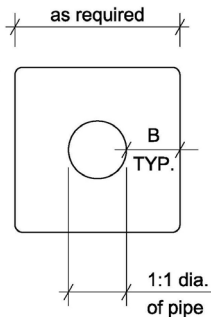
Step 1:
Cut & apply finger flashing
around pipe with 1" overlap
minimum as shown.



Step 2:
Cut & apply target collar flashing
around pipe overlapping tabs

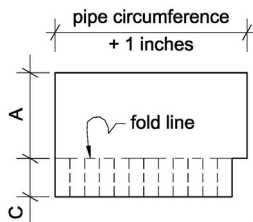
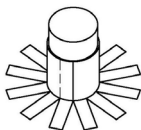


Round all corners.

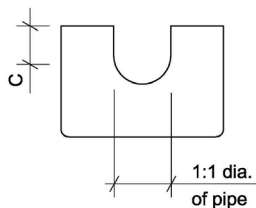
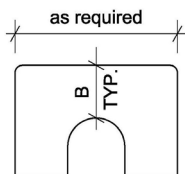
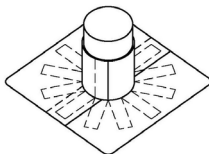


Stanchion/Supports:

Step 1:
Cut & apply finger flashing
around pipe with 1" overlap
minimum as shown.



Step 2:
Cut & apply target collar flashing
around pipe with 2" minimum
overlapping tabs.

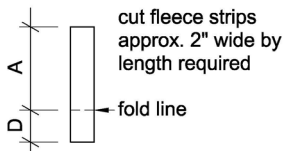
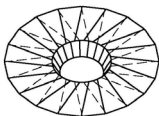


Round all corners.

Drain (Pinwheel) Flashing (Option 1):

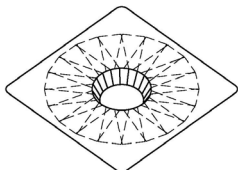
Step 1:

Cut & apply fleece flashing strips overlapping around drain in a pinwheel pattern.

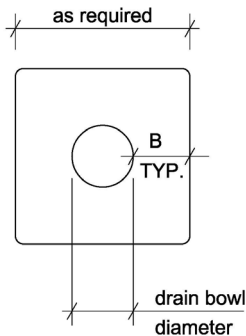


Step 2:

Cut & apply target patch over drain finger flashing



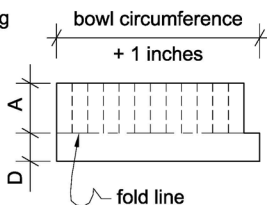
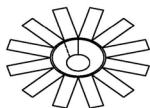
Round all corners.



Drain Finger Flashing (Option 2):

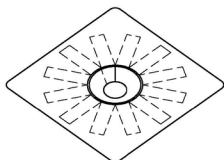
Step 1:

Cut & apply finger flashing around drain

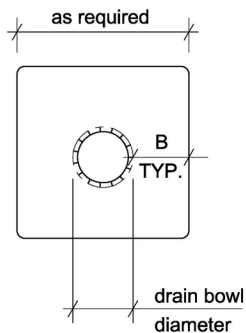


Step 2:

Cut & apply target patch over drain finger flashing



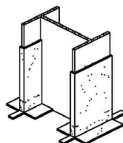
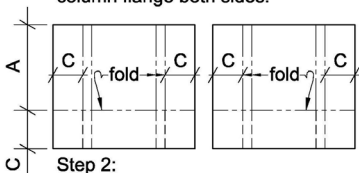
Round all corners.



Column Support:

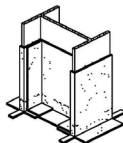
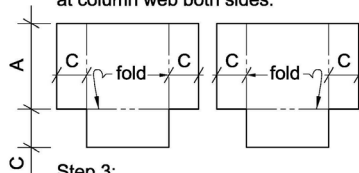
Step 1:

Cut & apply finger flashings at column flange both sides.



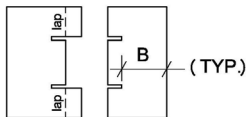
Step 2:

Cut & apply finger flashings at column web both sides.

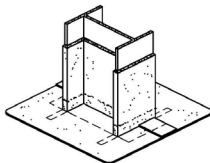


Step 3:

Cut & apply target patch over finger flashing with 2" overlap



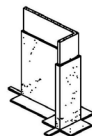
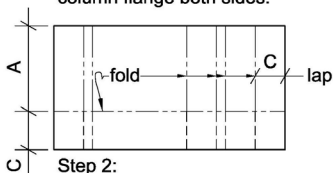
Round all corners.



Angle Support:

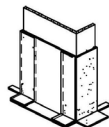
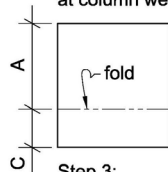
Step 1:

Cut & apply finger flashings at column flange both sides.



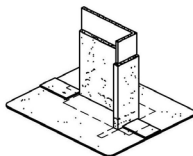
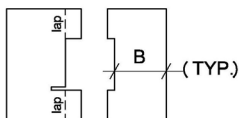
Step 2:

Cut & apply finger flashings at column web both sides.



Step 3:

Cut & apply target patch over finger flashing with 2" overlap



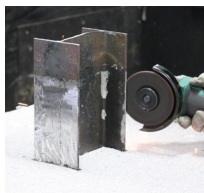
Round all corners.

13.4 STEP BY STEP FLASHING PROCEDURES

ALSAN RS Column Penetration Flashing

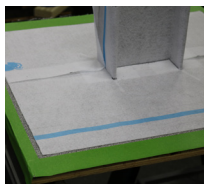
Step 1

Apply masking tape at the top edge termination and on substrate when ALSAN RS flashing will be applied over an in place membrane. Prepare penetration and base substrates as required.



Step 2

Precut ALSAN RS Fleece vertical skirt and target pieces as needed for the penetration. Mark the topside of the fleece and orientation for each piece.



Step 3

Mix and pour off the amount of ALSAN RS flash resin needed to complete the penetration flashing.



Step 4

Add the required amount of ALSAN RS Catalyst Powder to resin and stir until fully dissolved.



Step 5

Apply the catalyzed ALSAN RS flash resin starting with the vertical flashing component and back wet the ALSAN RS Fleece skirt flashing.



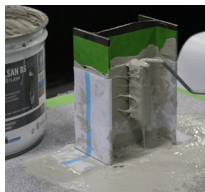
Step 6

Carefully apply the ALSAN RS Fleece skirt around the vertical penetration.



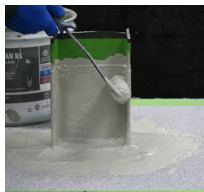
Step 7

Apply topcoat of ALSAN RS Flash resin over the ALSAN RS Fleece skirt using care to fully saturate the fleece.



Step 8

Once the skirt flashing is complete, apply a uniform basecoat of ALSAN RS flash resin around the base of the penetration.



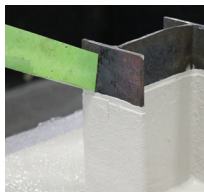
Step 9

Place the ALSAN RS Fleece target over the resin basecoat and apply a uniform topcoat of ALSAN RS flash resin over the target using care to fully saturate the fleece.



Step 10

Check to assure the flashing is fully saturated and complete, then remove the tape masking while the resin is wet.



ALSAN RS Pipe Penetration Flashing

Step 1

Apply masking tape at top edge termination and on substrate when ALSAN RS flashing will be applied over an in-place membrane. Prepare penetration and base substrates as required.



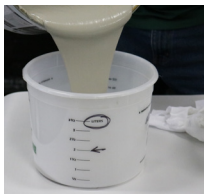
Step 2

Precut ALSAN RS Fleece vertical skirt and target pieces as needed for the penetration. Mark topside of fleece and orientation for each piece.



Step 3

Mix and pour off the amount of ALSAN RS flash resin needed to complete the penetration flashing.



Step 4

Add the required amount of ALSAN RS Catalyst Powder to resin and stir until fully dissolved.



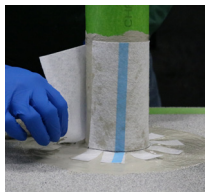
Step 5

Apply the catalyzed ALSAN RS Flash resin starting with the vertical flashing component and back wet the ALSAN RS Fleece skirt flashing.



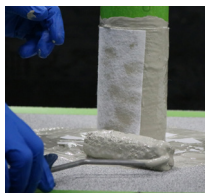
Step 6

Carefully apply the ALSAN RS Fleece skirt around the vertical penetration.



Step 7

Apply topcoat of ALSAN RS flash resin over the ALSAN RS Fleece skirt using care to fully saturate the fleece.



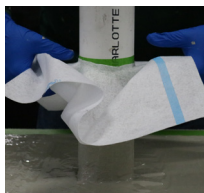
Step 8

Once the skirt flashing is complete, apply a uniform basecoat of ALSAN RS flash resin around the base of the penetration.



Step 9

Place the ALSAN RS Fleece target over the resin basecoat and apply a uniform topcoat of ALSAN RS flash resin over the target using care to fully saturate the fleece.



Step 10

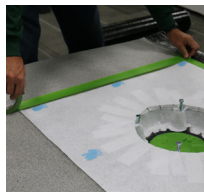
Check to assure the flashing is fully saturated and complete, then remove the tape masking while the resin is wet.



ALSAN RS Drain Flashing

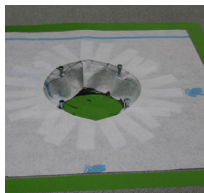
Step 1

Apply masking tape at the perimeter edge termination on substrate when ALSAN RS flashing will be applied over an in-place membrane. Prepare penetration and base substrates as required.



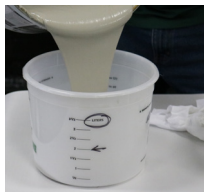
Step 2

Precut ALSAN RS Fleece drain skirt and target as needed for the penetration. Mark topside of fleece and orientation for each piece.



Step 3

Mix and pour off the amount of ALSAN RS flash resin needed to complete the penetration flashing.



Step 4

Add the required amount of ALSAN RS Catalyst Powder to the resin and stir until fully dissolved.



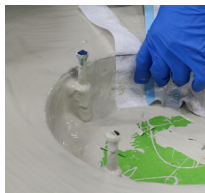
Step 5

Apply the catalyzed ALSAN RS flash resin starting with the drain skirt flashing component and back wet the ALSAN RS Fleece skirt flashing.



Step 6

Carefully apply the ALSAN RS Fleece skirt around the drain penetration.



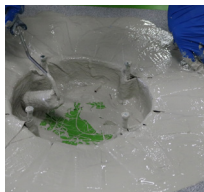
Step 7

Apply topcoat of ALSAN RS flash resin over the ALSAN RS Fleece drain skirt using care to fully saturate the fleece.



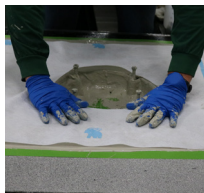
Step 8

Once the skirt flashing is complete, apply a uniform basecoat of ALSAN RS flash resin as required for application of the drain target.



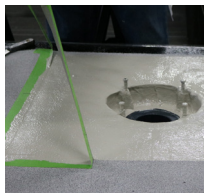
Step 9

Place the ALSAN RS Fleece target over the resin basecoat and apply a uniform topcoat of ALSAN RS flash resin over the target using care to fully saturate the fleece.



Step 10

Check to assure the flashing is fully saturated and complete, then remove the tape masking while the resin is wet.



13.5 PIPE FLASHING ESTIMATING GUIDE

PVC Pipe Flashing Estimator

Flashing Height: 8 inches

Target Width: 4 inches

RS Flash ft²/Unit: 39

Pipe Size PVC (in)	O.D.	C (Circu.) +1	Skirt ft ²	Target ft ²	Flashing ft ²	# Per Unit
1 - 1/4	1.660	6.212	0.475	0.633	1.108	35
1 - 1/2	1.900	6.966	0.532	0.661	1.193	32
2	2.375	8.458	0.646	0.717	1.363	28
3	3.5000	11.990	0.916	0.852	1.768	22
4	4.500	15.130	1.156	0.975	2.130	18
5	5.563	18.468	1.411	1.109	2.519	15
6	6.625	21.803	1.665	1.246	2.912	13
8	8.625	28.083	2.145	1.514	3.659	10
10	10.750	34.755	2.655	1.811	4.466	8
12	12.750	41.035	3.135	2.104	5.238	7
14	14.000	44.960	3.434	2.293	5.727	6

Copper Pipe Flashing Estimator

Flashing Height: 8 inches

Target Width: 4 inches

RS Flash ft²/Unit: 39

Pipe Size Copper (in)	O.D.	C (Circu.) +1	Skirt ft ²	Target ft ²	Flashing ft ²	# Per Unit
1/2	0.625	2.963	0.226	0.514	0.741	52
5/8	0.750	3.355	0.256	0.529	0.785	49
3/4	0.875	3.748	0.286	0.543	0.829	47
1	1.125	4.533	0.346	0.571	0.918	42
1 - 1/4	1.375	5.318	0.406	0.600	1.006	38
1 - 1/2	1.625	6.103	0.466	0.629	1.095	35
2	2.125	7.673	0.586	0.687	1.273	30
2 - 1/2	2.625	9.243	0.706	0.746	1.452	26
3	3.125	10.813	0.826	0.806	1.632	23
3 - 1/2	3.625	12.383	0.946	0.867	1.813	21
4	4.125	13.953	1.066	0.928	1.994	19
5	5.125	17.093	1.306	1.053	2.359	16
6	6.125	20.233	1.546	1.181	2.727	14
8	8.125	26.513	2.025	1.446	3.471	11
10	10.125	32.793	2.505	1.723	4.227	9
12	12.125	39.073	2.985	2.011	4.996	7

H-Column Flashing Estimator

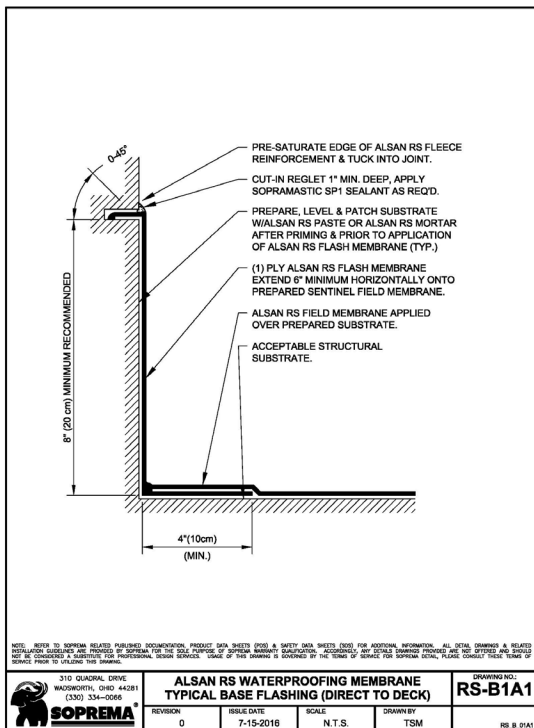
Flashing Height: 8 inches

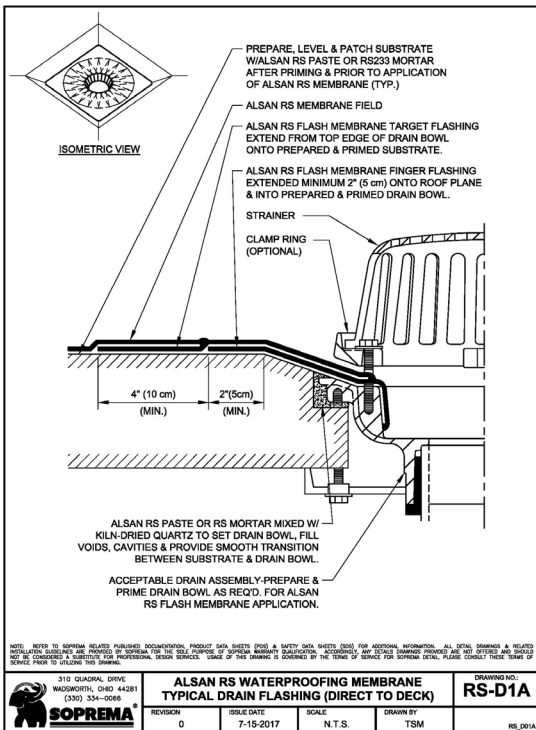
Target Width: 4 inches

RS Flash ft²/Unit: 39

Column Size (in)	Width	Depth	Skirt ft ²	Target ft ²	Flashing ft ²	# Per Unit
4 x 4	4.000	4.000	2.139	1.000	3.139	12
6 x 6	6.000	6.000	3.056	1.361	4.417	8
8 x 8	8.000	8.000	3.972	1.778	5.750	6
10 x 10	10.000	10.000	4.889	2.250	7.139	5
12 x 12	12.000	12.000	5.806	2.778	8.583	4
16 x 16	16.000	16.000	7.639	4.000	11.639	3
18 x 18	18.000	18.000	8.556	4.694	13.250	2
24 x 24	24.000	24.000	11.306	7.111	18.417	2

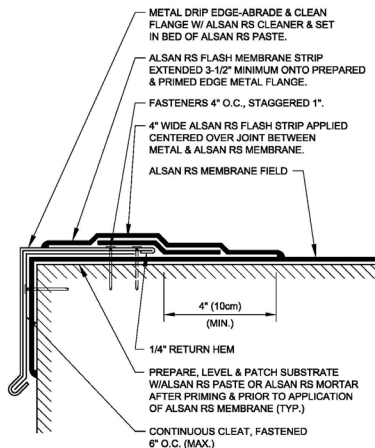
13.6 COMMON FLASHING DETAILS





NOTE:

APPLY DE-BONDING TAPE & MEMBRANE EXPANSION STRIPS AT ALL JOINTS IN METAL-SEE TYPICAL DETAIL. MEMBRANE EXPANSION STRIPS MUST EXTEND THE FULL PROFILE & EXPOSED FACE OF METAL FLASHING.



NOTE: REFER TO SOPREMA RELATED PUBLISHED DOCUMENTATION, PRODUCT DATA SHEETS (PDS) & SAFETY DATA SHEETS (SDS) FOR ADDITIONAL INFORMATION. ALL DETAIL DRAWINGS & RELATED INSTALLATION GUIDELINES ARE PROVIDED BY SOPREMA FOR THE SOLE PURPOSE OF SOPREMA MANUFACTURE. ACCORDINGLY, ANY DETAILS DRAWINGS PROVIDED ARE, NOT OFFERED AND SHOULD NOT BE CONSIDERED A SUBSTITUTE FOR PROFESSIONAL DESIGN SERVICES. USAGE OF THIS DRAWING IS GOVERNED BY THE TERMS OF SERVICE FOR SOPREMA DETAIL FLASH. CONSULT THESE TERMS OF SERVICE PRIOR TO UTILIZING THIS DRAWING.



310 QUADRAL DRIVE
WADSWORTH, OHIO 44281
(330) 334-0268

SOPREMA

ALSAN RS WATERPROOFING MEMBRANE TYPICAL METAL ROOF EDGE FLASHING

REVISION

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ISSUE DATE

12-2-2016

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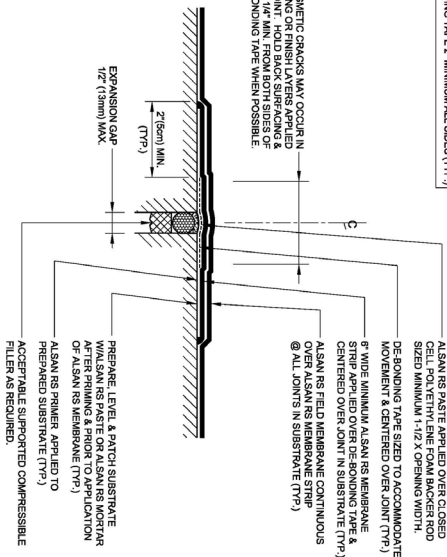
TSM

DRAWING NO.:

RS-E1A

NOTE:
SIZE WIDTH OF DE-BONDING TAPE TO PROVIDE UN-ADHERED AREA MINIMUM 5 TIMES LARGER THAN THE MAXIMUM ANTICIPATED EXPANSION. MEMBRANE COVER STRIP MUST EXTEND PAST DE-BONDING TAPE 2" MINIMUM ALL SIDES (TYP.)

COSMETIC CRACKS MAY OCCUR IN SURFACING OR FINISH LAYERS APPLIED OVER JOINT. HOLD BACK SURFACING & FINISH 1/4" MIN. FROM BOTH SIDES OF DE-BONDING TAPE WHEN POSSIBLE.



NOTE: REFER TO SOPREMA RELATED PUBLISHED DOCUMENTATION, PRODUCT DATA SHEETS (PDS) & SAFETY DATA SHEETS (SDS) FOR ADDITIONAL INFORMATION. ALL DETAIL DRAWINGS & RELATED INSTALLATION GUIDELINES ARE PROVIDED BY SOPREMA FOR THE SOLE PURPOSE OF SOPREMA WARRANTY QUALIFICATION. ACCORDINGLY, ANY DETAILS SHOWN PROVIDED ARE NOT OFFERED AND SHOULD NOT BE CONSIDERED A SUBSTITUTE FOR PROFESSIONAL DESIGN SERVICES. USAGE OF THIS DRAWING IS COVERED BY THE TERMS OF SERVICE FOR SOPREMA DETAIL FLUSH. CONSULT THESE TERMS OF SERVICE PRIOR TO UTILIZING THIS DRAWING.



310 QUADRAL DRIVE
WADSWORTH, OHIO 44281
(330) 334-0046

ALSAN RS WATERPROOFING MEMBRANE FLUSH EXPANSION JOINT (1/2" MAX. WIDTH)

REVISION
0

ISSUE DATE
5-10-2016

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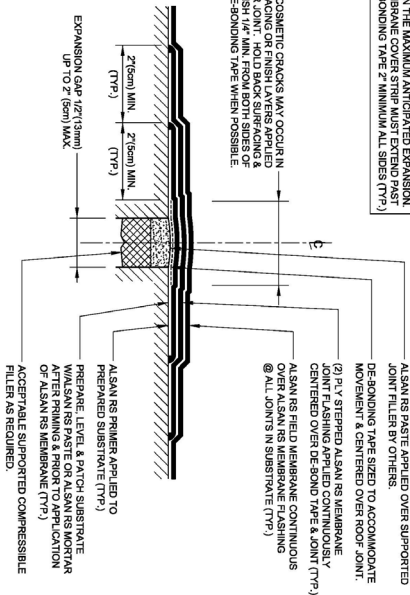
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TSM

DRAWING NO.:
RS-J2A

RS_J00A

NOTE:
SIZE WIDTH OF DE-BONDING TAPE TO PROVIDE UNADHERED AREA MINIMUM 3 TIMES LARGER THAN THE ADHERED AREA. EXPANSION JOINTS SHALL BE COVERED WITH DE-BONDING TAPE 2" MINIMUM ALL SIDES (TYP.).

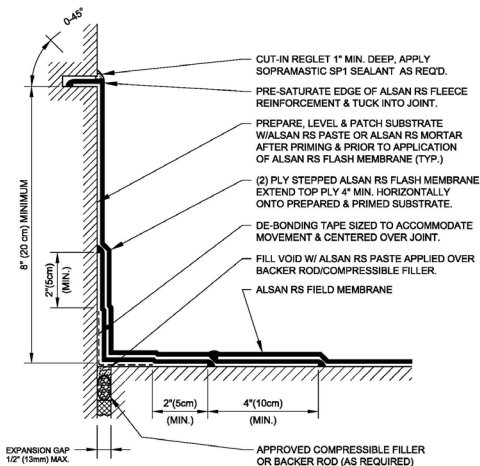
COSMETIC CRACKS MAY OCCUR IN SURFACING OR FINISH LAYERS APPLIED OVER JOINT. HOLD BACK SURFACING & FINISH 1/4" MIN. FROM BOTH SIDES OF DE-BONDING TAPE WHEN POSSIBLE.



NOTE: REFER TO SOPREMA RELATED PUBLISHED DOCUMENTATION, PRODUCT DATA SHEETS (PDS) & SAFETY DATA SHEETS (SDS) FOR ADDITIONAL INFORMATION. ALL DETAIL DRAWINGS & RELATED INSTALLATION SUBSHEETS ARE PROVIDED BY SOPREMA FOR THE SOLE PURPOSE OF SOPREMA MEMBRANE QUALIFICATION. ACCORDING TO THE TERMS OF SERVICE, THESE DRAWINGS AND SUBSHEETS SHALL NOT BE CONSIDERED A SUBSTITUTE FOR PROFESSIONAL DESIGN SERVICES. USAGE OF THIS DRAWING IS GOVERNED BY THE TERMS OF SERVICE FOR SOPREMA DETAIL, FLASHING, CONSULT THESE TERMS OF SERVICE PRIOR TO UTILIZING THIS DRAWING.

 <p>310 QUADRAL DRIVE WADSWORTH, OHIO 44281 (330) 334-0066</p>	<p align="center">ALSAN RS WATERPROOFING MEMBRANE FLUSH EXPANSION JOINT (1/2" to 2" MAX. WIDTH)</p>				<p align="center">DRAWING NO.: RS-J2B</p>
	<p>REVISION 0</p>	<p>ISSUE DATE 5-10-2016</p>	<p>SCALE N.T.S.</p>	<p>DRAWN BY TSM</p>	<p align="right">RS_2025</p>

NOTE:
 SIZE WIDTH OF DE-BONDING TAPE TO PROVIDE UN-ADHERED AREA MINIMUM 5 TIMES LARGER THAN THE MAXIMUM ANTICIPATED EXPANSION. MEMBRANE COVER STRIP MUST EXTEND PAST DE-BONDING TAPE 2" MINIMUM ALL SIDES (TYP.)



NOTE: REFER TO SOPREMA RELATED PUBLISHED DOCUMENTATION, PRODUCT DATA SHEETS (PDS) & SAFETY DATA SHEETS (SDS) FOR ADDITIONAL INFORMATION. ALL DETAIL DRAWINGS & RELATED INSTALLATION GUIDELINES ARE PROVIDED BY SOPREMA FOR THE SOLE PURPOSE OF SOPREMA WARRANTY QUALIFICATION. ACCORDINGLY, ANY DETAILS DRAWINGS PROVIDED ARE NOT OFFERED AND SHOULD NOT BE CONSIDERED A SUBSTITUTE FOR PROFESSIONAL DESIGN SERVICES. USAGE OF THIS DRAWING IS GOVERNED BY THE TERMS OF SERVICE FOR SOPREMA DETAIL. PLEASE CONSULT THESE TERMS OF SERVICE PRIOR TO UTILIZING THIS DRAWING.



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 WOODWORTH, OHIO 44281
 (330) 334-0066

ALSAN RS WATERPROOFING MEMBRANE DECK TO WALL FLUSH EXPANSION JOINT

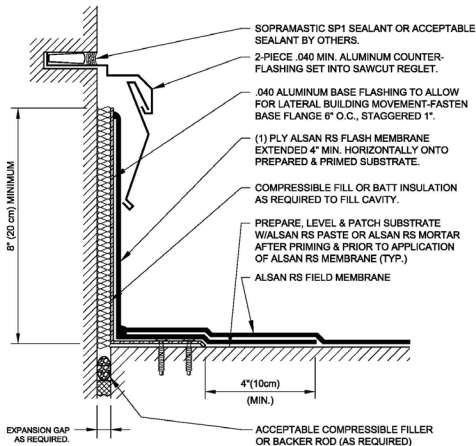
REVISION	ISSUE DATE	SCALE	DRAWN BY
0	7-15-2016	N.T.S.	TSM

DRAWING NO.:
RS-J2C

RS_J2C2

NOTE:

THIS DETAIL MUST BE USED FOR ALL CONDITIONS WHERE LATERAL JOINT MOVEMENT IS EXPECTED, ANTICIPATED AND/OR OTHERWISE REQUIRED.



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SOPREMA®

**ALSAN RS WATERPROOFING MEMBRANE
DECK TO WALL LATERAL MOVEMENT JOINT**

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ISSUE DATE
7-15-2016

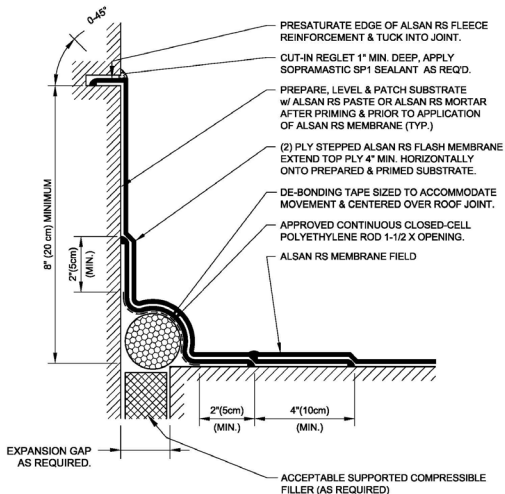
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RS-J2D

RS_000

NOTE:
 SIZE WIDTH OF DE-BONDING TAPE TO PROVIDE
 UN-ADHERED AREA MINIMUM 5 TIMES LARGER
 THAN THE MAXIMUM ANTICIPATED EXPANSION.
 MEMBRANE COVER STRIP MUST EXTEND PAST
 DE-BONDING TAPE 2" MINIMUM ALL SIDES (TYP.)



NOTE: REFER TO SOPREMA RELATED PUBLISHED DOCUMENTATION, PRODUCT DATA SHEETS (PDS) & SAFETY DATA SHEETS (SDS) FOR ADDITIONAL INFORMATION. ALL DETAIL DRAWINGS & RELATED INSTALLATION GUIDELINES ARE PROVIDED BY SOPREMA FOR THE USE PURPOSE OF SOPREMA MANUFACTURING. ACCORDINGLY, ANY OTHER DRAWINGS PROVIDED ARE NOT OFFERED AND SHALL NOT BE CONSIDERED A SUBSTITUTE FOR PROFESSIONAL DESIGN SERVICES. USAGE OF THIS DRAWING IS GOVERNED BY THE TERMS OF SERVICE FOR SOPREMA DETAIL. PLEASE CONSULT THESE TERMS OF SERVICE PRIOR TO UTILIZING THIS DRAWING.



ALSAN RS WATERPROOFING MEMBRANE DECK TO WALL EXPANSION JOINT

DRAWING NO.:
RS-J2E

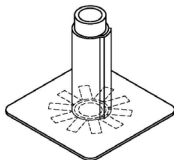
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ISSUE DATE
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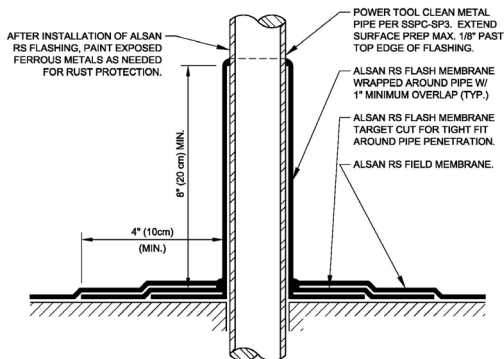
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ISOMETRIC VIEW



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310 QUADRAL DRIVE
WADSWORTH, OHIO 44281
(330) 334-0066

ALSAN RS WATERPROOFING MEMBRANE TYPE PIPE FLASHING (DIRECT TO DECK)

DRAWING NO.:
RS-P1A

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0	7-15-2016	N.T.S.	TSM

RS_B_01A

