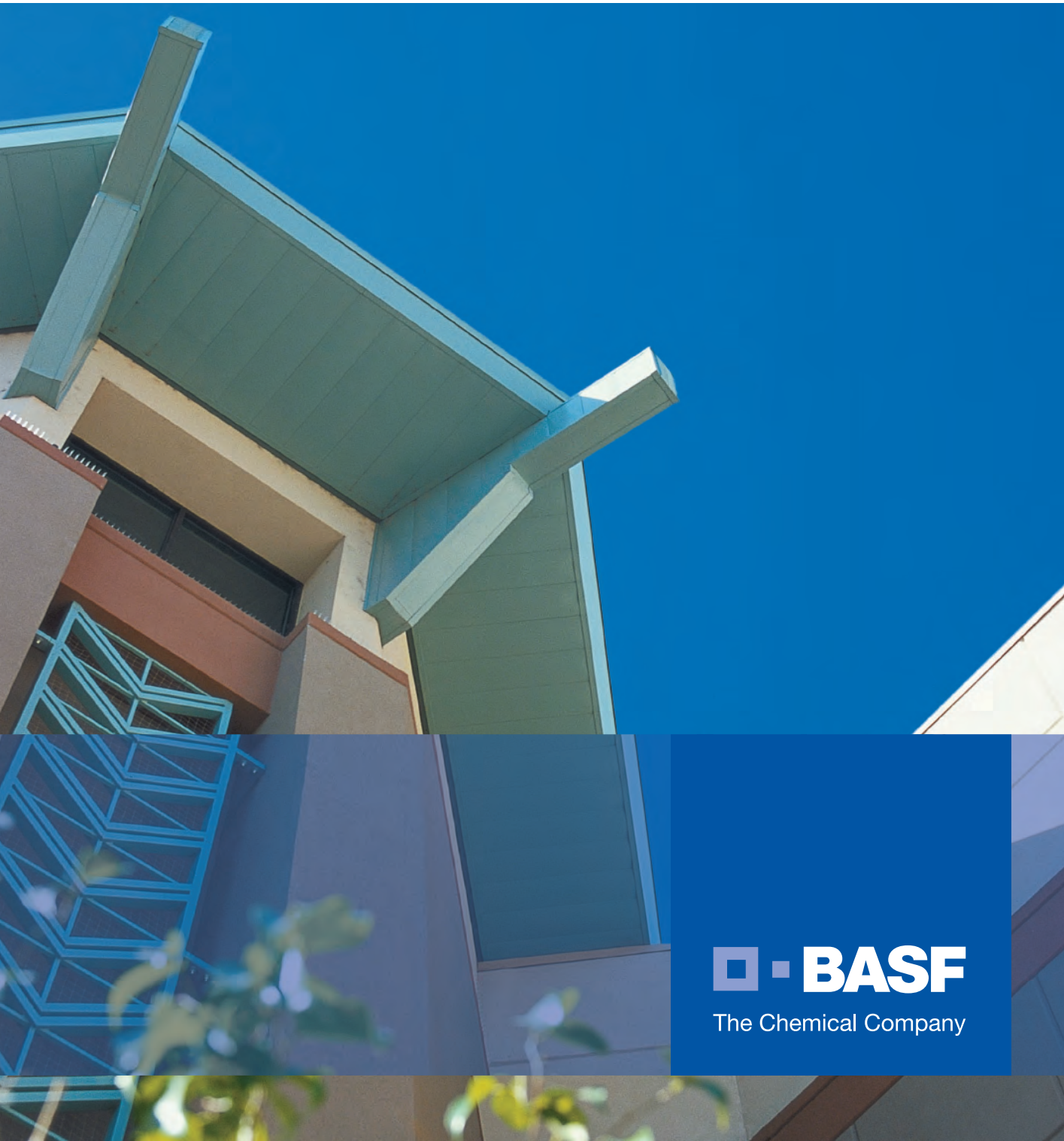
Senergy®

System Overview

Senerflex® Channeled Insulation Design

Water Drainage Class PB Exterior Insulation and Finish System incorporating a channeled EPS insulation board and air/water-resistive barrier



BASF

The Chemical Company

Senerflex Channeled Insulation Design

DESCRIPTION

Senerflex Channeled Insulation Design is a water-drainage Class PB EIFS. The system uses a secondary air/water-resistive barrier, vertical beads of adhesive and channels in the back of the insulation board to provide an added level of protection of the sheathing and cavity against moisture and air intrusion. It offers design flexibility, aesthetic appeal and energy savings. Integrated system components include reinforced air/water-resistive barrier, adhesive, EPS insulation board, reinforced base coat and 100% acrylic polymer finish. Finishes are available in a limitless color selection. Performance enhancement options, include increased resistance to dirt pick-up and mildew, protection against high impact, and specialty finishes that create stone-like, metallic or mottled stucco appearances. Senerflex Channeled Insulation Design has passed rigorous tests including Full-Scale Fire, Wind-Load, Wind-Driven Rain, and Large and Small Missiles.

The system features easy installation, proven durability and low maintenance.

Apply the system directly to the following acceptable sheathings:

- ASTM C1177 type sheathings, including DensGlass™ exterior sheathing, e²XP™ sheathing, GlasRoc® sheathing, Securock™ glass-mat sheathing and Fiberock Aqua-Tough™ sheathing,
- PermaBase™ cement-board by National Gypsum and other cement-boards (ASTM C1325 Type A Exterior)
- Untreated Exposure I or exterior plywood sheathing (grade C-D or better)
- Untreated Exposure I OSB
- Gypsum sheathing (ASTM C79/ASTM C1396).
- Poured concrete/unit masonry

USES

For exterior walls in new and retrofit commercial, institutional and residential construction when a rainscreen or water drainage Class PB EIFS is desired or required to satisfy code issues related to drainage, and where high wind-load requirements dictate the use of adhesive attachment.

ADVANTAGES

- Incorporates a monolithic secondary air/water-resistive barrier
- Channeled EPS insulation board provides a drainage plane for directing incidental moisture out of the wall assembly
- Seamless wall surface provides high resistance to potential water intrusion from rain and other environmental sources
- Seamless exterior blanket of insulation provides high R values, lowers heating and cooling costs
- Cost-effective
- Allows downsizing of HVAC systems
- Provides the ability to achieve any architectural style with unlimited design options
- Economical architectural detailing
- Does not require control joints; flexible
- Fade-, crack-, abrasion- and dirt-resistant
- Multiple options for impact resistance improve functional design, ease of maintenance
- Wide selection of finish textures, 128 standard colors and unlimited custom colors

DESIGN CONSIDERATIONS

Expansion Joints

Required in the following locations:

- Where movement is anticipated (e.g., floor lines, canopies, carports, porte-cocheres, etc.)
- Where EIFS meets dissimilar materials (e.g., windows, doors, transitions to brick or other siding)
- Where substrate materials change
- At floor lines in wood frame construction where movement or cross grain shrinkage is anticipated
- At structural or existing expansion joints
- Minimum expansion joint size: 13 mm (1⁄2") or 4 times anticipated movement. Minimum 19 mm (3⁄4") expansion joint required for structural movement.

Horizontal Applications

Minimum slope: 1:2 with maximum width of 30.5 cm (12") [e.g. 15 cm in 30.5 cm (6" in 12") width].

Substrate

- Maximum substrate design deflection is L/240.
- Consult the framing and sheathing manufacturer for design and application considerations.

Air/Water-Resistive Barrier

- Sheathing must be protected with either Senershield, Senershield R or other code approved secondary moisture protection barrier, installed over the sheathing per applicable building code and manufacturer's requirements.

Drainage Cavity

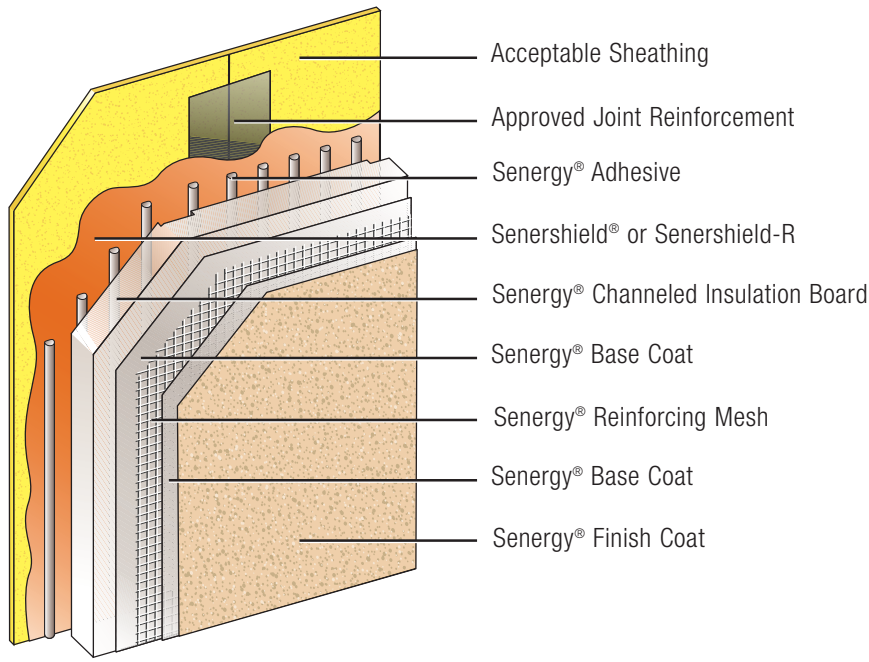
- Create drainage channels with vertical adhesive ribbons, installed in accordance with Senerflex Channeled Insulation Design Specification.

General

- Use high impact mesh for ground floor applications in high traffic areas.
- EPS board size is limited to 2' x 4'. The minimum thickness of EPS at any point on the wall can no be less than 1". Consider this when designing and installing reveals.

Sealants, Backer Rod, Flashing

- Approved sealant installed with approved backer rod or bond breaker tape shall be used at all transitions between EIFS and other structural elements such as windows, doors, vents, penetrations, transitions to dissimilar elements, etc.
- Flashing at windows, doors, chimneys, transitions between EIFS and roof and at other points specified shall be installed in accordance with component manufacturer's instructions.



Senerflex Channeled Insulation Design

BEST PRACTICES FOR INSTALLERS

General

- All flashing should be installed per codes prior to the installation of Senerflex Channeled Insulation Design.
- A mock-up of the Senerflex Channeled Insulation Design system showing all components should be prepared using the same tools and skills that will be used in actual construction, and the sample should be kept at the jobsite during construction.
- Do not use below grade; system must terminate a minimum of 8" above grade.
- Pail components must be kept at a minimum of 4°C (40°F) (10°C/50°F for AURORA TC-100, AURORA STONE and ALUMINA Finishes) during shipping and storage. A minimum temperature of 4°C (40°F) (10°C/50°F for AURORA TC-100, AURORA STONE and ALUMINA Finishes) is required during application of all components and until completely dried.
- Protect dry (bagged) products from moisture. EPS insulation boards should be stored flat, out of direct sunlight.
- No additives are permitted to any components.
- Follow the application instructions for each component.
- Expansion joints are required: where Senerflex Channeled Insulation Design meets other materials; where substrate materials change; at floor lines in wood frame construction where movement or cross grain shrinkage are anticipated; and anywhere else that movement is anticipated. Expansion joints should be a minimum of 1/2" or four times the anticipated movement as determined by a design professional.
- All substrates must be clean, dry and sound without planar irregularities greater than 1/4" in 10'.
- All flashing should be installed per codes prior to the installation of Senerflex Channeled Insulation Design.

Insulation Boards

- All system terminations and penetrations must be back-wrapped with mesh and base coat.
- EPS board size is limited to 2' x 4'. The minimum thickness of EPS at any point on the wall can not be less than 1". Consider this when installing reveals.
- Do not break reinforcing mesh in the reveal; offset 4–6" minimum. Do not align reveals with insulation board joints; offset 4–6" minimum.
- Offset insulation board joints from sheathing joints by a minimum of 16". Offset from corners of doors, windows and other penetrations by a minimum of 4".
- Insulation boards must be a single piece around corners of penetrations.
- Stagger joints in a running bond pattern offset a minimum of 6".
- Interlock corners.
- Prior to installation of the base coat, entire EPS covered wall must be completely rasped to remove high and low spots and to remove dust from the surface of the EPS.
- Channels in insulation boards and/or channels of adhesive on back of insulation boards must run in vertical patterns.
- Use a 1/2" x 1/2" x 2" notched trowel to apply adhesive to back of insulation boards.
- If using mechanical fasteners, use only those specified by BASF Wall Systems and install according to specifications. Do not overdrive mechanical fasteners. They should recess only 1/16" from surface.
- Always fill voids in insulation layer greater than 1/16" with slivers of insulation and not with base coat or other materials.

Reinforced Base Coat

- If mechanical fasteners were used to attach insulation, pre-spot each washer head with base coat.
- Flexguard 4 Reinforcing Mesh/Intermediate 6/Intermediate 12 must overlap a minimum of 2 1/2".
- Strong 15/Hi-Impact 20 mesh must not overlap; butt edges together. After Strong 15/Hi-Impact 20 mesh are embedded in base coat, a second layer of Flexguard 4/Intermediate 6/Intermediate 12 and base coat must cover that layer.
- Install "butterflies" of standard mesh at corners of all windows, doors and other penetrations.
- Install a second layer of reinforcing mesh a minimum of 4" on both sides of inside and outside corners.
- Mesh color should never be visible through the base coat.
- Special shapes must also be reinforced with base coat and reinforcing mesh.
- This system is not designed for horizontal applications. Always maintain a minimum slope of 1:2 up to a maximum width of 12".
- Protect work from precipitation for a minimum of 24 hours.

Finish

- Use only stainless steel trowels.
- Avoid working in direct sunlight.
- Finishes should be applied with adequate man power, tools and staging to keep a wet edge.
- A primer tinted to the color of the finish is recommended prior to application of rilled finishes.
- Do not run finish into joints.
- Do not quit in the middle of a wall; run to natural breaks.
- Do not use different batches of finish on the same elevation.
- Protect from precipitation for a minimum of 24 hours.
- Use only sealants that are acceptable for use with this system. Acceptable sealants and backer rods or bond breakers must be installed at all transitions between this system and other wall assembly elements such as windows, doors, vents, transitions to dissimilar materials, A/C cases, and other penetrations.
- Do not apply finish over sealants.

Limitations

- Use only for above grade vertical walls.

KEY UPGRADES AVAILABLE:

System upgrades can include the addition of high-impact resistant reinforcing mesh, specialty finishes, silicone enhanced textured finishes to improve dirt pick up and mildew resistance, and tinted primers to enhance final aesthetics.

PRODUCT DATA—SIZES & PACKAGING

SENERSHIELD®, trowel-applied liquid air/water-resistive barrier, is packaged in 27.2-kg, 19-liter (60-pound, 5-gallon) pails. Approximate coverage rate is 16.7–17.7 m^2 (180–190 ft^2) per pail at proper thickness.

SENERSHIELD®-R, roller-, spray- or brush-applied liquid air/water-resistive barrier, is packaged in 27.2-kg,19-liter (60-pound, 5-gallon) pails. Approximate coverage rate per pail at 10 mils (wet) thickness varies depending upon substrate: DensGlass exterior sheathing [27.9–30.6 m^2 (300–330 ft^2) (1 coat)], cement-board [27.9–37.2 m^2 (300–400 ft^2) (1 coat)], exterior gypsum [46.1–53.3 m^2 (500–600 ft^2) (1 coat)], OSB [23–32.2 m^2 (250–350 ft^2) (2 coats)], plywood [23–32.2 m^2 (250–350 ft^2) (2 coats)].

4" SHEATHING FABRIC for use with SENERSHIELD-R is packaged in 10.2 cm x 54.8 m (4" x 180') rolls.

9" SHEATHING FABRIC for use with SENERSHIELD-R is packaged in 22.9 cm x 54.8 m (9" x 180') rolls.

SELF ADHERING MESH TAPE (4") for use with SENERSHIELD is packaged in 10.2 cm x 45.7 m (4" x 150') rolls.

SELF ADHERING MESH TAPE (9") for use with SENERSHIELD is packaged in 22.9 cm x 45.7 m (9" x 150') rolls.

SENERFLASH is available in 10.2 cm x 30.5 m (4" x 100') rolls and in 22.9 cm x 30.5 m (9" x 100') rolls.

FLASHING PRIMER is packaged in 19-liter (5-gallon) pails and 3.8-liter (1-gallon) bottles. Coverage varies depending upon substrate.

DRAINAGE MAT is packaged in 99.1 cm x 76.2 m (39" x 250') and 10 cm x 76.2 (4" x 250') rolls, weighing approximately 13.6 kg (30 lbs) per 99.1 cm (39") roll.

Channeled Expanded Polystyrene Insulation Board: minimum density of 14.41 k/m^3 (0.9 lb/ft^3) and thickness minimum 38 mm (1 1/2") with 6 mm deep x 25 mm wide (1⁄4" x 1") drainage channels running parallel to the 2' dimension and spaced 305 mm (12") on center meeting Senergy Specifications.

FLEXGUARD 4, standard-weight Reinforcing Mesh at approximately 4.5 oz/yd^2 is available in 96.5 cm x 45.7 m (38" x 150') rolls. For wall system areas not expected to receive abnormal traffic or abuse.

INTERMEDIATE 6, standard-weight Reinforcing Mesh at approximately 5.6 oz/yd^2 is available in 96.5 cm x 45.7 m (38" x 150') rolls. For wall system areas not expected to receive abnormal traffic or abuse.

INTERMEDIATE 12, intermediate-weight Reinforcing Mesh at approximately 11 oz/yd^2 is available in 96.5 cm x 22.8 m (38" x 75') rolls. For use either alone or with FLEXGUARD 4 or INTERMEDIATE 6 to provide added impact resistance at specific areas such as around doors and walkways.

STRONG 15, medium-heavy weight Reinforcing Mesh at approximately 15 oz/yd^2 is available in 96.5 cm x 22.8 m (38" x 75') rolls. For wall system areas expected to receive traffic and abuse.

HI-IMPACT 20, heavy-weight Reinforcing Mesh at approximately 20 oz/yd^2 is available in 99.0 cm x 22.8 m (39" x 75') rolls. For wall system areas expected to receive a high degree of traffic and abuse.

CORNER MESH, intermediate-weight mesh at approximately 9.1 oz/yd^2 for use at exterior corners, is available in 22.9 cm x 45.7 m (9" x 150') rolls.

Approximate coverage rate for SENERQUICK to adhere EPS insulation board to substrate is 25.5 - 30.1 m^2 (275 - 325 ft^2) per 22.6-kg, 19-liter (50-pound, 5-gallon) pail.

Approximate coverage rate for ALPHA BASE COAT, STANDARD BASE COAT, ALPHA GENIE, and XTRA-STOP to adhere EPS insulation board to substrate and to embed FLEXGUARD 4 is 11.1 m^2 (120 ft^2) per 27.2-kg, 19-liter (60-pound, 5-gallon) pail.

Approximate coverage rate for ALPHA DRY and ALPHA DRY S to adhere EPS insulation board to substrate and to embed FLEXGUARD 4 is 4.6 m^2 (50 ft^2) per 22.6-kg (50-pound) bag.

Approximate coverage rate for TINTED PRIMER is 69.6–116.1 m^2 (750–1,250 ft^2) per 24.9-kg, 19-liter (55-pound, 5-gallon) pail.

SENERFLEX® and SILCOAT Finishes are packaged in 31.7-kg, 19-liter (70-pound, 5-gallon) pails. Approximate coverages per pail for various textures are: BELGIAN LACE [14.8 m^2 (160 ft^2)], CLASSIC [13 m^2 (140 ft^2)], COARSE [8.3 m^2 (90 ft^2)], FINE [13 m^2 (140 ft^2)], SAHARA [11.1 m^2 (120 ft^2)], TEXTURE (coverage varies depending upon application).

Specialty Finishes are packed in 31.7-kg, 19-liter (70-pound, 5-gallon) pails. Approximate coverages per pail for various textures are: TC-100 [6.5–9.2 m^2 (70–100 ft^2)], AURORA STONE [6.5 m^2 (70 ft^2)], ALUMINA [8.4–9.2 m^2 (90–100 ft^2)].

ANTICOGLAZE is packaged in 18.14 kg, 19-liter (40-pound, 5-gallon) pails and in 7.25 kg, 7.6 liter (16-pound, 2-gallon) pails. Coverage varies according to application technique. For estimation guidelines, consider using a coverage rate of 2500 ft^2 per 5-gallon pail or 1000 per 2-gallon pail.

TECHNICAL SUPPORT

For further details, specifications, questions, specific recommendations, or the most recent product information, please consult the BASF Wall Systems Technical Services Department: Toll-free 800-221-9255 or our website, www.senergy.basf.com

WARRANTY

Ten year limited warranty. Extended warranties are available, please consult the BASF Wall Systems Technical Services for requirements.

HEALTH & SAFETY

Follow good safety and industrial hygiene practices during handling and installing products and systems. Take necessary precautions and wear the appropriate personal protective equipment as needed. Read material safety data sheets and related literature on products before specification and/or installation.

NOTE
BASF Wall Systems is an operating unit of BASF Corporation (herein after referred to as "BASF Wall Systems")

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Printed in U.S.A. 06/12