

NobleSeal® CIS Sheet Membrane

Installation Instructions

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1. GENERAL INFORMATION

NobleSeal CIS is a composite sheet membrane that is designed to isolate a tile surface from the damaging effects of substrate movement. With proper installation, CIS can reduce tile cracking and other damage, but CIS may not eliminate all the problems associated with substrate movement transferring to the tile or grout. The unique physical properties of Chlorinated Polyethylene (CPE) which allow it to absorb stress internally do have limits. These same physical properties lend themselves to installations where it is desirable to bridge substrate control joints to avoid cutting tile and interrupting tile designs or patterns. This sheet may be installed by a thin-bed method directly on properly prepared substrates per industry guidelines.

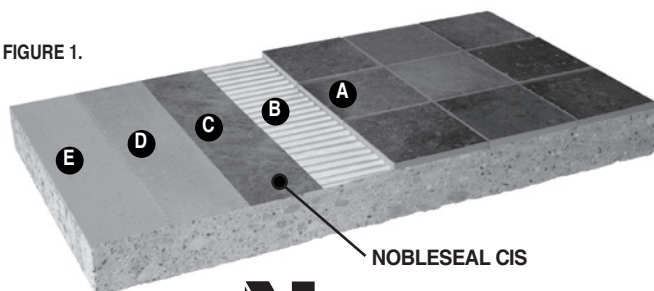
NOTES:

- a) CIS is for interior applications. For exterior applications, use Noble Deck™.
- b) While the primary function of the sheet is crack isolation, this does not preclude normal industry practices or requirements – including joint placement. Use of this system to bridge cracks or construction joints with tile may not be an absolute solution.
- c) Install in strict compliance with these instructions, and comply with all applicable ANSI standards, TCNA recommendations, and building codes.
- d) For any procedure not covered by these instructions, contact Noble Company.

STANDARD	ANSI A118.10	ANSI A118.12	ASTM C627	Plumbing Code Listings
Description:	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	ICC-ES PMG-1059, IAPMO File #4339
Rating:	Passed	High Performance (> 1/8")	Extra Heavy	

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

FIGURE 1.



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



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2. MATERIALS

2.1 MEMBRANE: NobleSeal CIS is a thin .030" (0.8mm) bonded, load bearing sheet membrane for crack isolation.

2.1.a COMPOSITION: NobleSeal CIS 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 CIS should be bonded to substrate with NobleBond EXT or modified thin-set. Modified thin-set must conform to ANSI A118.4 (or greater), and TCNA Handbook recommendations. Follow manufacturer's instructions.

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 WATERPROOF SEALANT: For waterproofing applications, use NobleSealant 150 to seam sheets, seal penetrations (i.e., pipes, wire), drains, and terminal edges. Seal preformed corners to sheet.

2.4 TOOLS: Normal tile setting tools, scissors or utility knife, rubber hand roller, and linoleum roller (recommended 75 - 100 lbs.). Application of NobleSealant 150 for a waterproofing application requires a commercial grade caulk gun.

3. PLANNING & LAYOUT

Install correct width of NobleSeal CIS for either full or partial coverage.

3.1 FULL COVERAGE: For maximum protection in new construction or renovations, install NobleSeal CIS over the entire area to be tiled. See TCNA F125-FULL.

3.2 PARTIAL COVERAGE: For isolating cracks or joints, the width of the sheet must equal the tile bridging the crack or joint plus one full tile on either side (i.e. a minimum 3 tiles on the NobleSeal). See section 10 - Figures/Drawings. See TCNA F125-PARTIAL.

NOTES:

a) *When tile is installed on diagonal line, minimum sheet width is 2.5 times the diagonal dimension of the tile (i.e. diagonal width of 12" tile is 17" X 2.5 = 42.5").*

b) *Minimum width of sheet is 24" regardless of tile size.*

1) *For areas wider than one sheet width, butt sheets of CIS together. Allow for 2" overlap when using CIS in waterproofing application. (Refer to section 6.1).*

2) *Follow TCNA recommendations regarding movement joints in the tile field.*

3) *It is not necessary to align cracks or control joints in the substrate with the grout joints in the tile field.*

Tip: *In extensively cracked areas, it may be more cost effective to remove all the tile and cover the affected area with CIS.*

3.3 SHEET DIMENSIONS AVAILABLE:

2' x 50' (0.6m x 15.2m) roll = 100 sq. ft. (9.3m²), 3' x 50' (0.9m x 15.2m) roll = 150 sq. ft. (13.9m²)

4' x 50' (1.2m x 15.2m) roll = 200 sq. ft. (18.6m²), 6' x 50' (1.8m x 15.2m) roll = 300 sq. ft. (27.9m²)

3.4 SHEET BOND COAT

3.4.a NOBLEBOND EXT is a wet set adhesive suitable for interior, exterior, wet areas and vertical applications. Coverage is approximately 90 to 100 square feet/gallon.

3.4.b NOBLEBOND 21 is a pressure sensitive adhesive for interior, horizontal applications. It is not for use in wet areas. Coverage is approximately 150 square feet/gallon.

NOTES:

a) *Environmental conditions and condition of the substrate can affect coverage.*

b) *NobleBond adhesives allow for greater movement than cement based mortars. They also allow tile to be installed immediately after sheet is embedded into the adhesive.*

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

3.4.c.1 Cold Weather Procedure: Consult bond coat manufacturer for safe low-temperature limits and cure times. Noble Company sheet membranes remain flexible to -25°F.

3.4.c.2 Hot Weather Procedure: Consult bond coat manufacturer for safe high-temperature limits and mixing procedures for these specific conditions.

3.5 NOBLESEALANT 150 (Waterproofing Only): A 10.3 oz tube of NobleSealant 150 seams approximately 40 linear feet.

4. PREPARATION

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.

NOTE: *NobleSeal CIS will not compensate for structural deficiencies in the substrate. Review all detail drawings (refer to section 10, Figures/Drawings).*

4.2 PROCEDURE: To incorporate NobleSeal CIS 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.

4.3.b RENOVATIONS: Remove cracked tile and one row of adjacent tile (refer to appropriate detail). Inspect and renovate substrate to comply with ANSI standards. Determine that surfaces adjoining cracks are level (see Figure 4).

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 SPREAD BOND COAT: Deposit sufficient amount of appropriate sheet bond coat with correct trowel in an area approximately 6 to 8 sq. ft. (1.8m² to 2.1m²). Ensure all ridges of bond coat are parallel to allow air under sheet to escape when embedding (see Figure 1). Unroll sheet into tacky bonding agent before skin can begin to form. If skinning over occurs, remove original application and re-spread fresh bond coat. Make full contact between sheet & substrate.

5.1.a NOBLEBOND 21: Follow instructions on container.

5.1.b NOBLEBOND EXT: Follow instructions on container.

5.1.c MODIFIED THIN-SET: Use a trowel that provides full coverage of thin-set (i.e. 1/8"-1/4" (3.2m-6.4m) V-notched trowel).

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) Do not disturb bond coat until it has cured.

5.2 LAY SHEET: Center proper width sheet over crack (refer to section 3.2.a). When more than one sheet is required (width or length), butt edges tightly or overlap and make single cut through overlap to produce a tight butt joint.

5.3 EMBED SHEET: Embed NobleSeal CIS 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. Use rubber hand roller or flat side of trowel with heavy pressure on vertical surfaces.

5.4 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.

5.5 DRYING: To prevent outer edges from lifting, curling or drying prematurely, use weight (i.e., tile, mortar, etc.). Screen work area from wind.

5.6 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.).

NOTE: After installation, sheet must be kept clean to enable tile to bond. If necessary, skim coat or clean with vacuum.

6. ADDITIONAL APPLICATIONS

6.1 WATERPROOFING: Refer to current NobleSeal TS Installation Instructions.

7. TILE INSTALLATION

7.1 TILE SETTING: 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) For waterproofing applications, test area by flooding before installation of tile.

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

c) Rapid-curing type of thin-set may be used with approval of mortar manufacturer.

7.2 ELASTOMERIC GROUT JOINT(S)/(Soft Joints): If full coverage (TCNA F125-Full) is used, follow TCNA Handbook recommendations in EJ171. If partial coverage is used, follow TCNA EJ171 and add a soft joint at the closest grout joint in the tile work above the control joint or crack. Two soft joints are recommended (one on each side of the crack or control joint - approximately parallel to the crack or joint). Follow EJ171 recommendations for type of sealant for soft joints.

Comply with TCNA Handbook recommendation EJ171 and construct a compressible joint at closest grout joint in tile work. Two joints are suggested (one on each side of crack or control joint – approximately parallel to crack). Fill with Type T joint sealant.

NOTE: Elastomeric grout joint(s) must be thoroughly cleaned and free of mortar or debris to function.

8. LIMITATIONS: NobleSeal CIS is not designed for use as a wearing surface. CIS 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 CIS will not correct structural deficiencies. Deflection of the subfloor must not exceed industry standards. Installation must follow TCNA recommendations and appropriate industry standards.

9. WARRANTY: NobleSeal CIS 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. The Noble Company is not responsible for consequential damages. The remedy of the purchaser set forth herein is exclusive.

NOTE: NOBLESEAL CIS 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 CIS, 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.

10. FIGURES/DRAWINGS

FIGURE 2. CRACK ISOLATION - FULL COVERAGE

NOTE: Sheet width - 3 tiles minimum (one full tile over crack plus one row adjacent to crack).

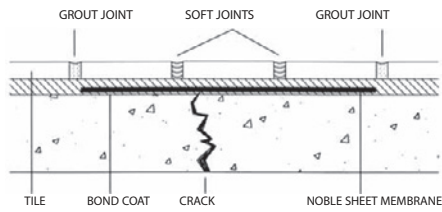


FIGURE 3. SHEET PLACEMENT AND SOFT JOINT PLAN FOR MULTIPLE OR WEBBED CRACKS

NOTE: Cracks may branch or change directions. Tile adjoining the tile bridging the crack or joint must be installed completely on the sheet.

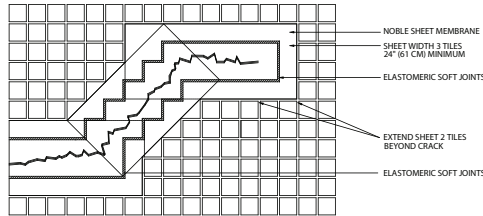


FIGURE 4. SUBSTRATE CROSS SECTION

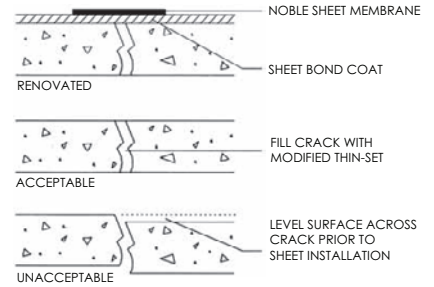


FIGURE 5. JOINT BRIDGING - CONCRETE/WOOD

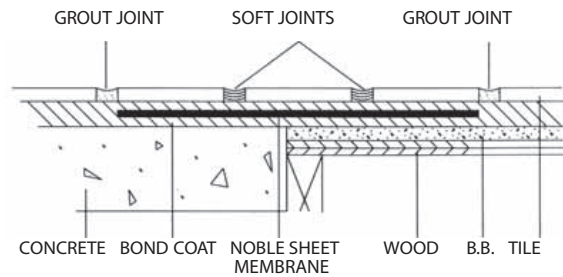


FIGURE 6. CRACK ISOLATION - PARTIAL COVERAGE

NOTE: Sheet width - 3 tiles minimum (one full tile over crack plus one row adjacent to crack).

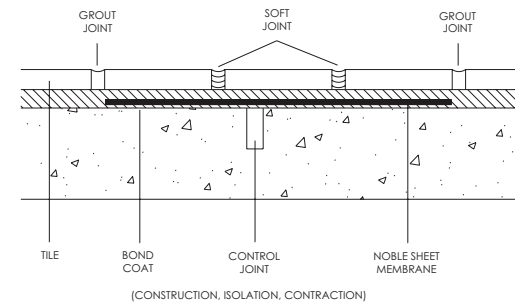


FIGURE 7. INTERIOR WOOD SUBFLOOR 19.2\"/>

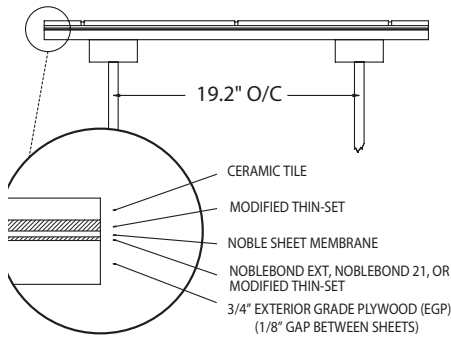


FIGURE 8. INTERIOR WOOD SUBFLOOR 24\"/>

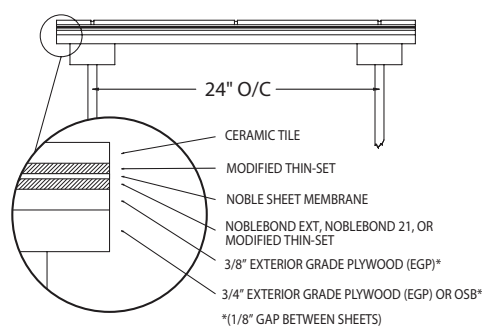


FIGURE 9. JOINT BRIDGING - PLAN VIEW (PATTERN)

NOTE: Minimum sheet width 2-1/2 x diagonal dimension of the tile plus grout joints. Estimate 3 times the tile.

