**Sarnafil® G410 Feltback**

**& SBS-Modified Bitumen**

**Hybrid System**

**Over LWIC** **DISCLAIMER**

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**Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product’s most current Product Data Sheet, product label and Safety Data Sheet which are available online at** [usa.sarnafil.sika.com](https://usa.sarnafil.sika.com/) **or by calling Sika's Technical Service Department at 800-451-2504. Nothing contained in any Sika materials relieves the user of the obligation to read and follow the warnings and instruction for each Sika product as set forth in the current Product Data Sheet, product label and Safety Data Sheet prior to product use.**

Sika warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer’s sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor.

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**Introduction**

[Sarnafil G410 Feltback Adhered and SBS-Modified Bitumen System Description](#SYSTEM_DESCRIPTION) i

[Regional Offices](#REGIONAL_OFFICES) iii

**Part 1 – General Conditions**

 1.01 [Description](#DESCRIPTION) 1

 1.02 [Quality Assurance](#QUALITY_ASSURANCE) 1

 1.03 [Submittals](#SUBMITTALS) 2

 1.04 [Code Requirements](#CODE_REQUIREMENTS) 2

 1.05 [Product Delivery, Storage and Handling](#PRODUCT_DELIVERY_STORAGE_HANDLING) 3

 1.06 [Job Conditions](#JOB_CONDITIONS) 3

 1.07 [Bidding Requirements](#BIDDING_REQUIREMENTS) 5

 1.08 [Warranties](#WARRANTIES) 5

 1.09 [Warranty Durations](#WARRANTY_DURATIONS) 5

**Part 2 - Products**

 2.01 [General](#GENERAL) 5

 2.02 [Sarnafil G410 Feltback Roof Membrane](#MEMBRANE) 6

 [SBS-Modified Ply Sheet](#SBS_MOD_PLY_SHEET) 7

 [Gypsum Board](#GYPSUM_BOARD) 7

 [Insulation](#INSULATION) 7

 [SBS-Modified Base Sheet](#BASE_SHEET) 8

 [Attachment Components](#ATTACHMENT_COMPONENTS) 8

 [Flashing Materials](#FLASHING_MATERIALS) 10

 [Walkway Protection](#WALKWAY_PROTECTION) 13

 [Miscellaneous Accessories](#MISCELLANEOUS_ACCESSORIES) 13

 2.11 [Sealants and Pitch Pocket Fillers](#SEALANTS_AND_PITCH_POCKET_FILLERS) 14

 2.12 [Miscellaneous Fasteners and Anchors](#MISCELLANEOUS_FASTENERS_AND_ANCHORS) 14

 2.13 [Related Materials](#RELATED_MATERIALS) 14

**Part 3 – Execution**

 3.01 [Pre-Construction Conference](#PRECONSTRUCTION_CONFERENCE) 15

 3.02 [Substrate Condition](#SUBSTRATE_CONDITION) 15

 [Wood Nailer Installation](#WOOD_NAILER_INSTALLATION) 15

 [SBS-Modified](#INSTALLATION_OF_BASE_PLY) Base Sheet Installation 15

 Insulation & [Gypsum Board](#INSTALLATION_OF_INSULATION) Installation 16

 [SBS-Modified](#INSTALLATION_OF_BASE_PLY) Ply Sheet Installation 19

 3.07 [[Sarnafil G410 Feltback Membrane Installation](#INSTALLATION_OF_SARNAFIL_MEMBRANE)](#INSTALLATION_OF_SARNAFIL_MEMBRANE) 19

 3.08 [Hot-Air Welding of Seam Overlaps](#HOTAIR_WELDING_OF_SEAM_OVERLAPS) 20

 [Membrane Flashing Installation](#MEMBRANE_FLASHINGS) 21

 [Liquid Flashing SW or WW Installation](#LIQUID_FLASHING) 23

 [Metal Flashings](#METAL_FLASHINGS) Installation 23

 [Sarnaclad Metal Base Flashings / Edge Metal](#SARNACLAD_METAL_BASE_FLASHINGS_EDGE_META) Installation 24

 [Edge Metal](#EDGE_METAL) Installation 24

 [Walkway Installation](#WALKWAY_INSTALLATION) 25

 [Perimeter Warning Installation](#PERIMETER_WARNING_TAPE) 26

 [Temporary Cut-Off](#TEMPORARY_CUTOFF) 26

 [Completion](#COMPLETION) 26

 [Details](#DETAILS) 26

**INTRODUCTION**

[**Sarnafil G410 Feltback Adhered and SBS-Modified Bitumen System Description**](#INTRO)

In our membrane and mod. bit. hybrid system, Sarnafil G410 Feltback Roof Membrane is adhered with low-rise Sarnacol Urethane Adhesive to a SBS-Modified Bitumen ply sheet. The ply sheet and subsequent layers are then adhered using Trumbull TruLo Max or Trumbull TruLo Lo Odor asphalt and or fasteners, depending on deck type.

Sarnafil G410 feltback membrane has excellent dimensional stability. The manufacturing process fuses liquid PVC to a non-woven fiberglass reinforcement resulting in a monolithic membrane that is stress free and unable to delaminate under any rooftop condition. The felt backing is applied on-line and is pressed into the back of the hot membrane. There is no separate lamination process utilized. The finished membrane is stress-free and unable to delaminate under any rooftop conditions.

Each Sarnacol Adhesive was developed by Sika Corporation specifically for Sarnafil membranes. These adhesives have superior bonding and long term performance properties.

We welcome you to review the following Sika Corporation - Roofing Specification and we ask that you contact us if you have any questions or need any additional information.

The proceeding specification should be amended as required to meet the project's needs.

**Thank you for choosing Sika Corporation for your roofing needs.**

**[REGIONAL OFFICES](#INTRO)**

|  |  |
| --- | --- |
| **NEW ENGLAND REGION**225 Dan RoadCanton, MA 02021Phone:(781) 821-0865Fax:(781) 821-9205**EASTERN REGION**One Park Way 3rd FloorUpper Saddle River, NJ 07458Phone:(201) 327-0479Fax:(201) 327-4069**SOUTHERN REGION**3483 Satellite BoulevardDuluth, GA 30096Phone:(770) 495-0025Fax:(770) 495-0027**MIDWEST REGION**200 W. 22nd St., Suite 216Lombard, IL 60148Phone:(800) 532-5123Fax:(630) 620-9646 | **SOUTHWEST REGION**2517 Fairway Park, Suite 200Houston, TX 77092Phone: (713) 812-0102Fax: (713) 812-0107**MOUNTAIN REGION**2881 South 900 WestSalt Lake City, UT 84119Phone:(801) 575-8648Fax:(801) 355-4407**WESTERN REGION NORTH**2375 Rodolfo CourtSparks, NV 89436Phone:(775) 626-7701Fax:( 775) 626-7703**WESTERN REGION SOUTH**6590 Darin WayCypress, CA 90630Phone:(714) 898-9355Fax:(714) 898-9357 |
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**SECTION 07 54 19 & SECTION 07 52 16**

**THERMOPLASTIC MEMBRANE & SBS-MODIFIED BITUMEN**

**HYBRID SYSTEM OVER LWIC**

**[NOTE TO SPECIFIER: NOTES TO SPECIFIER ARE DESIGNATED BY [ ]. SPECIFIER IS TO SELECT ONE OF THE OPTIONS PROVIDED FOR PROJECT SPECIFIC SPECIFICATIONS.]**

# GENERAL

## [SUMMARY](#PART_1)

### Scope

To install a complete Sarnafil G410 Feltback Adhered and SBS-Modified Bitumen System including membrane, adhesive, ply sheet, base sheet, asphalt, flashings and other components.

### Related Work

### The work includes but is not limited to the installation of:

#### Substrate Preparation

#### Roof Drains

#### Wood Blocking

#### SBS-Modified Base Sheet

#### SBS-Modified Ply Sheet

#### PVC Roof Membrane

#### Fasteners

#### Asphalt

#### Adhesive for Flashings

#### Roof Membrane Flashings

#### Walkways

#### Metal Flashings

#### Sealants

### Upon successful completion of work the following warranties may be obtained:

#### Sika Corporation Warranty

#### Roofing Applicator Warranty

## [QUALITY ASSURANCE](#PART_1)

### Manufacture Qualifications:

#### Manufacture shall have a demonstrated performance history of producing PVC roof membranes no less, in duration of years, than the warranty duration specified.

#### Exposed roofing membrane shall be a product manufactured by membrane supplier and not private labeled.

#### Manufacture shall have a minimum of five years experience recycling their membranes at the end of their service life back into new membrane products. Provide a minimum of five reference projects.

#### Manufacture shall have trained Technical Field Representatives, employed by the manufacturer, independent of sales.

### Applicator Qualifications:

#### Applicator shall be a qualified firm that is authorized and trained by the roofing system manufacturer to install all work pertaining to product manufacturer's roof system and that is eligible to receive manufacturer's warranty.

#### Applicators shall have completed projects of similar scope using same materials as specified herein.

#### Applicators shall be skilled in the application methods for all materials.

### Preinstallation Roofing Conference: Conduct conference at Project site.

#### Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative if applicable, roofing installer, roofing system manufacturer's representative, deck installer (if applicable), and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.

#### Review methods and procedures related to roofing installation, including manufacturer's most current requirements.

#### Review base flashings, special roofing details and transitions, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.

#### Review governing regulations and requirements for insurance and certificates as applicable.

#### Review temporary protection requirements for roofing system during and after installation.

#### Deviations from the project specifications or the approved shop drawings are not permitted without prior written approval by the owner, the owner’s representative, and the designer.

## [SUBMITTALS](#PART_1)

At the time of bidding, the Applicator shall submit to the Owner (or Representative) the following:

### Copies of Specification.

### Samples of each primary component to be used in the roof system and the manufacturer's current literature for each component.

### Written approval by the insulation manufacturer (as applicable) for use and performance of the product in the proposed system.

### Sample copy of Sika Corporation's warranty.

### Sample copy of Applicator's warranty.

### Dimensioned shop drawings which shall include:

#### Outline of roof with roof size and elevations shown.

#### Details of flashing methods for penetrations.

### Certifications by manufacturers of roofing and insulating materials that all materials supplied comply with all requirements of the identified ASTM and other industry standards or practices.

### Certification from the Applicator that the system specified meets all identified code and insurance requirements as required by the Specification.

### Safety Data Sheets (SDS)

## [CODE REQUIREMENTS](#PART_1)

The Applicator shall submit evidence that the proposed roof system meets the requirements of the local building code and has been tested and approved or listed by the following test organizations. These requirements are minimum standards and no roofing work shall commence without written documentation of the system's compliance, as required in the "Submittals" section of this specification.

### Wind Uplift

#### System shall be designed to meet a minimum wind design requirements of the most recent version of ASCE 7.

### Fire Classification

#### Roofing assembly shall be tested according to ASTM E-108 and meet the requirements for a Class A rating.

## [PRODUCT DELIVERY, STORAGE AND HANDLING](#PART_1)

### Refer to each product data sheet or other published literature for specific requirements.

### All products delivered to the job site shall be in the original unopened containers or wrappings bearing all seals and approvals.

### Handle all materials to prevent damage. Place all materials on pallets and fully protect from moisture.

### Membrane rolls shall be stored lying down on pallets and fully protected from the weather with clean canvas tarpaulins. Unvented polyethylene tarpaulins are not accepted due to the accumulation of moisture beneath the tarpaulin in certain weather conditions that may affect the ease of membrane weldability.

### As a general rule all adhesives shall be stored at temperatures between 40°F (4°C) and 80°F (27°C). Read instructions contained on adhesive canister for specific storage instructions.

### All flammable materials shall be stored in a cool, dry area away from sparks and open flames. Follow precautions outlined on containers or supplied by material manufacturer/supplier.

### Any materials which the Owner’s representative or Sika Corporation determines to be damaged are to be removed from the job site and replaced at no cost to the Owner.

## [SITE CONDITIONS](#PART_1)

### Sika Corporation materials may be installed under certain adverse weather conditions but only after consultation with Sika Corporation, as installation time and system integrity may be affected.

### Only as much of the new roofing as can be made weathertight each day, including all flashing and detail work, shall be installed. All seams shall be heat welded before leaving the job site that day.

### All work shall be scheduled and executed without exposing the interior building areas to the effects of inclement weather. The existing building and its contents shall be protected against all risks.

### All surfaces to receive new insulation, membrane or flashings shall be dry. Should surface moisture occur, the Applicator shall provide the necessary equipment to dry the surface prior to application.

### All new and temporary construction, including equipment and accessories, shall be secured in such a manner as to preclude wind blow-off and subsequent roof or equipment damage.

### Uninterrupted waterstops shall be installed at the end of each day's work and shall be completely removed before proceeding with the next day's work. Waterstops shall not emit dangerous or unsafe fumes and shall not remain in contact with the finished roof as the installation progresses. Contaminated membrane shall be replaced at no cost to the Owner.

### The Applicator is cautioned that certain Sarnafil membranes are incompatible with asphalt, coal tar, heavy oils, roofing cements, creosote and some preservative materials. Such materials shall not remain in contact with Sarnafil membranes. The Applicator shall consult Sika Corporation regarding compatibility, precautions and recommendations.

### Mopping asphalt application: Take all necessary measures and monitor all conditions, to ensure the specified asphalt temperature are per manufacture’s requirements at the point of contact with the specified board or sheet as it is placed into the hot asphalt. **Contractor must take care not to allow any asphalt to come into contact with PVC membrane.**

### Arrange work sequence to avoid use of newly constructed roofing as a walking surface or for equipment movement and storage. Where such access is absolutely required, the Applicator shall provide all necessary protection and barriers to segregate the work area and to prevent damage to adjacent areas. A substantial protection layer consisting of plywood over Sarnafelt or plywood over insulation board shall be provided for all new and existing roof areas that receive rooftop traffic during construction.

### Prior to and during application, all dirt, debris and dust shall be removed from surfaces either by vacuuming, sweeping, blowing with compressed air or similar methods.

### The Applicator shall follow all safety regulations as required by OSHA and any other applicable authority having jurisdiction.

### All existing or new roofing, insulation, flashings and metal work removed during construction shall be immediately taken off site to a legal dumping area authorized to receive such materials. Hazardous materials, such as materials containing asbestos, are to be removed and disposed of in strict accordance with applicable City, State and Federal requirements.

### The Applicator shall take precautions that storage and application of materials and equipment does not overload the roof deck or building structure.

### All rooftop contamination that is anticipated or that is occurring shall be reported to Sika Corporation to determine the corrective steps to be taken.

### The Applicator shall verify that all roof drain lines are functioning correctly (not clogged or blocked) before starting work. Applicator shall report any such blockages in writing (letter copy to Sika Corporation) to the Owner's Representative for corrective action prior to the installation of the Sika Corporation roof system.

### Applicator shall immediately stop work if any unusual or concealed condition is discovered and shall immediately notify Owner of such condition in writing for correction at the Owner's expense (letter copy to Sika Corporation).

### Site cleanup, including both interior and exterior building areas that have been affected by construction, shall be completed to the Owner's satisfaction.

### All landscaped areas damaged by construction activities shall be repaired at no cost to the Owner.

### The Applicator shall conduct fastener pullout tests in accordance with the latest version of the SPRI/ANSI Fastener Pullout Standard to verify condition of the deck/substrate and to confirm expected pullout values.

### The Sarnafil membrane shall not be installed under the following conditions without consulting Sika Corporation’s Technical Dept. for precautionary steps:

#### The roof assembly permits interior air to pressurize the membrane underside.

#### Any exterior wall has 10 percent or more of the surface area comprised of opening doors or windows.

#### The wall/deck intersection permits air entry into the wall flashing area.

### Precautions shall be taken when working at or near rooftop vents or air intakes, odors could enter the building. Coordinate the operation of vents and air intakes in such a manner as to avoid the intake of odors while ventilating the building.

### Protective wear shall be worn as required by job conditions.

### Sarnafil membranes are slippery when wet or covered with snow, frost, or ice. Working on surfaces under these conditions is hazardous. Appropriate safety measures must be implemented prior to working on such surfaces. Always follow OSHA and other relevant fall protection standards when working on roofs.

### The contractor shall be responsible for complying with all project-related safety and environmental requirements.

### The contractor shall 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.

## [BIDDING REQUIREMENTS](#PART_1)

### Pre-Bid Meeting:

A pre-bid meeting shall be held with the Owner's Representative and involved trades to discuss all aspects of the project. The Applicator's field representative or roofing foreman for the work shall be in attendance. Procedures to avoid rooftop damage by other trades shall be determined.

### Site Visit:

Bidders shall visit the site and carefully examine the areas in question as to conditions that may affect proper execution of the work. All dimensions and quantities shall be determined or verified by the Applicator. No claims for extra costs will be allowed because of lack of full knowledge of the existing conditions unless agreed to in advance with the Owner or Owner's Representative.

## [WARRANTIES](#PART_1)

### Sika Corporation Warranty

Upon successful completion of the work to Sika Corporation's satisfaction and receipt of final payment, the Sika Corporation Warranty shall be issued.

**[NOTE TO SPECIFIER: SELECT DESIRED WARRANTY.]**

#### Membrane Warranty

#### System Warranty (only products purchased from Sika Corporation are covered under System Warranty)

### Applicator/Roofing Contractor Warranty

Applicator shall supply Owner with a separate workmanship warranty. In the event any work related to roofing, flashing, or metal is found to be within the Applicator warranty term, defective or otherwise not in accordance with Contract Documents, the Applicator shall repair that defect at no cost to the Owner. Applicator's warranty obligation shall run directly to Owner, and a copy shall be sent to Sika Corporation.

### Owner Responsibility

Owner shall notify both Sika Corporation and the Applicator of any leaks as they occur during the time period when both warranties are in effect.

## [WARRANTY DURATIONS](#PART_1)

**[NOTE TO SPECIFIER: SPECIFY EITHER 5, 10, 15, or 20.]**

### Sika Corporation’s warranty shall be in effect for a year duration.

### Applicator’s/Roofing Contractor’s Warranty shall be in effect for a year duration.

# PRODUCTS

##### [GENERAL](#PART_2)

### Components of the roof system are to be products of Sika Corporation as indicated on the Detail Drawings and specified in the Contract Documents.

### Components to be used that are other than those supplied or manufactured by Sika Corporation may be submitted for review and acceptance by Sika Corporation. Sika Corporation’s acceptance of any other product is only for a determination of compatibility with Sika Corporation products and not for inclusion in the Sika Corporation warranty. The specifications, installation instructions, limitations, and restrictions of the respective manufacturers must be reviewed by the Owner’s Representative for acceptability for the intended use with Sika Corporation products.

### Special consideration should be given to construction related moisture. An example is the significant amount of moisture generated when concrete floor slabs are poured after the roof has been installed. Sika Corporation is not responsible for damage to the insulation when exposed to construction related moisture.

### Consult respective product data sheets for additional information.

##### [PVC ROOF MEMBRANE](#PART_2)

### Membrane shall conform to:

#### ASTM D4434 (latest version), "Standard for Polyvinyl Chloride Sheet Roofing". Classification: Type II, Grade I.

#### NSF/ANSI Standard 347, “Sustainability Assessment for Single Ply Roofing Membranes”. Certification Level: Platinum.

#### The manufacture to guarantee that the membrane thickness meets or exceeds [the specified thickness] when tested according to ASTM D751

### Sarnafil G410 thermoplastic membrane with fiberglass reinforcement, lacquer coating, and a factory applied 9 oz. felt backing.

### Thickness

**[NOTE TO SPECIFIER: SELECT APPROPRIATE PRODUCT.]**

#### Sarnafil G410-12 Feltback, 48 mil (1.2 mm)

#### Sarnafil G410-15 Feltback, 60 mil (1.5 mm)

#### Sarnafil G410-18 Feltback, 72 mil (1.8 mm)

#### Sarnafil G410-20 Feltback, 80 mil (2.0 mm)

#### Other

### Color of Membrane

**[NOTE TO SPECIFIER: SPECIFY ENERGYSMART WHITE UNLESS A SPECIAL COLOR IS REQUIRED.]**

#### EnergySmart White, initial solar reflectance of 0.83, emittance of 0.90, and solar reflective index (SRI) of 104 (ENERGY STAR listed).

#### EnergySmart Light Gray, initial solar reflectance of 0.51, emittance of 0.84, and solar reflective index (SRI) of 58 (ENERGY STAR listed).

#### EnergySmart Tan, initial solar reflectance of 0.73, emittance of 0.85, and solar reflective index (SRI) of 89.

#### Other

### Typical Physical Properties (1)

|  |  |  |  |
| --- | --- | --- | --- |
| **Property** | **ASTMTest****Method** | **ASTM Type II****D-4434 Spec.****Requirement** | **Typical Results** |
| Overall Thickness, mil | D751 | 45 | **48** | **60** | **72** | **80** |
| Thickness Over Scrim, mil | -- | 16 | 22 | 27 | 35 | 40 |
| Reinforcing Material | -- | -- | Fiberglass | Fiberglass | Fiberglass | Fiberglass |
| Felt Weight, oz/yd2 (feltback membrane only) | -- | -- | 9 | 9 | 9 | 9 |
| Breaking Strength, lbf (N) | D751 | 55 (245) | 60 (267) | 80 (356) | 100 (445) | 110 (489) |
| Elongation at Break, %M. D.1 & C.M.D.1 | D751 | 250 & 220 | 250 & 220 | 250 & 220 | 250 & 220 | 250 & 220 |
| Seam Strength, % of original2 | D751 | 75 | Pass | Pass | Pass | Pass |
| Retention of Properties After Heat Aging | D3045 | -- | -- | -- | -- | -- |
|  Tensile Strength, % of original | D751 | 90 | Pass | Pass | Pass | Pass |
|  Elongation, % of original | D751 | 90 | Pass | Pass | Pass | Pass |
| Tearing Resistance, lbf (N)  | D1004 | 10 (45) | 15 (67) | 17.5 (78) | 20.5 (91) | 22 (98) |
| Low Temperature Bend, -40°F (-40°C) | D2136 | Pass | Pass | Pass | Pass | Pass |
| Accelerated Weathering Test (Florescent Light UV exposure), Hours | G154 | 5,000 | 10,000 | 10,000 | 10,000 | 10,000 |
|  Cracking (7x magnification) | -- | None | None | None | None | None |
|  Discoloration (by observation) | -- | Negligible | Negligible | Negligible | Negligible | Negligible |
|  Crazing (7x magnification) | -- | None | None | None | None | None |
| Linear Dimensional Change, %  | D1204 | 0.1 | -0.02 | -0.02 | -0.01 | -0.01 |
| Weight Change After Immersion in Water, % | D570 | ± 3.0 | 2.4 | 1.9 | 1.8 | 1.7 |
| Static Puncture Resistance | D5602 | Pass | Pass | Pass | Pass | Pass |
| Dynamic Puncture Resistance, ft-lbf (J) | D5635 | 7.3 (10) | Pass | Pass | Pass | Pass |
| Recycled Content (10' & 5' sheet only) | 9% Pre-Consumer / 1% Post-Consumer |
| *\* Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions, and curing conditions.**1 M.D. = Machine Direction, C.M.D. = Cross Machine Direction**2 Failure occurs through membrane rupture not seam failure.* |

##### [SBS](#PART_2)-MODIFIED PLY SHEET

**[NOTE TO SPECIFIER: SELECT ONLY ONE TYPE OF PLY SHEET.]**

### Ply Sheet HA 87

Hot applied SBS polymer modified bitumen with a fiberglass mat reinforcement and fine mineral aggregate (sand) topside and underside. 87 mils (2.2 mm), width of 39.4 in (1 m), length of 49.2 ft (15 m) and meets or exceeds ASTM D6163, Type I, Grade S.

### Ply Sheet TA 87

Torch applied SBS polymer modified bitumen with a fiberglass mat reinforcement and fine mineral aggregate (sand) topside and polyolefin burn-off film underside. 87 mils (2.2 mm), width of 39.4 in (1 m), length of 49.2 ft (15 m) and meets or exceeds ASTM D6163, Type I, Grade S.

##### [GYPSUM](#PART_2) BOARD

### DensDeck Prime

Employs enhanced fiberglass mats front and back that are bonded to a high density gypsum core. DensDeck Prime is provided in 4 ft. x 4 ft. (1.2 m x 1.2 m) or 4 x 8 ft (1.2 x 2.4 m) board sizes and in thicknesses of 1/4, 1/2 and 5/8 inch (6, 13 and 16 mm). Consult Product Data Sheet for additional information.

##### [INSULATION](#PART_2)

**[NOTE TO SPECIFIER: SELECT ONLY ONE TYPE OF INSULATION.]**

### Sarnatherm

A 20 or 25 psi rigid polyisocyanurate insulation board with a cellulosic felt facer. Available in 4 x 4 ft (1.2 x 1.2 m) or 4 x 8 ft (1.2 x 2.4 m) flat or tapered sizes in various thicknesses.

### Sarnatherm CG

A 20 or 25 psi rigid polyisocyanurate insulation board with a coated polymer bonded glass fiber mat facer. Available in 4 x 4 ft (1.2 x 1.2 m) or 4 x 8 ft (1.2 x 2.4 m) flat or tapered sizes in various thicknesses.

##### [[SBS](#PART_2)-](#PART_2)[MODIFIED BASE](#PART_2) SHEET

### Base Sheet NB 48

A SBS-modified bitumen membrane sanded on both top and bottom surfaces. Glass fiber reinforcement with a thickness of 48 mils (1.1 mm), width of 36 in (0.9 m), length of 108 ft (33 m) and meets or exceeds ASTM D4601, Type II, and UL Type G2.

##### [ATTACHMENT COMPONENTS](#PART_2)

### PVC Roof Membrane

**[NOTE TO SPECIFIER: SELECT ONLY ONE TYPE OF ADHESIVE.]**

#### Sarnacol AD Feltback Membrane Adhesive

A low odor, VOC compliant, one step foamable polyurethane adhesive used to attach feltback membrane to approved compatible substrates. Adhesive is applied by combining two 5 gallon box sets placed on a cart and dispensed through a combining hose or by hand with a dual component caulk gun. Additional adhesive may be required for rougher surfaces.

#### Sarnacol OM Feltback Membrane Adhesive

A low odor, VOC compliant, one step foamable polyurethane adhesive used to attach feltback membrane to approved compatible substrates. Adhesive is applied by combining two 5 gallon box sets placed on a cart and dispensed through a combining hose or by hand with a dual component caulk gun. Additional adhesive may be required for rougher surfaces.

### SBS-Modified Ply Sheet

**[NOTE TO SPECIFIER: SELECT ONLY ONE TYPE OF ASPHALT.]**

#### Trumbull TruLo Max Asphalt

A low odor, low fuming asphalt. Consult Product Data Sheet for additional information.

|  |  |  |
| --- | --- | --- |
| **TYPICAL PHYSICAL CHARACTERISTICS FOR TRULO® MAX\*** | **TYPE III** **Min. / Max.** | **TYPE IV****Min. / Max.** |
| Softening Point (°F) | 195 / 205 | 215 / 225 |
| Penetration Units: @ 77°F | 17 / 24 | 15 / 22 |
| Flash Point (°F) minimum typical † | 525 / 550 | 525 / 550 |
| Ductility @ 77°F (cm) | 3.0 | 2.0 |
| Solubility in Trichloroethylene % | 99.8 | 99.8 |
| Typical Application Temperature |  |  |
|  For Hand Mopping EVT @ 125 CPS +/- 25°F†† | 430 | 450 |
|  For Machine Spreader EVT @ 75 CPS +/- 25°F†† | 455 | 475 |
| \* Meets or exceeds all ASTM D 312 requirements.† Check the Owens Corning Web site for regional differences in typical flash points.†† Trumbull® asphalt typically has EVTs in the following range for this product. For specific EVTs for a product from a particular Trumbull Plant, check our Web site at www.trumbullasphalt.com or call 1-800-GET-PINK.® |  |

#### Trumbull TruLo Lo Odor Asphalt

A low odor asphalt. Consult Product Data Sheet for additional information.

|  |  |  |
| --- | --- | --- |
| **TYPICAL PHYSICAL CHARACTERISTICS FOR TRULO® LO ODOR\*** | **TYPE III** **Min. / Max.** | **TYPE IV****Min. / Max.** |
| Softening Point (°F) | 195 / 205 | 215 / 225 |
| Penetration Units: @ 77°F | 17 / 24 | 15 / 22 |
| Flash Point (°F) minimum typical † | 525 / 550 | 525 / 550 |
| Ductility @ 77°F (cm) | 3.0 | 2.0 |
| Solubility in Trichloroethylene % | 99.8 | 99.8 |
| Typical Application Temperature |  |  |
|  For Hand Mopping EVT @ 125 CPS +/- 25°F†† | 430 | 450 |
|  For Machine Spreader EVT @ 75 CPS +/- 25°F†† | 455 | 475 |
| \* Meets or exceeds all ASTM D 312 requirements.† Check the Owens Corning Web site for regional differences in typical flash points.†† Trumbull® asphalt typically has EVTs in the following range for this product. For specific EVTs for a product from a particular Trumbull Plant, check our Web site at www.trumbullasphalt.com or call 1-800-GET-PINK.® |  |

### Gypsum Board & Insulation Attachment

**[NOTE TO SPECIFIER: SELECT ONLY ONE TYPE OF ADHESIVE IF REQUIRED.]**

* + - 1. Sarnacol 2163

A two-component foamable polyurethane board adhesive that is applied in one step and sets up in minutes. Dispensed using 1.5 L (0.4 gal) dual cartridges. No temperature restrictions.

* + - 1. Sarnacol AD Board Adhesive

A two-component foamable polyurethane adhesive that is applied in one step and sets up in minutes. Dispensed using holders and hoses, available in 10 gal, 30 gal, or 100 gal sets. The minimum ambient and surface temperatures should be 40°F (4.4°C) and rising.

* + - 1. Sarnacol OM Board Adhesive - 1.5 L Cartridge & 10 Gallon Set

A two-component foamable polyurethane adhesive that is applied in one step and sets up in minutes. Dispensed using 1.5 L (0.4 gal) dual cartridges or holders and hoses, available in 10 gal sets. The minimum ambient and surface temperatures should be 40°F (4.4°C) and rising.

* + - 1. Sarnacol OM Board Adhesive - 30 & 110 Gallon Sets

A two-component foamable polyurethane adhesive that is applied in one step and sets up in minutes. Dispensed using high pressure spray applicator, available in 30 gal or 110 gal sets. The minimum ambient and surface temperatures should be 40°F (4.4°C) and rising.

* + - 1. Sarnacol OM Board Adhesive WG (winter grade)

A two-component foamable polyurethane adhesive that is applied in one step and sets up in minutes. Dispensed using 1.5 L (0.4 gal) dual cartridges. Applied in temperatures between 0°F (-18°C) and 65°F (18°C).

### SBS-Modified Base Sheet

#### CR Base Sheet Fastener

CR Base Sheet Fasteners are one-piece, precision formed G-90 galvanized steel, coated with CR-10, and pre-assembled with a 2.75" diameter galvalume plate. These fasteners are designed to secure base sheets to lightweight insulating concrete.

### Misc.

#### Sarnastop

#### An extruded aluminum, low profile bar used with certain Sarnafasteners to attach to the roof deck or to walls/curbs at terminations, penetrations and at incline changes of the substrate. Sarnastop is a 1 inch (25 mm) wide, flat aluminum bar 1/8 inch (3 mm) thick that has predrilled holes every 6 inches (152 mm) on center.

##### [FLASHING MATERIALS](#PART_2)

### Wall / Curb Flashing

#### Sarnafil G410 Membrane

A fiberglass reinforced membrane adhered to approved substrates using Sarnacol adhesive.

#### G459 Flashing Membrane

A fiberglass reinforced membrane adhered to asphalt, other contaminated surfaces, or approved substrates using Sarnacol adhesive. G459 comes in 6.5’ and 3.25’ widths and is 60 mil (1.5mm) thick. The standard color is white on tan. The tan side of the membrane must be the side exposed to the contamination.

#### Sarnaclad

A PVC-coated, heat-weldable sheet metal capable of being formed into a variety of shapes and profiles. Sarnaclad is a 24 gauge, G90 galvanized metal sheet with a 20 mil (0.5 mm) unsupported Sarnafil membrane laminated on one side. The dimensions of Sarnaclad are 4 ft x 8 ft (1.2 m x 2.4 m) or 4 ft x 10 ft (1.2 m x 3.0 m).

### Perimeter Edge Flashing

#### Edge Grip Fascia

A prefabricated perimeter edge system provided by Sika Corporation. The system has concealed fasteners with no penetrations on the horizontal roof surface and includes fasteners and splice plates. Edge Grip is made from two distinct parts. A rigid retainer base plate and a decorative snap-on fascia cover. The retainer is made from 20 gauge galvanized steel in 10 foot (3048 mm) standard lengths and is provided with 9/32 inch (7 mm) slotted pre-punched holes for fastener spacing at 12 inches (152 mm) on center. As an option the retainer base plate is also available in 0.05 inch (1.3 mm) aluminum. The snap-on fascia cover is available in 10 foot (3048 mm) lengths and in a variety of thickness, colors, finishes, and widths. Kynar-500 colors are available for galvanized steel and natural mill finished aluminum. Clear and anodized colors are available for anodized finished aluminum. Matching corners, end caps, fascia sumps, spillouts, etc. are available as accessories.

**[NOTE TO SPECIFIER: SELECT ONE RETAINER BASE PLATE EITHER A OR B. SELECT ONE SNAP-ON FASCIA COVER EITHER C THROUGH F. SELECT ONE SNAP-ON FASCIA FINISH EITHER G, H, OR I. DELETE ITEMS THAT ARE NOT NEEDED.]**

1. Retainer base plate shall be 20 gauge galvanized steel in 10 ft. lengths.
2. Retainer base plate shall be 0.05 inch aluminum in 10 ft. lengths.
3. Snap-on fascia cover shall be 24 gauge galvanized steel in 10 ft. lengths.
4. Snap-on fascia cover shall be 0.04 inch aluminum in 10 ft. lengths.
5. Snap-on fascia cover shall be 0.05 inch aluminum in 10 ft. lengths.
6. Snap-on fascia cover shall be 0.063 inch aluminum in 10 ft. lengths.
7. Snap-on fascia cover shall have a natural mill finish.
8. Snap-on fascia cover shall have a Kynar finish.
9. Snap-on fascia cover shall have a anodized finish.
10. Snap-on fascia cover color shall be .

#### Edge Grip Extruded Fascia

A heavy-duty prefabricated perimeter edge system provided by Sika Corporation. The system has concealed fasteners with no penetrations on the horizontal roof surface and includes fasteners and splice plates. Edge Grip Extruded is made from two distinct parts. A heavy-duty extruded retainer base plate and a decorative snap-on fascia cover. The extruded retainer is made from 0.10 inch (2.5 mm) extruded aluminum in 10 foot (3048 mm) standard lengths and is provided with 0.187 inch (4.7 mm) pre-punched slotted holes for fastener spacing at 12 inches (152 mm) on center. The snap-on fascia cover is available in 10 foot (3048 mm) lengths and in a variety of thickness, colors, finishes, and widths. Kynar-500 colors are available for galvanized steel and natural mill finished aluminum. Clear and anodized colors are available for anodized finished aluminum. Matching corners, end caps, fascia sumps, spillouts, etc. are available as accessories.

**[NOTE TO SPECIFIER: SELECT ONE SNAP-ON FASCIA COVER EITHER B THROUGH E. SELECT ONE SNAP-ON FASCIA FINISH EITHER F, G, OR H. DELETE ITEMS THAT ARE NOT NEEDED.]**

1. Retainer base plate shall be 0.10 inch aluminum in 10 ft. lengths.
2. Snap-on fascia cover shall be 24 gauge galvanized steel 10 ft. lengths.
3. Snap-on fascia cover shall be 0.04 inch aluminum in 10 ft. lengths.
4. Snap-on fascia cover shall be 0.05 inch aluminum in 10 ft. lengths.
5. Snap-on fascia cover shall be 0.063 inch aluminum in 10 ft. lengths.
6. Snap-on fascia cover shall have a natural mill finish.
7. Snap-on fascia cover shall have a Kynar finish.
8. Snap-on fascia cover shall have a anodized finish.
9. Snap-on fascia cover color shall be .

#### Sarnaclad

A PVC-coated, heat-weldable sheet metal capable of being formed into a variety of shapes and profiles. Sarnaclad is a 24 gauge, G90 galvanized metal sheet with a 20 mil (0.5 mm) unsupported Sarnafil membrane laminated on one side. The dimensions of Sarnaclad are 4 ft x 8 ft (1.2 m x 2.4 m) or 4 ft x 10 ft (1.2 m x 3.0 m).

#### Non-Typical Edge

Project-specific perimeter edge detail reviewed and accepted for one-time use by Sika Corporation's Technical Department. Consult Regional Technical Manager prior to job start for review and consideration for acceptance.

### Miscellaneous Flashing

#### Detail Membrane

A 60 mil (1.5 mm) fiberglass reinforced membrane, available 12″ x 50′ (30.5 cm x 15.2 m) roll and 24″ x 50′ (61 cm x 15.2 m) roll, more pliable than Sarnafil G410 membrane, good use for flashing pipes, corners, and unusual shaped penetrations.

#### Sarnacircles

A 60 mil (1.5mm) thick prefabricated 4 1/2 in. round circle patch injection molded.

#### Sarnacorners - Inside

A 60 mil (1.5 mm) thick prefabricated inside corner injection molded.

#### Sarnacorners - Outside

A 60 mil (1.5 mm) thick prefabricated outside corner injection molded.

#### Sarnastack Universal, A, B, or C

A 60 mil (1.5 mm) thick prefabricated stack/pipe boot injection molded.

#### Open Post Flashing

A 48 mil (1.2 mm) thick prefabricated flashing using weld technology convenient to flash obstructed rooftop conduits and pipes. Open post flashings are fabricated with an open seam and are available in different sizes.

#### Sarnareglet

A heavy-duty, extruded aluminum flashing termination reglet used at walls and large curbs. Sarnareglet is produced from 6063-T5, 0.10 inch to 0.12 inch (2.5 mm to 3.0 mm) thick extruded aluminum. Sarnareglet has a 2-1/4 inch (57 mm) deep profile, and is provided in 10 foot (3 m) lengths. Use prefabricated Sarnareglet mitered inside and outside corners where walls intersect.

#### Sarnadrain - UFlow

A seamless heavy-duty aluminum drain, featuring a coated flange for hot air welding of Sarnafil membranes. Sarnadrain-Uflow consists of a one-piece spun, 0.125 in.(3.175 mm), 11 gauge thick aluminum body, a 17.5” (445 mm) diameter, and a 12” (305 mm) long drain stem.

#### Sarnacol 2170 Adhesive

A solvent-based reactivating adhesive used to attach membrane to flashing substrate. Typical flashing substrate coverage rate is 45-60ft² /gal (1.10–1.47m²/L) .

#### Sarnacol 2170 VC Adhesive

A solvent-based, VOC compliant, reactivating adhesive used to attach membrane to flashing substrate. Typical flashing substrate coverage rate is 45-60ft² /gal (1.10–1.47m²/L).

#### Sarnafelt

A leveling and/or separation layer that is necessary behind Sarnafil G410 or G459 Flashing Membrane when the flashing substrates are rough or incompatible with the flashing membrane. When Sarnafelt is used as a leveling and/or separating layer a 2nd coat on the dried substrate at the same rate is required to adhere the felt and then the membrane.

#### Liquid Flashing Primer

A two-component polymethyl methacrylate-based (PMMA) primer used to promote the adhesion of Liquid Flashing SW and Liquid Flashing WW over wood and concrete surfaces in Sarnafil® and Sikaplan® roofing details.

#### Liquid Flashing Fleece

A non-woven, needle-punched polyester fleece used as the reinforcement for Sika’s liquid flashing details in Sarnafil® and Sikaplan® roofing systems.

#### Liquid Flashing Catalyst

A reactive agent based on dibenzoyl peroxide to induce curing of Sika’s Liquid Flashing SW, Liquid Flashing WW, and Liquid Flashing Primer when mixed.

#### Liquid Flashing SW (summer-grade white)

A two-component polymethyl methacrylate-based (PMMA) liquid flashing material used in Sarnafil® and Sikaplan® roofing details. Liquid Flashing SW is used with Liquid Flashing Fleece and cures to form a monolithic reinforced flashing membrane.

#### Liquid Flashing WW (winter-grade white)

A two-component polymethyl methacrylate-based (PMMA) liquid flashing material used in Sarnafil® and Sikaplan® roofing details. Liquid Flashing WW is used with Liquid Flashing Fleece and cures to form a monolithic reinforced flashing membrane. The ambient and surface temperatures at application must be between 23°F (-5°C) and 68°F (20°C).

##### [WALKWAY PROTECTION](#PART_2)

**[NOTE TO SPECIFIER: SELECT ONE TYPE OF WALKWAY.]**

### Sarnatred-V

### A polyester reinforced, 0.096 inch (96 mil/2.4 mm), weldable membrane with surface embossment similar to a chevron pattern. Used as a protection layer from rooftop traffic. Sarnatred-V is supplied in rolls of 39 inches (1.0 m) wide and 50 feet (15 m) long.

### Crossgrip XTRA

A rolled-out walkway protection mat loose laid on top of completed roof assemblies consisting of is 9/16 inch (14 mm) thick flexible pvc with a heavily textured surface.

### Concrete Pavers

Normal weight concrete pavers specifically designed and produced for rooftop application. For large areas the use of paver pedestals or a drainage panel protection layer between the Sarnafil roof membrane and the pavers is required. For narrow walkways, a welded-in-place protection layer of Sarnafil membrane is required under the concrete pavers.

##### [MISCELLANEOUS ACCESSORIES](#PART_2)

### Sarnamatic 641mc, 661, or 681

220 volt, self-propelled, hot-air welding machine used to seal Sarnafil membrane seams.

### Aluminum Tape

A 2 inch (50 mm) wide pressure-sensitive aluminum tape used as a separation layer between small areas of asphalt contamination and the membrane and as a bond-breaker under the coverstrip at Sarnaclad joints.

### Multi-Purpose Tape

A high performance sealant tape used with metal flashings as a preventive measure against air and wind blown moisture entry.

### Perimeter Warning Tape

Designed for use on PVC membranes as a reflective, highly visible pressure sensitive tape used to draw attention to roof perimeters and potential hazardous areas. The tape is available in 2 inch wide rolls by 30 feet long and comes on a release liner for easy application. Perimeter Warning Tape exceeds reflectivity 3 requirements and Federal spec. L-S-300, Class 1.

### Perimeter Warning Membrane

The Perimeter Warning Membrane is made from Sarnafil G410 membrane, Yellow in color, and is 4” (101mm) wide and 100’ (30m) long.

### Seam Cleaner

Seam Cleaner is used on PVC membranes to clean the in the seam area only.

##### [SEALANTS AND PITCH POCKET FILLERS](#PART_2)

### Sikaflex-1a (for termination details and pitch pocket toppings).

### Sarnafiller (two-component urethane adhesive for pitch pocket toppings).

### Mastic

### A cold applied, fiber reinforced high strength SBS modified bitumen mastic that is specially formulated to detail around penetrations and flashings where Sika vapor retarders and hybrid system ply sheets are used.

### Depending on substrates, the following sealants are options for temporary overnight tie-ins:

#### Type III or IV hot asphalt conforming to ASTM D312 (latest version).

#### Sarnafiller.

#### Multiple layers of roofing cement and felt.

#### Spray-applied, water-resistant urethane foam.

#### Mechanical attachment with rigid bars and compressed sealant.

##### [MISCELLANEOUS FASTENERS AND ANCHORS](#PART_2)

### All fasteners, anchors, nails, straps, bars, etc. shall be post-galvanized steel, aluminum or stainless steel. Mixing metal types and methods of contact shall be assembled in such a manner as to avoid galvanic corrosion. Fasteners for attachment of metal to masonry shall be expansion type fasteners with stainless steel pins. All concrete fasteners and anchors shall have a minimum embedment of 1-1/4 inch (32 mm) and shall be approved for such use by the fastener manufacturer. All miscellaneous wood fasteners and anchors used for flashings shall have a minimum embedment of 1 inch (25 mm) and shall be approved for such use by the fastener manufacturer.

##### [RELATED MATERIALS](#PART_2)

### Wood Nailer

Treated wood nailers shall be installed at the perimeter of the entire roof and around such other roof projections and penetrations as specified on Project Drawings. Thickness of nailers must match the insulation thickness to achieve a smooth transition. Wood nailers shall be treated for fire and rot resistance (wolmanized or osmose treated) and be #2 quality or better lumber. Creosote or asphalt-treated wood is not acceptable. Wood nailers shall conform to Factory Mutual Loss Prevention Data Sheet 1-49. All wood shall have a maximum moisture content of 19 percent by weight on a dry-weight basis.

#### Note: Wood nailers or wood blocking for snow protection system shall be installed prior to the installation of the roof membrane whenever possible.

### Plywood

When bonding directly to plywood, a minimum 1/2 inch (12 mm) CDX (C side out), smooth-surfaced exterior grade plywood with exterior grade glue shall be used. Rough-surfaced plywood or high fastener heads will require the use of Sarnafelt behind the flashing membrane. Plywood shall have a maximum moisture content of 19 percent by weight on a dry weight basis.

# EXECUTION

###### [PRE-CONSTRUCTION CONFERENCE](#PART_3)

### The Applicator, Owner's Representative/Designer and Manufacturer(s) shall attend a pre-construction conference.

### The meeting shall discuss all aspects of the project including but not limited to:

#### Safety

#### Set up

#### Construction schedule

#### Contract conditions

#### Coordination of the work

###### [SUBSTRATE CONDITION](#PART_3)

### Applicator shall be responsible for acceptance or provision of proper substrate to receive new roofing materials.

### Applicator shall verify that the work done under related sections meets the following conditions:

#### Roof drains and scuppers have been reconditioned or replaced and installed properly.

#### Roof curbs, nailers, equipment supports, vents and other roof penetrations are properly secured and prepared to receive new roofing materials.

#### All surfaces are smooth and free of dirt, debris and incompatible materials.

#### All roof surfaces shall be free of water, ice and snow.

### Poured Lightweight Insulated (Cellular) Concrete Substrate (LWIC):

The lightweight concrete shall be installed by a trained lightweight concrete Applicator in accordance with the lightweight concrete manufacturer's requirements and industry practice. The surface shall be sealed with a water-based sealer accepted by the lightweight concrete manufacturer to create a surface free from dust and loose material. The wet and dry densities shall be in accordance with the manufacturer's and FM’s (if applicable) requirements. Sharp ridges or other projections above the surface shall be removed before roofing.

###### [WOOD NAILER INSTALLATION](#PART_3)

### Install continuous code compliant wood nailers at the perimeter of the entire roof and around roof projections and penetrations as shown on the Detail Drawings.

### Nailers shall be anchored to resist a minimum force of 300 pounds per lineal foot (4,500 Newtons per lineal meter) in any direction. Individual nailer lengths shall not be less than 3 feet (0.9 meter) long. Nailer fastener spacing shall be at 12 inches (0.3 m) on center or 16 inches (0.4 m) on center if necessary to match the structural framing. Fasteners shall be staggered 1/3 the nailer width and installed within 6 inches (0.15 m) of each end. Two fasteners shall be installed at ends of nailer lengths. Nailer attachment shall also meet the requirements of the current Factory Mutual Loss Prevention Data Sheet 1-49.

### Thickness shall be as required to match substrate or insulation height to allow a smooth transition.

### Any existing nailer woodwork which is to remain shall be firmly anchored in place to resist a minimum force of 300 pounds per lineal foot (4,500 Newtons per lineal meter) in any direction and shall be free of rot, excess moisture or deterioration. Only woodwork shown to be reused in Detail Drawings shall be left in place. All other nailer woodwork shall be removed.

### Stainless steel, corrosion resistant, fasteners are required when mechanically attaching any Sika Corporation product to wood nailers and wood products treated with ACQ (Alkaline copper Quaternary). When ACQ treated wood is used on steel roof decks or with metal edge detailing, a separation layer must be placed between the metal and ACQ treated wood.

###### [SBS-MODIFIED](#PART_3) BASE SHEET INSTALLATION

### General Criteria:

#### Base sheet shall be installed according to manufacturer's instructions.

#### Base sheet shall be neatly cut to fit around penetrations and projections.

#### If required, install dry rosin sheathing before base sheet.

#### Do not install more base sheet than can be covered with Sarnafil membrane by the end of the day or the onset of inclement weather.

### Base Sheet NB 48

#### Unroll Base Sheet NB 48 and allow it to relax. Mechanically fasten Base Sheet NB 48 to the deck with approved fasteners and plates at a rate according to Sika's recommendations for fastening rates and patterns.

#### Apply uniform tension to Base Sheet NB 48 and begin fastening at the center of the sheet. Work toward the end laps pushing out all wrinkles and buckles.

#### Install fasteners in accordance with fastener manufacturer's recommendations achieving minimum penetration into the LWIC deck as recommended by the fastener manufacturer and Sika.

#### Overlap side laps 3 in (76 mm) and end laps 6 in (152 mm).

###### [INSULATION & GYPSUM BOARD INSTALLATION](#PART_3)

General Criteria:

#### **For Factory Mutual insured buildings polystyrene insulation may not be applied direct to steel deck.**

#### Fasteners Insulation shall be installed according to insulation manufacturer's instructions.

#### Use Insulation shall be neatly cut to fit around penetrations and projections.

#### For Install tapered insulation in accordance with insulation manufacturer's shop drawings.

#### Insulation shall be installed according to insulation manufacturer's instructions.

#### Do not install more insulation board than can be covered with Sarnafil membrane by the end of the day or the onset of inclement weather.

#### Use at least 2 layers of insulation when the total insulation thickness exceeds 2-1/2 inches (64 mm). Stagger joints at least 12 inches (0.3 m) between layers.

### Mechanical Attachment

#### Boards shall be mechanically fastened to the deck with approved fasteners and plates at a rate according to the board manufacturer's and Sika Corporation's recommendations for fastening rates and patterns. The quantity and locations of the fasteners and plates shall also cause the boards to rest evenly on the roof deck/substrate so that there are no significant and avoidable air spaces between the boards and the substrate.

#### Fasteners must be tight enough so plates do not turn, but not so tight as to deform them.

#### Fasteners are to be installed consistently in accordance with fastener manufacturer's recommendations. Fasteners are to have minimum penetration into structural deck recommended by the fastener manufacturer and Sika Corporation.

#### Use fastener tools with a depth locator and torque-limiting attachment as recommended or supplied by fastener manufacturer to ensure proper installation.

* + 1. Sarnacol 2163 Adhesive
1. All surfaces must be clean, dry, and free of dirt, grease, oil, or other contaminants or particulates. All concrete surfaces must be fully cured prior to applying Sarnacol OM Board Adhesive.
2. Remove the plastic plugs from the cartridge mixing head. Attach a mixing tip to the threaded mixing head. Place the cartridge into the applicator.
3. Apply the Sarnacol 2163 Board Adhesive directly to the substrate, using a ribbon pattern. Apply adhesive in 1/4 - 1/2 in. (6-13 mm) beads. Ribbon spacing will depend on the wind uplift rating required.
4. As adhesive is applied, immediately place board into wet adhesive. Walk boards in, ballast if necessary to achieve proper contact with substrate.
5. Application rates vary depending on surface roughness and absorption rate of the substrate. Typical coverage rates when using the cartridge is 600 sq. ft. per case. Rates are based on an application pattern of 4 ribbons, 1/4-1/2 in. (6-13 mm) beads, 12 in. (30 cm) o.c. per 4 x 4 ft. (121.9 x 121.9 cm) insulation board.

Notes:

* + - 1. Do not apply in wet weather or to a wet surface.
			2. The minimum product temperature before application should be 65°F (18°C).
			3. No minimum ambient and surface temperatures.
			4. Not recommended for use with insulations boards larger than 4‘ x 4‘ (1.2 m x 1.2 m)
			5. All boards must lay flat upon roof surface.
			6. Unused adhesive can be applied at a later date by simply replacing the mixing tip.
			7. Do not allow the adhesive to skin over.
		1. Sarnacol AD Board Adhesive
			1. All surfaces must be clean, dry, and free of dirt, grease, oil, or other contaminants or particulates. All concrete surfaces must be fully cured prior to applying Sarnacol OM Board Adhesive.
			2. Install Part A and part B components following instructions on the packaging. Always insure that the Part A and Part B containers are always hooked to the same dispensing holders or hoses (i.e. do not reverse the dispenser holders and hoses between Part A and Part B).
			3. All valves on the dispensing unit must be completely opened so a 1:1 ratio is achieved when moving the adhesive through the disposable mix tip and onto the substrate in a semi-liquid state.
			4. Apply the Sarnacol AD Board Adhesive directly to the substrate, using a ribbon pattern. Space the 1/2 in. (13 mm) wide wet beads at a maximum of 12 in. (30 cm) o.c. to achieve proper coverage rate. Actual ribbon spacing will depend on the wind uplift rating required.
			5. Allow the adhesive to rise (approx. 4 - 8 minutes) before placing the insulation or cover board into the adhesive. Walk boards in, ballast if necessary to achieve proper contact with substrate. Adhesive open time varies depending on weather conditions.
			6. Application rates vary depending on surface roughness and absorption rate of the substrate. Typical coverage rates when using the bag in the box is 1500 to 2000 sq.ft. (167 m2 to 204 m2) per 10 gal. Rates are based on an application pattern of 4 ribbons, 1/2 in. (13 mm) beads, 12 in. (30 cm) o.c. per 4 x 4 ft. (1.2 m x 1.2 m) insulation board.

Notes:

1. Do not apply in wet weather or to a wet surface.
2. The minimum product temperature before application should be 72°F (22.2°C).
3. The minimum ambient and surface temperatures should be 40°F (4.4°C) and rising.
4. Not recommended for use with insulations boards larger than 4‘ x 4‘ (1.2 m x 1.2 m)
5. All boards must lay flat upon roof surface.
6. Unused adhesive can be applied at a later date by simply replacing the mixing tip.
7. Do not allow the adhesive to skin over.
	* 1. Sarnacol OM Board Adhesive – 1.5 L Cartridge & 10 Gallon Set

All surfaces must be clean, dry, and free of dirt, grease, oil, or other contaminants or particulates.

PaceCart2 Installation:

* + - 1. Install Part A and part B components following instructions on the packaging. Always insure that the Part A and Part B containers are always hooked to the same dispensing holders or hoses (i.e. do not reverse the dispenser holders and hoses between Part A and Part B).
			2. All valves on the dispensing unit must be completely opened so a 1:1 ratio is achieved when moving the adhesive through the disposable mix tip and onto the substrate in a semi-liquid state.
			3. Apply the Sarnacol OM Board Adhesive directly to the substrate, using a ribbon pattern. Space the 1/2 in. (13 mm) wide wet beads at a maximum of 12 in. (30 cm) o.c. to achieve proper coverage rate. Actual ribbon spacing will depend on the wind uplift rating required.
			4. Allow the adhesive to rise (approx. 4 - 8 minutes) before placing the insulation or cover board into the adhesive. Walk boards in, ballast if necessary to achieve proper contact with substrate. Adhesive open time varies depending on weather conditions.

SpotShot Applicator:

* + - 1. Remove the plastic plugs from the cartridge mixing head. Attach a mixing tip to the threaded mixing head. Place the cartridge into the applicator.
			2. Apply the Sarnacol OM Board Adhesive directly to the substrate, using a ribbon pattern. Space the 1/2 in. (13 mm) wide wet beads at a maximum of 12 in. (30 cm) o.c. to achieve proper coverage rate. Actual ribbon spacing will depend on the wind uplift rating required.
			3. Allow the adhesive to turn to a pink color (approx. 4 - 8 minutes) before placing the insulation or cover board into the adhesive. Walk boards in, ballast if necessary to achieve proper contact with substrate. Adhesive open time varies depending on weather conditions.

Application rates vary depending on surface roughness and absorption rate of the substrate. Typical coverage rates when using the cartridge is 600 sq.ft. (55.7 m2) per case. Typical coverage rates when using the bag in the box is 1500 to 2000 sq.ft. (167 m2 to 204 m2) per 10 gal. Rates are based on an application pattern of 4 ribbons, 1/2 in. (13 mm) beads, 12 in. (30 cm) o.c. per 4 x 4 ft. (1.2 m x 1.2 m) insulation board.

Notes:

1. Do not apply in wet weather or to a wet surface.
2. The minimum product temperature before application should be 72°F (22.2°C).
3. The minimum ambient and surface temperatures should be 40°F (4.4°C) and rising.
4. Not recommended for use with insulations boards larger than 4‘ x 4‘ (1.2 m x 1.2 m)
5. All boards must lay flat upon roof surface.
6. Unused adhesive can be applied at a later date by simply replacing the mixing tip.
7. Do not allow the adhesive to skin over.
	* 1. Sarnacol OM Board Adhesive – 30 & 110 Gallon Sets

All surfaces must be clean, dry, and free of dirt, grease, oil, or other contaminants or particulates. All concrete surfaces must be fully cured prior to applying Sarnacol OM Board Adhesive.

* + - 1. Apply Sarnacol OM Board Adhesive with a high pressure spray applicator. The Part B (resin) component must be mixed for at least one minute. The A and B components should be sprayed at a 1:1 ratio.
			2. Sarnacol OM Board Adhesive is dispensed in a spray that rises ⅛ inch (3.2 mm) to ¼ inch (6.4 mm) above the substrate. Place the board stock into the adhesive shortly after it has reached its maximum rise while it is still wet and tacky and before it reaches its tack free state. Maximum rise typically occurs within 2 minutes of application. The tack free time is usually 3 to 5 minutes. Walk the boards into place and ballast.
			3. A chemical cure takes place securing the board in approximately 4 to 8 minutes after application, depending on temperature and weather conditions. The set up time is typically 10 to 12 minutes. The tack free time and set up time will decrease as temperature increases. Multiple layers of boards should use the staggered joint method of application.

Notes:

1. Do not apply in wet weather or to a wet surface.
2. The minimum product temperature before application should be 72°F (22.2°C).
3. The minimum ambient and surface temperatures should be 35°F (2°C) and rising.
4. Not recommended for use with insulations boards larger than 4‘ x 4‘ (1.2 m x 1.2 m)
5. All boards must lay flat upon roof surface.
6. Do not allow the adhesive to skin over.
7. Use only with ventilation which will keep the vapor concentration below the TLV ceiling limit of 0.02 PPM.
	* 1. Sarnacol OM Board Adhesive WG

All surfaces must be clean, dry, and free of dirt, grease, oil, or other contaminants or particulates. All concrete surfaces must be fully cured prior to applying Sarnacol OM Board Adhesive WG.

* + - 1. Remove the plastic plugs from the cartridge mixing head. Attach a mixing tip to the threaded mixing head. Place the cartridge into the applicator. When starting a new cartridge, dispense some adhesive into a bucket or other suitable receptacle to achieve a proper mix.
			2. Apply the Sarnacol OM Board Adhesive WG directly to the substrate using a ribbon pattern. Space ¾ in. - 1 in. (19 mm - 25 mm) wide wet beads at a maximum of 12 in. (30 cm) o.c. to achieve proper coverage rate. Actual ribbon spacing will depend on the wind uplift rating required.
			3. Allow the adhesive to turn to a pink color (approx. 4 - 8 minutes) before placing the insulation or cover board into the adhesive. Walk boards in, ballast if necessary to achieve proper contact with substrate. Adhesive open time varies depending on weather conditions.

Notes:

1. Do not apply in wet weather or to a wet surface.
2. The minimum product temperature before application should be 72°F (22.2°C).
3. The minimum ambient and surface temperatures should between 0°F (-18°C) and 65°F (18°C).
4. Not recommended for use with insulations boards larger than 4‘ x 4‘ (1.2 m x 1.2 m)
5. All boards must lay flat upon roof surface.
6. Unused adhesive can be applied at a later date by simply replacing the mixing tip.
7. Do not allow the adhesive to skin over.

###### [SBS-MODIFIED](#PART_3) PLY SHEET INSTALLATION

### General Criteria:

#### All surfaces must be clean, sound, dry, and free of loose materials or contaminants such as water, frost, ice, oil and grease that would interfere with proper adhesion and compromise the performance of the product.

#### The ply sheets shall be neatly cut to fit around penetrations and projections.

#### Do not install more ply sheets than can be covered with Sarnafil membrane by the end of the day or the onset of inclement weather.

### Ply Sheet HA 87 applied with hot Type III or IV asphalt:

#### Prior to installation, unroll Ply Sheet HA 87 onto the roof surface and allow it to relax.

#### Place Ply Sheet HA 87 in desired position and back roll the product. Adhere Ply Sheet HA 87 to the substrate with Type III or Type IV asphalt according to the asphalt manufacturer's instructions and industry standards.

#### Apply a full mopping of Type III or Type IV asphalt in accordance with manufacturer’s instructions at a minimum rate of 25 lbs per 100 square feet (1.2 kg/m²). Install Ply Sheet HA 87 so that there are no significant and avoidable air spaces between the ply sheet and the substrate.

#### Overlap side laps 3 in (76 mm) and end laps 6 in (152 mm).

### Ply Sheet TA 87 torch applied:

#### **Torch applied products should only be installed by trained personnel. It is imperative that the NRCA safety guidelines, as outlined in their Certified Roofing Torch Applicator Program (CERTA), and good industry practices be followed.**

#### Chalk a line on the deck to align the first sheet. Unroll Ply Sheet TA 87 and allow the sheet to relax. Align the side lap with the chalk line. Back roll the sheet halfway. Begin torching the bottom side of Ply Sheet TA 87. As the bitumen begins to soften pull the roll forward with a metal pole. When heated properly there should be a bleed out of approximately ½ in (1.3 cm). Back roll the other half of the roll and repeat the process.

#### Kick out the next roll and align the side lap. Side laps must be a minimum of 3 in (7.6 cm). End laps should be a minimum of 6 in (15.2 cm). Stagger adjacent end laps a minimum of 12 in (30.5 cm). Cut the lower outside corner of the end lap at a 45 degree angle to minimize material build-up where it will be covered by the next roll.

#### When heating the membrane move the torch in an ‘L’ pattern to ensure heating of the lap area on the bottom sheet. Proper heating will create a minimum ½ in (1.3 cm) bleed out. Walk in the seam area or use a weighted roller to ensure proper adhesion and bleed out. Ensure that all laps are firmly and smoothly adhered without wrinkles, voids or fishmouths.

#### Check the seams with the edge of a trowel. Any loose areas should be lifted with the trowel, re-heated and pushed back down to achieve the necessary bleed out.

###### [SARNAFIL G410 FELTBACK MEMBRANE INSTALLATION](#PART_3)

Install Sarnafil Membrane after installation of base ply cools. Care must be taken to assure asphalt is not tracked on top of the membrane, any residual asphalt on top of the membrane or in the seams must be cleaned immediately with an all-purpose cleaner or Mineral Spirits. NOTE: When using all-purpose cleaners or Mineral Spirits, residue must be completely removed with solvent before hot air welding.

### Sarnacol AD Feltback Membrane Adhesive:

Application rates vary depending on surface roughness, absorption rate of the substrate, and wind speed approvals. Typical coverage rates for the box sets are 10 –20 squares per 10 gallons. Typical coverage rates when using the cartridge is 4 –6 squares per case (4, 1500 ml cartridges). All coverage rates are based on 12 inch (304.8mm) on center maximum spacing.

#### Box Sets:

#### Install Part A and Part B components following instructions on the packaging. Always insure that the Part A and Part B containers are always hooked to the same dispensing holders or hoses (i.e. do not reverse the dispenser holders and hoses between Part A and Part B). All valves on the dispensing unit must be completely opened so a 1:1 ratio is achieved when moving the adhesive through the disposable mix tip and onto the substrate in a semi-liquid state. Apply the Sarnacol AD Feltback Membrane Adhesive directly to the substrate, using a ribbon pattern. Space the 1 in. (25 mm) wide beads at a maximum of 12 in. (30 cm) o.c. to achieve proper coverage rate. Actual ribbon spacing will depend on the wind uplift rating required. Allow the adhesive to begin to rise before placing the feltback membrane into the adhesive. The adhesive is designed to provide approximately 5 - 10 minutes of open time during a typical summer day.

#### Cartridge Application:

#### Remove the plastic plugs from the cartridge mixing head. Attach a mixing tip to the threaded mixing head. Place the cartridge into the applicator. When starting a new tube, some of the material should be pumped out initially into a bucket or other suitable receptacle to make sure of a proper mix. Apply the Sarnacol AD Feltback Membrane Adhesive directly to the substrate, using a ribbon pattern. Space the 1 in. (25 mm) wide beads at a maximum of 12 in. (30 cm) o.c. to achieve proper coverage rate. Actual ribbon spacing will depend on the wind uplift rating required. Allow the adhesive to begin to rise before placing the feltback membrane into the adhesive. The adhesive is designed to provide approximately 5-10 minutes of open time during a typical summer day.

### Sarnacol OM Feltback Membrane Adhesive:

Application rates vary depending on surface roughness, absorption rate of the substrate, and wind speed approvals. Typical coverage rates for the box sets are 10 –20 squares per 10 gallons. Typical cover- age rates when using the cartridge is 4 –6 squares per case (4, 1500 ml cartridges). All coverage rates are based on 12 inch (304.8mm) on center maximum spacing.

#### PaceCart2 Installation:

#### Install Part A and part B components following instructions on the packaging. Always insure that the Part A and Part B containers are always hooked to the same dispensing holders or hoses (i.e. do not reverse the dispenser holders and hoses between Part A and Part B). All valves on the dispensing unit must be completely opened so a 1:1 ratio is achieved when moving the adhesive through the disposable mix tip and onto the substrate in a semi-liquid state. Apply the adhesive directly to the substrate, using a ribbon pattern. Space the 1 in. (25 mm) wide beads at a maximum of 12 in. (30 cm) o.c. to achieve proper coverage rate. . Actual ribbon spacing will depend on the wind uplift rating required. Allow the adhesive to turn to a caramel color (normally 10-15 minutes) before placing the Feltback membrane into the adhesive. The adhesive is designed to provide approximately 10-15 minutes of open time during a typical summer day. The membrane must be positioned and rolled into place quickly. A heavy steel roller must be used to roll the membrane.

#### SpotShot Applicator:

#### Remove the plastic plugs from the cartridge mixing head. Attach a mixing tip to the threaded mixing head. Place the cartridge into the applicator. When starting a new tube, some of the material should be pumped out initially into a bucket or other suitable receptacle to make sure of a proper mix. Apply the Sarnacol OM adhesive directly to the substrate, using a ribbon pattern. Space the 1 in. (25 mm) wide beads at a maximum of 12 in. (30 cm) o.c. to achieve proper coverage rate. Actual ribbon spacing will depend on the wind uplift rating required. Allow the adhesive to turn to a caramel color (normally 10-15 minutes) before placing the Feltback membrane into the adhesive. The adhesive is designed to provide approximately 10-15 minutes of open time during a typical summer day. The membrane must be positioned and rolled into place quickly. A heavy steel roller must be used to roll the membrane. Unused adhesive can be applied at a later date by simply replacing the mixing tip.

###### [HOT-AIR WELDING OF SEAM OVERLAPS](#PART_3)

### General

* + - 1. All seams shall be hot-air welded. All membrane to be welded shall be clean and dry.
			2. All mechanics intending to use hot-air welding equipment shall have successfully completed a training course provided by a Sika Corporation Technical Service Representative prior to welding.
			3. Hot-air welding equipment shall be allowed to warm up for at least one minute prior to welding.
			4. Seam overlaps should be 3 inches (76 mm) wide when automatic machine-welding and 4 inches (100 mm) wide when hand-welding, except for certain details.
		1. Hand-Welding
			1. The back edge of the seam shall be welded with a narrow but continuous weld to prevent loss of hot air during the final welding.
			2. The nozzle shall be inserted into the seam at a 45 degree angle to the edge of the membrane. Once the proper welding temperature has been reached and the membrane begins to "flow”, the hand roller is positioned perpendicular to the nozzle and rolled lightly. For straight seams, the 1-1/2 inch (40 mm) wide nozzle is recommended for use. For corners and compound connections, the 3/4 inch (20 mm) wide nozzle shall be used.
		2. Machine Welding
			1. Machine welded seams are achieved by the use of approved automatic welding equipment. When using this equipment, all instructions shall be followed and local codes for electric supply, grounding and over current protection observed. Dedicated circuit house power or a dedicated portable generator is recommended. No other equipment shall be operated simultaneously off the generator.
			2. Metal tracks may be used over the deck membrane and under the machine welder to minimize or eliminate wrinkles.

### Quality Control of Welded Seams

#### The Applicator shall check all welded seams for continuity using a rounded screwdriver. Visible evidence that welding is proceeding correctly is smoke during the welding operation, shiny membrane surfaces, and an uninterrupted flow of dark gray material from the underside of the top membrane. On-site evaluation of welded seams shall be made daily by the Applicator at locations as directed by the Owner's Representative or Sika Corporation's representative. One inch (25 mm) wide cross-section samples of welded seams shall be taken at least three times a day. Correct welds display failure from shearing of the membrane prior to separation of the weld. Each test cut shall be patched by the Applicator at no extra cost to the Owner.

###### [MEMBRANE FLASHING INSTALLATION](#PART_3)

All flashings shall be installed concurrently with the roof membrane as the job progresses. No temporary flashings shall be allowed without the prior written approval of the Owner's Representative and Sika Corporation. Approval shall only be for specific locations on specific dates. If any water is allowed to enter under the newly completed roofing, the affected area shall be removed and replaced at the Applicator's expense. Flashing shall be adhered to compatible, dry, smooth, and solvent-resistant surfaces. Use caution to ensure adhesive fumes are not drawn into the building.

### Sarnacol Adhesive for Membrane Flashings

#### Over the properly installed and prepared flashing substrate, the Sarnacol adhesive shall be applied in smooth, even coats with no gaps, globs or similar inconsistencies. Only an area which can be completely covered in the same day's operations shall be flashed. The bonded sheet shall be pressed firmly in place with a hand roller.

#### No adhesive shall be applied in seam areas that are to be welded. All panels of membrane shall be applied in the same manner, overlapping the edges of the panels as required by welding techniques.

### Install Sarnastop/Sarnabar/Sarnacord according to the Detail Drawings with approved fasteners into the structural deck at the base of parapets, walls and curbs. Sarnastop is required by Sika Corporation at the base of all tapered edge strips and at transitions, peaks, and valleys according to Sika Corporation's details.

### Sika Corporation's requirements and recommendations and the specifications shall be followed. All material submittals shall have been accepted by Sika Corporation prior to installation.

### All flashings should extend a minimum of 8 inches (0.2 m) above roofing level, exceptions to this might be pipe boots and/or sealant pockets, etc. If in question, submit in writing to the Owner's Representative and Sika Corporation Technical Department for signed approval.

### All flashing membranes shall be consistently adhered to substrates. All interior and exterior corners and miters shall be cut and hot-air welded into place. No bitumen shall be in contact with the Sarnafil membrane.

### All flashing membranes shall be mechanically fastened along the counter-flashed top edge with Sarnastop at 6 to 8 inches (0.15 to 0.20 m) on center.

### Sarnafil flashings shall be terminated according to Sika Corporation recommended details.

### All adhered flashings that exceed 30 inches (0.75 m) in height shall receive additional securement. Consult Sika Corporation Technical Department for securement methods.

**[LIQUID FLASHING SW or WW INSTALLATION](#PART_3)**

### Surface Preparation

* + - 1. All surfaces should be clean, dry, free of dirt, dust, debris, loose particles, loose paint, rust and other contaminants.
			2. Clean new roofing membrane with mineral spirits or all-purpose cleaner which will not remove the lacquer coating from the membrane. If the membrane is old or extremely soiled Sika Seam Cleaner should be used to restore the membrane to a ‘like new’condition before applying Liquid Flashing.
			3. Clean and prepare metal surfaces to near white metal in accordance with SSPC-SP3 (power tool clean). If power tools are not available, use abrasive paper with a grain size of 20 to 40 to remove all loose particles including paint flakes and rust.
			4. Grind concrete and masonry surfaces with diamond cup wheel to remove laitance and contaminants.
			5. Lightly sand glass, rigid PVC and plastic surfaces. Extend surface preparation a minimum of 1/8 in (3 mm) beyond the termination of the flashing.
			6. Wipe metal and glass surfaces with Sika’s Seam Cleaner and allow to dry.
			7. For repairs or touch-up, wipe previously installed Liquid Flashing with Sika’s Seam Cleaner to clean and reactivate the Liquid Flashing and allow to dry.
			8. Prime wood and concrete surfaces with Liquid Flashing Primer. Allow Liquid Flashing Primer to cure completely before applying Liquid Flashing.
			9. Apply painters tape to ‘picture frame’ and mask the outside edge of the detail. Place the tape 2 in (51 mm) beyond where the Liquid Flashing Fleece will terminate.
			10. Pre-cut Liquid Flashing Fleece to fit around the penetration. Vertical flashing pieces must extend 2 in (51 mm) from the base and horizontal flashing pieces must extend 4 in (102 mm) out from the base. Flashing height should be a minimum of 8 in (203 mm) where possible.
		1. Mixing Liquid Flashing SW

Thoroughly mix the entire container of Liquid Flashing SW with a slow-speed (200 to 400 rpm) mechanical mixer (electric drill with a mixing paddle) for two minutes.

Small Batch – 1 Liter

* + - 1. After mixing, pour 1 liter of Liquid Flashing SW into a clean plastic container.
			2. Add 2 level tablespoons (20 g) of Liquid Flashing Catalyst to Liquid Flashing SW and mix with a slow-speed mechanical mixer for two minutes.
			3. Using Liquid Flashing SW ambient temperature must be between 59°F (15°C) and 104°F (40°C) when mixing.
			4. Once mixed, the pot life is approximately 10 - 15 minutes depending on the ambient and surface temperature.

Full Batch – 10 L Pail

* + - 1. After mixing, add 2.5 packets (250 g) of Liquid Flashing Catalyst to Liquid Flashing SW and mix with a slow-speed mechanical mixer for two minutes.
			2. Using Liquid Flashing SW ambient temperature must be between 59°F (15°C) and 104°F (40°C) when mixing.
			3. Once mixed, the pot life is approximately 5 -10 minutes depending on the ambient and surface temperature.
		1. Mixing Liquid Flashing WW

Thoroughly mix the entire container of Liquid Flashing WW with a slow-speed (200 to 400 rpm) mechanical mixer (electric drill with a mixing paddle) for two minutes.

Small Batch – 1 Liter

* + - 1. After mixing, pour 1 liter of Liquid Flashing into a clean plastic container.
			2. Add 4 level tablespoons (40 g) of Liquid Flashing Catalyst to Liquid Flashing WW and mix with a slow-speed mechanical mixer for two minutes.
			3. Using Liquid Flashing WW ambient temperature must be between 23°F (-5°C) and 68°F (20°C) when mixing.
			4. Once mixed, the pot life is approximately 10 - 15 minutes depending on the ambient and surface temperature.

Full Batch – 10 L Pail

* + - 1. After mixing, add 5 packets (500 g) of Liquid Flashing Catalyst to Liquid Flashing WW and mix with a slow-speed mechanical mixer for two minutes.
			2. Using Liquid Flashing WW ambient temperature must be between 23°F (-5°C) and 68°F (20°C) when mixing.
			3. Once mixed, the pot life is approximately 5 -10 minutes depending on the ambient and surface temperature.
		1. Application
			1. After mixing in the Liquid Flashing Catalyst, apply Liquid Flashing to the clean prepared surface using a small ½ in (13 mm) nap roller with rounded edges.
			2. Apply 55 mils (1.4 mm) of Liquid Flashing evenly onto the substrate and terminate onto the inside edge of the painters tape. Place the Liquid Flashing Fleece into the wet Liquid Flashing taking care to remove any air bubbles and wrinkles. Terminate the Liquid Flashing Fleece 2 in (51 mm) from the inside edge of the painters tape. Apply additional Liquid Flashing at overlaps between the fleece layers.
			3. Immediately apply 25 mils (0.6 mm) of additional Liquid Flashing to fully saturate the fleece. Extend Liquid Flashing onto the inside edge of the painters tape. Remove the painters tape immediately after the Liquid Flashing application.
			4. Complex and irregular shapes such as nuts, bolts, etc. may require an additional 25 mil (0.6 mm) thick application of Liquid Flashing to ensure full coverage. Wait one hour before applying the additional coat.

###### [METAL FLASHING INSTALLATION](#PART_3)

### Metal details, fabrication practices and installation methods shall conform to the applicable requirements of the following:

#### Factory Mutual Loss Prevention Data Sheet 1-49 (latest issue).

#### Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - latest issue.

### Metal, other than that provided by Sika Corporation, is not covered under the Sika Corporation warranty.

### Complete all metal work in conjunction with roofing and flashings so that a watertight condition exists daily.

### Metal shall be installed to provide adequate resistance to bending to allow for normal thermal expansion and contraction.

### Metal joints shall be watertight.

### Metal flashings shall be securely fastened into solid wood blocking. Fasteners shall penetrate the wood nailer a minimum of 1 inch (25 mm).

### Airtight and continuous metal hook strips are required behind metal fascias. Hook strips are to be fastened 12 inches (0.3 m) on center into the wood nailer or masonry wall.

### Counter flashings shall overlap base flashings at least 4 inches (100 mm).

### Hook strips shall extend past wood nailers over wall surfaces by 1-1/2 inch (38 mm) minimum and shall be securely sealed from air entry.

###### [SARNACLAD METAL BASE FLASHINGS / EDGE METAL INSTALLATION](#PART_3)

All flashings shall be installed concurrently with the roof membrane as the job progresses. No temporary flashings shall be allowed without the prior written approval of the Owner's Representative and Sika Corporation. Acceptance shall only be for specific locations on specific dates. If any water is allowed to enter under the newly completed roofing due to incomplete flashings, the affected area shall be removed and replaced at the Applicator's expense.

Cut Sarnafil feltback membrane at the roof perimeter edge. Weld one side of a Sarnafil membrane flashing strip (not feltback) along the perimeter edge to the top of the cut feltback membrane. Position membrane flashing over roof edge and down outside face of wall covering the wood nailer(s) completely. Allow 1/2 inch (13 mm) of excess membrane to extend beyond the wood nailer(s). Hot-air weld all seams making sure there are no voids in welds.

### Sarnaclad metal flashings shall be formed and installed per the Detail Drawings.

#### All metal flashings shall be fastened into solid wood nailers with two rows of post galvanized flat head annular ring nails, 4 inches (100 mm) on center staggered. Fasteners shall penetrate the nailer a minimum of 1 inch (25 mm).

#### Metal shall be installed to provide adequate resistance to bending and allow for normal thermal expansion and contraction.

### Adjacent sheets of Sarnaclad shall be spaced 1/4 inch (6 mm) apart. The joint shall be covered with 2 inch (50 mm) wide aluminum tape. A 4 inch minimum (100 mm) wide strip of Sarnafil flashing membrane shall be hot-air welded over the joint. Exercise caution at perimeter of roof.

###### [EDGE METAL INSTALLATION](#PART_3)

All flashings shall be installed concurrently with the roof membrane as the job progresses. No temporary flashings shall be allowed without the prior written approval of the Owner's Representative and Sika Corporation. Acceptance shall only be for specific locations on specific dates. If any water is allowed to enter under the newly completed roofing due to incomplete flashings, the affected area shall be removed and replaced at the Applicator's expense.

Cut Sarnafil feltback membrane at the roof perimeter edge. Weld one side of a Sarnafil membrane flashing strip (not feltback) along the perimeter edge to the top of the cut feltback membrane. Position membrane flashing over roof edge and down outside face of wall covering the wood nailer(s) completely. Allow 1/2 inch (13 mm) of excess membrane to extend beyond the wood nailer(s). Hot-air weld all seams making sure there are no voids in welds.

### Edge Grip Fascia

### Position the roof membrane over edge of roof and down outside face of wall covering wood nailer(s) completely. Allow 1/2 inch (13 mm) of excess membrane to extend down past the wood nailer. Hot-air weld all seams making sure there are no voids in welds.

### Apply a 3/8 inch (10 mm) continuous bead of Sikaflex – 1a sealant to the clean bottom of formed retainer. Install formed retainer from right to left as seen from rooftop. Overlap joints of straight run sections a minimum of 1 inch (25 mm) and corner sections a minimum of 5 inches (127 mm). Field cut sections as necessary.

### Fasten formed retainer into side of nailer 12 inches (0.3 m) on center. Use fasteners provided with Edge Grip system; 1-1/2 inch (38 mm) hex head stainless steel fasteners with neoprene washers.

### Fasteners shall provide a minimum 240 lbs. (109 kg) pull-out resistance; suitable for the substrates to which being installed.

### Install concealed joint splice plates intersecting sections of snap-on fascia cover joints.

### Position snap-on fascia cover so that it’s top engages the formed retainer top. Rotate downward engaging bottoms of snap-on fascia cover and formed retainer. Allow 1/4 inch (6 mm) gap between snap-on fascia sections for thermal expansion. Field cut where necessary.

### Edge Grip Extruded Fascia

### Position the roof membrane over edge of roof and down outside face of wall covering wood nailer(s) completely. Allow 1/2 inch (13 mm) of excess membrane to extend down past the wood nailer. Hot-air weld all seams making sure there are no voids in welds.

### Apply a 3/8 inch (10 mm) continuous bead of Sikaflex – 1a sealant to the clean bottom of heavy-duty extruded retainer. Install extruded retainer from right to left as seen from rooftop. Field cut sections as necessary.

### Install retainer splice under intersecting sections of extruded retainer.

### Fasten extruded retainer into side of nailer 12 inches (0.3 m) on center. Use fasteners provided with Edge Grip Extruded system; 1-1/2 inch (38 mm) hex head stainless steel fasteners with neoprene washers. Allow 1/8 inch (3 mm) gap between extruded retainer sections for thermal expansion [1/4 inch (6 mm) if temperature is below 40°F (4°C)].

### Fasteners shall provide a minimum 240 lbs. (109 kg) pull-out resistance; suitable for the substrates to which being installed.

### Install concealed joint splice plates at intersecting sections of snap-on fascia cover joints.

### Position snap-on fascia cover so that it’s top engages the extruded retainer top. Rotate downward engaging bottoms of snap-on fascia cover and extruded retainer base plate. Allow 1/4 inch (6 mm) gap between snap-on fascia sections for thermal expansion. Field cut where necessary.

###### [WALKWAY INSTALLATION](#PART_3)

### Sarnatred-V

Roofing membrane to receive Sarnatred-V shall be clean and dry. Place chalk lines on deck sheet to indicate location of Sarnatred-V. Apply a continuous coat of Sarnacol 2170 or 2170 VC adhesive to the deck sheet and the back of Sarnatred-V in accordance with Sika Corporation's technical requirements and press Sarnatred-V into place with a minimum 100 lb (45 kg) steel, membrane roller, by rolling in two directions. Clean the deck membrane in areas to be welded. Hot-air weld the entire perimeter of the Sarnatred-V to the Sarnafil deck sheet. Check all welds with a rounded screwdriver. Re-weld any inconsistencies. **Important:** Check all existing membrane seams which are to be covered by Sarnatred-V with a rounded screwdriver and reweld any inconsistencies before installation. Do not run Sarnatred-V over Sarnabars.

### Crossgrip XTRA

Crossgrip XTRA is installed loose laid on top of completed Sarnafil membrane roof assemblies. Unroll and position Crossgrip XTRA within specified areas and cut to desired length. Connecting clips are available for butting two ends together. **Important:** Check all existing membrane seams which are to be covered by Crossgrip XTRA with a rounded screwdriver and reweld any inconsistencies before installation. Do not run Crossgrip XTRA over Sarnabars.

### Concrete Pavers

Using a separate piece of Sarnafil membrane as a protection layer, weld all edges in place. Place normal weight concrete pavers on the protection membrane. In areas of high wind exposure the pavers shall be strapped together with stainless steel metal straps that are flush with the paver surface. **Important:** Check all existing membrane seams which are to be covered by concrete pavers with a rounded screwdriver and reweld any inconsistencies before installation. Do not run concrete pavers over Sarnabars.

###### [PERIMETER WARNING INSTALLATION](#PART_3)

### Tape / Membrane

Areas of membrane where to be applied must be cleaned to a “like new” condition. Failure to properly clean the membrane will result in less than satisfactory adhesion or welding. The membrane should be cleaned as follows:

1) New membrane: Remove loose dirt and dust by wiping clean with water. For areas where dirt is embedded, scrub the application area with a commercial cleaner such as Simple Green, 409 or other similar all-purpose cleaner using a Scotch Brite scrubbing pad or similar product. Wash away residual cleaning material with clean water.

2) Weathered membrane: For older membranes or areas where there is excessive dirt buildup, use the above cleaning procedure followed by cleaning with a natural fiber rag wet with Seam Cleaner, and wipe away all residual cleaning solution and remaining dirt until membrane has a “like new” appearance.

After surface is clean and dry, apply:

 1) Tape: Apply tape to membrane taking care to avoid trapping air and creating blisters as tape is smoothed over with hand pressure. If a chalk line is used, be sure to keep chalk dust clear of application area. Do not apply Perimeter Warning Tape to surfaces where the temperature is below 40°F (4°C).

2) Membrane: Perimeter Warning Membrane is hot-air welded to the top of PVC roofing membrane in the areas required.

Perimeter Warning Tape or Membrane may be slippery when wet.

###### [TEMPORARY CUT-OFF](#PART_3)

All flashings shall be installed concurrently with the roof membrane in order to maintain a watertight condition as the work progresses. All temporary waterstops shall be constructed to provide a 100 percent watertight seal. The stagger of the insulation joints shall be made even by installing partial panels of insulation. The new membrane shall be carried into the waterstop. Waterstop shall be sealed to the deck or substrate so that water will not be allowed to travel under the new or existing roofing. The edge of the membrane shall be sealed in a continuous heavy application of sealant as described in Section . When work resumes, the contaminated membrane shall be cut out. All sealant, contaminated membrane, insulation fillers, etc. shall be removed from the work area and properly disposed of off-site. None of these materials shall be used in the new work.

If inclement weather occurs while a temporary waterstop is in place, the Applicator shall provide the labor necessary to monitor the situation to maintain a watertight condition.

If any water is allowed to enter under the newly-completed roofing, the affected area shall be removed and replaced at the Applicator's expense.

###### [COMPLETION](#PART_3)

Prior to demobilization from the site, the work shall be reviewed by the Owner's Representative and the Applicator. All defects noted and non-compliances with the Specifications or the recommendations of Sika Corporation shall be itemized in a punch list. These items must be corrected immediately by the Applicator to the satisfaction of the Owner's Representative and Sika Corporation prior to demobilization.

All Warranties referenced in this Specification shall have been submitted and have been accepted at time of contract award.

###### [DETAILS](#PART_3)

Refer to Typical System Details section or [usa.sarnafil.sika.com](http://usa.sarnafil.sika.com/).