

NobleSeal[®] SIS Sheet Membrane

Installation Instructions

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1. GENERAL INFORMATION

Use NobleSeal SIS as an acoustical treatment under hard surface flooring including ceramic tile, dimension stone, epoxy terrazzo, hardwood floors, etc. to reduce airborne and impact sound transmission. In a thin-bed method, the sheet with bonding agent is typically 1/8" (3mm) or less. The sheet may also be incorporated into a full mortar bed installation without bonding to the substrate. U.S. Patent 6,077,613.

NOTES:

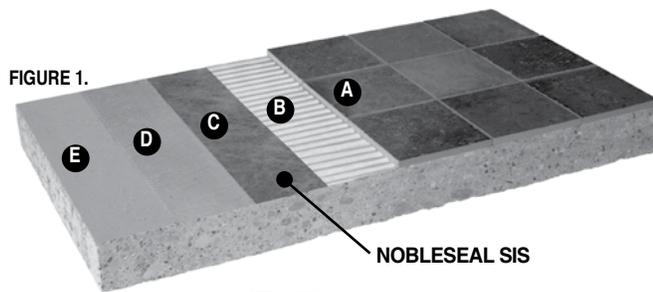
a) Install in strict compliance with these instructions, and comply with all applicable ANSI standards, TCNA recommendations, and building codes.

b) For any procedure not covered by these instructions, contact Noble Company.

STANDARD	ANSI A118.13	ANSI A118.10	ANSI A118.12	ASTM C627	ASTM E2179	ASTM E492
Description:	Bonded Sound Reduction Membrane for Thin-Set Ceramic Tile Installation	Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone Installations	Crack Isolation Standard: "System Crack Resistance" (Jig Test)	Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems using the Robinson Type Floor Tester	Testing method for the laboratory measurement of the effectiveness of floor coverings in reducing impact noise from a standard tapping machine through concrete floors.	Impact Insulation Class (IIC)
Rating:	Passed	Passed	High Performance (> 1/8")	Extra Heavy	Δ12	62**

Note: Refer to NobleSeal SIS Product Description for additional information.

** Concrete substrate and sound rated ceiling.



- A. Ceramic, terrazzo tile, or dimension stone
 - B. Thin-set bond coat appropriate for application
 - C. NobleSeal SIS Membrane
 - D. Sheet bond coat
 - E. Substrate: Concrete, plywood, Backer Board (BB), primed gypsum underlayment, and radiant heat systems
- NobleSeal SIS R-Value = 0.8



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2. MATERIALS

2.1 **MEMBRANE:** NobleSeal SIS is a thin 3/64" (1.25mm) bonded, load bearing sheet membrane for sound isolation.

2.1.a **COMPOSITION:** NobleSeal SIS is a composite sheet made from an alloy of Chlorinated Polyethylene (CPE) with non-woven fabric laminated to both sides.

2.2 **BOND COAT:** NobleSeal SIS should be bonded with NobleBond EXT, NobleBond 21, or modified thin-set mortar (including rapid curing types) which meets ANSI A118.4 and is recommended by the manufacturer for this application. If SIS is bonded to plywood with thin-set, the thin-set must meet ANSI A118.11. Bonding agent must conform to the appropriate ANSI standards, TCNA Handbook recommendations, and bonding agent manufacturer's directions.

NOTES:

a) Job-site mortar mixes must conform to ANSI A108.5.

b) Refer to bond coat manufacturer's instructions for cure time.

2.3 **ACOUSTICAL SEALANT:** Use to isolate flooring surface from building elements at perimeters and penetrations.

2.4 **TOOLS:** Normal tile setting tools, scissors or utility knife, rubber hand roller, and linoleum roller (75 - 100 lbs. recommended).

Application of Acoustical Sealant or NobleSealant 150 (waterproofing applications) requires a commercial grade caulk gun.

3. PLANNING & LAYOUT

3.1 **MEMBRANE:** Install NobleSeal SIS over the entire area to be tiled. For areas wider than one sheet width, butt sheets of SIS together.

NOTE: Waterproofing requires a 2" overlap of sheet membrane (refer to section 6.2).

3.1.a **SHEET DIMENSION:** 6' x 33 1/3' = 200 sq. ft. (1.8m x 10.2 = 18.6m²)

3.2 SHEET BOND COAT

3.2.a **NOBLEBOND EXT:** A wet-set adhesive suitable for bonding Noble sheet membranes in horizontal or vertical applications, interior or exterior. Can also be used in wet areas. Porosity and condition of the substrate can affect coverage, but NobleBond EXT will generally provide the following coverage: Approximately 90-100 sq. ft./gallon.

3.2.b **NOBLEBOND 21:** NobleBond 21 is a latex-based adhesive for interior horizontal applications. It is not for use in wet areas or vertical applications. NobleBond 21 will generally provide the following coverage: 150 sq. ft./gal.

NOTE: NobleBond adhesives allow for more movement than cement based mortars. They also allow tile to be installed immediately after sheet placement as they do not require further curing. Refer to Installation Instructions on container label.

3.2.c **MODIFIED THIN-SET:** See manufacturer's coverage rate.

3.2.c.1 **Cold Weather Procedure:** Consult bond coat manufacturer for safe low-temperature limits and cure times.

3.2.c.2 **Hot Weather Procedure:** Consult bond coat manufacturer for safe high-temperature limits and mixing procedures.

3.3 **ACOUSTICAL SEALANT:** A 29 oz. tube of Acoustical Sealant seals approximately 40 lin. ft. when a 3/8" bead is used, or approximately 89 lin. ft. when a 1/4" bead is used.

3.4 **NOBLESEALANT 150 (Waterproofing Only):** A 10.3 oz. tube of NobleSealant 150 seams approximately 40 lin. ft.

4. PREPARATION

>>> **RECOMMENDED:** Test materials and method under job-site conditions to confirm suitability.

4.1 **INSPECTION:** Substrate must meet requirements set forth by the TCNA and ANSI A108 and A118 standards. Report in writing any deficiencies that might affect performance of the system.

NOTES:

a) NobleSeal SIS will not compensate for structural deficiencies in the substrate.

b) Review all detail drawings (see Section 9 - FIGURES/DRAWINGS).

4.2 **PROCEDURE:** To incorporate NobleSeal SIS into a thin-bed installation, prepare substrate and select bond coat.

4.3 **SUBSTRATES:** Substrate condition for sheet is the same as tile (see TCNA guidelines). Slabs on, above, or below grade should be tested for moisture content and pH. Slabs must be flat. Floor preparation (i.e. leveling, patching) should be done prior to installation of sheet.

4.3.a **DEPRESSIONS:** Floors with depressions may cause sheet to span over these depressions. Remedy by filling the depression prior to installation of sheet. Follow appropriate industry guidelines.

4.4 **INSTALLER:** Must be familiar with Noble Company's current written instructions, TCNA Handbook recommendations, and ANSI A108 and A118 standards. Contractor must be experienced with installation procedures for Noble Company products or be instructed by a Noble Company representative prior to commencing work.

5. BONDING SHEET TO SUBSTRATE

5.1 INSTALLATION METHODS:

5.1.a **BONDED:** Directly to substrate.

5.1.b **LOOSE-LAID:** Under full mortar bed (see TCNA guidelines).

NOTES:

a) There must be sufficient weight to keep the membrane in place.

b) Spot bonding may be necessary to keep the SIS from moving.

5.2 **PREPARATION:** Clean and prepare substrate as if thin setting tile without sheet.

5.3 **BONDING AGENTS:** Bond sheet with any of the following:

5.3.a **NOBLEBOND EXT:** Refer to NobleBond EXT Installation Instructions.

5.3.b **NOBLEBOND 21:** Refer to NobleBond 21 Installation Instructions.

5.3.c **MODIFIED THIN-SET MORTAR:** Spread thin-set bond coat with a trowel that provides full coverage (i.e. 1/8" to 1/4" "V"-notched trowel). Trowel an area as wide as the sheet and as deep as can be comfortably reached. In order to avoid trapping air under the sheet, trowel mortar in parallel rows across the width or length of the sheet.

NOTES:

- a) Variation in trowel size, angle at which trowel is held, mixing ratio, or any combination thereof may be necessary to achieve maximum contact. Fine notched trowels increase "skinning" rate.
- b) Shading, misting substrate with water, working at night, or any combination of these techniques may help to reduce the effect of high temperatures.
- c) All ridges of bond coat must be parallel to allow air under sheet to escape when embedding.

- 5.4 **LAY SHEET:** Unroll sheet continuously into bond coat before it begins to form "skin".
- 5.5 **EMBED SHEET:** Embed NobleSeal SIS into bond coat (flatten all trowel ridges). For horizontal areas, use 75 - 100 lb. roller. Work from center of sheet to edges. Pull roller edge-to-edge in overlapping passes. Start at end of first sheet installed, progressing to area installed last. Use a small hand roller or straight edge to remove air pockets in areas where larger roller will not fit.
- 5.6 **COVERAGE:** Complete coverage of substrate and full penetration of bond coat into the fabric is required. Prior to curing, lift sheet and inspect for full contact. If rows or ridges of bonding agent are seen, membrane has not been properly embedded and additional rolling is necessary.
- 5.7 **DRYING:** To prevent outer edges from lifting or curling, use weight (i.e., tile, mortar, etc.). After installation, keep sheet clean as necessary to enable tile to bond.
- 5.8 **PROTECTION OF SHEET:** If not covered by wearing surface, protect the installed sheet from damage and all foot or vehicular traffic (use mortar skim coat, rugs, plywood, etc.).

6. ADDITIONAL APPLICATIONS

- 6.1 **ISOLATING CRACKS AND CONTROL JOINTS:** Refer to current NobleSeal CIS Installation Instructions.
- 6.2 **WATERPROOFING:** Provide required slope to drain. Cover entire area plus flashing and allow 2" (50mm) for seaming.
 - 6.2.a **SEAMING & JOINING:** When more than one sheet is needed, use NobleSealant 150 to seam sheets together. Apply with a commercial grade caulk gun.
 - 6.2.a.1 Overlap sheets 2" (50mm) minimum.
 - 6.2.a.2 Apply one 3/16" (5-6mm) bead 3/4" (20mm) from edge of sheet being overlapped.
 - 6.2.a.3 Overlap sheets and flatten with roller or by pressing with trowel.
 - 6.2.b **FLASHINGS, UPTURNS AND CORNERS**
 - 6.2.b.1 Turn sheet up vertical surface 1" to 2" higher than flood plane.
 - 6.2.b.2 Lap corners. Bond overlap and seal inside corner with NobleSealant 150.
 - 6.2.b.3 Bond Preformed Corners to sheet and/or substrate with NobleSealant 150.
 - 6.2.c **DRAINS:** Standard shower drains must have a clamping ring to secure membrane to drain body. Inspect floor to insure that proper slope has been provided to eliminate ponding of water on top of membrane. If waterproofing FreeStyle Linear Drain™, refer to installation instructions for FreeStyle drain.
 - 6.2.c.1 If waterproofing a standard 3-part clamping ring drain, a NobleFlex Drain Flashing should have been installed.
 - 6.2.c.2 Cut NobleSeal SIS so that it overlaps the NobleFlex Drain Flashing by 2".
 - 6.2.c.3 Apply a 3/16" bead of NobleSealant 150 3/4" from the edge of the overlap.
 - 6.2.c.4 Seal NobleSeal SIS to the flashing by compressing NobleSeal SIS over the flashing.
 - 6.2.c.5 Install sheet, see section 5.
 - 6.2.c.6 Install clamping ring and firmly tighten bolts.
 - 6.2.c.7 Install strainer and adjust to proper height for tile.
 - 6.2.c.8 **FLOOD TESTING:** Waterproofing installations should be flood tested to insure they are watertight.

NOTE: For waterproofing applications, test area by flooding before installation of tile. Refer to current NobleSeal TS installation instructions for additional waterproofing installation instructions.

7. FLOORING INSTALLATION

- a) Acoustical joints are required at the perimeter of the floor area being treated and at any penetration of the floor inside of the perimeter or retaining surface.
 - 1) Provide 3/8" wide joint at perimeter of room and around any penetration of floor(s). Continue joint from substrate through tile work.
 - 2) Fill joint with sound rated sealant. Hard surfaces and/or mortar must not touch walls, sills, conduit, or pipes as this will affect sound control.
 - 3) For deeper joints, use compressible backer rod and cover with sound-rated sealant.
- b) Do not penetrate SIS with mechanical fasteners. Penetrations can create flanking noise paths through which impact sound can radiate.

- 7.1 **TILE INSTALLATION:** Set tile in accordance with TCNA Handbook recommendations, ANSI A108 standards, and bond coat manufacturer's directions. Complete coverage of fabric by the bond coat is required.

NOTES:

- a) Refer to bond coat manufacturer's instructions for cure time. Allow additional time (approximately 50%) when installed over NobleSeal SIS.
 - b) Rapid-curing type of thin-set mortar may be used with approval of mortar manufacturer.
 - c) For wood or VCT applications, contact Noble Company.
- 7.2 **WOOD FLOORING:** Installation of wood flooring must follow applicable industry standards and instructions of the manufacturer of the wood floor surface. Wood must be acclimated to the environment in the room in which the wood floor is to be installed.
CAUTION: Wood floors are dynamic and can move vertically and horizontally when subjected to variations in temperature and humidity. If the environment is not controlled, vertical movement of the wood flooring could exceed the shear strength of the NobleSeal SIS. The potential for vertical movement of the flooring should be assessed prior to installation.

7.3 VINYL FLOORING: NobleSeal SIS can be used with vinyl and vinyl composition tile (VCT). For installation, follow the instructions using the Bonded method (section 5.1.a).

NOTES:

- a) The bonding agent used to bond the vinyl to the NobleSeal sheet membrane must be able to cure between two impervious surfaces.
- b) If the project requires that the NobleSeal sheet membrane provide waterproofing, refer to NobleSeal TS Installation Instructions.
- c) Installing NobleSeal sheet membranes under vinyl flooring may negate performance or durability warranties generally provided by the manufacturer of the flooring. Prior to installing NobleSeal sheet membranes, consult with the vinyl manufacturer regarding the effect on their warranty. Noble Company does not warranty performance of vinyl flooring installed over NobleSeal sheet membranes.

8. WARRANTY: NobleSeal SIS brand CPE membrane is guaranteed for the life of the original installation by Noble Company against failure caused by rotting, cracking, and microorganism deterioration when properly installed in tile systems for which its use is recommended by Noble Company. This warranty is limited to the replacement of defective material and freight charges to destination only. There are no other expressed or implied warranties, and this warranty is in lieu of any other warranty, including, but not limited to, implied warranties of merchantability and fitness for purpose. Noble Company is not responsible for consequential damages. The remedy of the purchaser set forth herein is exclusive.

NOTE: NOBLESEAL SIS MUST BE INSTALLED IN STRICT COMPLIANCE WITH THESE INSTRUCTIONS, APPLICABLE ANSI STANDARDS, TCNA RECOMMENDATIONS, AND BUILDING CODES.

These suggestions and data are based on information Noble Company believes to be reliable. Users should verify by tests that NobleSeal SIS, as well as these installation methods, are suitable with the products being used in their application. Since specific use, materials, and handling are not controlled by Noble Company, this warranty is limited to the replacement of defective Noble Company products. Noble Company disclaims any responsibility for (a) warranties of merchantability and fitness for purpose; (b) verbal recommendations of its representatives; and (c) consequential damages.

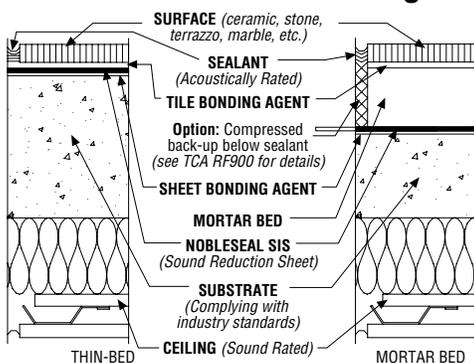
LIMITATIONS: NobleSeal SIS is not designed for use as a wearing surface. SIS is not recommended for exterior applications. For applications not specifically detailed in the installation instructions, contact Noble Company. Wood subfloors must be clean, dry, and free of sealers, primers, and other substances that could affect bonding of the sheet to the subfloor. NobleSeal sheets will not correct structural deficiencies. Deflection of the subfloor must not exceed industry standards. Installation must follow TCNA recommendations and appropriate industry standards.

9. FIGURES/DRAWINGS

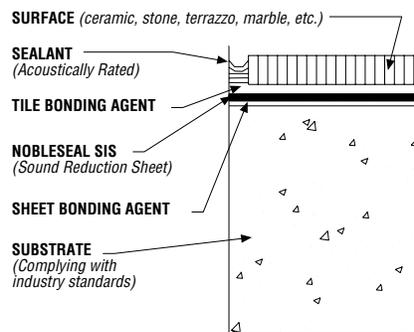
NOTE: NobleSeal SIS can be installed in a variety of construction configurations including:

- A) Radiant Heating Systems.
- B) Over Primed Gypsum Underlayment.
- C) Under Hardwood Flooring.

Concrete Substrate with Sound Rated Ceiling



Concrete Substrate



Wood Subfloor

