



PRODESO HEAT SYSTEM

Underfloor electric heating system
with uncoupling technology.



Underfloor Electric Heating System with Uncoupling Technology.

Underfloor Electric Heating System with uncoupling/vapor management/load distribution and waterproof properties.

Advances in tile manufacturing in the past few decades have improved the quality and choices available to the consumer. New colors, new materials, larger format, thinner tiles and digital printing have all contributed to a steady growth of the use of tile as a surface. When compared to other flooring options such as carpeting and wood floors, tiles are normally preferred because they are easy to clean, resilient, and hygienic. Unfortunately ceramic tile and natural stone, if not installed properly, are subject to cracking, delamination, and are cold to the touch. Use of electrical floor heating can minimize the cold, but submits the tile assembly to additional stress that can lead to cracking and delamination.

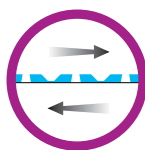
Traditionally most electric floor heating, and anti-fracturing membrane manufacturers have recommended covering the electrical heating cables with a self-leveling cement layer or a thin-set layer followed by an uncoupling crack isolating membrane and then finally installing the tiles. This process needlessly increases time, difficulty, thickness, height differentials, weight, and cost of the overall installation.



The patented **PRODESO HEAT SYSTEM** by Progress Profiles combines the benefit of an underlayment membrane with the comfort and convenience of electrical floor heating. The Prodeso Heat Membrane can be installed over the entire subfloor as an uncoupling, crack isolating and waterproofing membrane. The Prodeso Heat Cable is then installed in the areas where heat is desired. Once the Prodeso Heat Cable is installed you can begin tiling immediately, no waiting is necessary.

PRODESO HEAT MEMBRANE is a polypropylene uncoupling, crack isolation, waterproofing membrane, with rounded square shaped reliefs. These reliefs form channels specially designed to embed and hold the **PRODESO HEAT CABLE**. **PRODESO HEAT MEMBRANE** has a polypropylene thermo welded woven underneath to increase the bond between the subfloor and the membrane.

PRODESO HEAT MEMBRANE ADVANTAGES



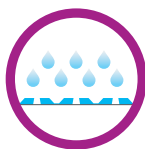
UNCOUPLING

Uncoupling: PRODESO HEAT MEMBRANE compensates for the longitudinal movement between the subfloor and the tile preventing breakage and making it possible to install underfloor electric heating even on problematic substrates such as wood and cracked substrates.



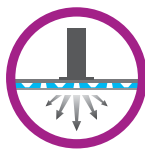
VAPOUR MANAGEMENT

Vapor Management: PRODESO HEAT MEMBRANE unique and patented design allows for air pockets to form between the subfloor and the membrane itself. Excess moisture from the substrate will find its way to these air pockets and create a vapor cycle. This vapor cycle will balance the vapor content of the substrate, protecting the tile from potential damage and making it possible to install underfloor electric heating even on substrates that are not perfectly cured or are moisture sensitive such as wood, concrete, and gypsum based subfloors.



WATERPROOFING

Waterproofing: PRODESO HEAT MEMBRANE is a Polypropylene membrane and as such is naturally waterproof. For indoor installations in areas that are prone to water damage such as bathrooms and kitchens, the perimeter, corners, and seams of the **PRODESO HEAT MEMBRANE** need to be waterproofed utilizing **PROBAND 150/250** waterproofing foil tape (double-sided Polypropylene foil tape) and **Unmodified Thin-Set ANSI A118.1**



LOAD DISTRIBUTION

Load distribution: PRODESO HEAT MEMBRANE unique and patented designs allows loads to be evenly distributed from the tile covering to the subfloor. Each rounded square relief has a central cavity shaped like an inverted pyramid. When filled with thin-set this inverted pyramid becomes an incompressible structure. These cavities act like pillars in a building support structure, evenly distributing and transferring the load from the tile floor to the subfloor below.

Electrical Floor Heating cables need to be installed by qualified and licensed installers in accordance with this manual PLUS local and national codes. ALL electrical connection need to be executed by a licensed electrician in accordance with local and national codes.

The benefit of underfloor heating systems have been known for many years but the PRODESO HEAT SYSTEM has additional advantages:



- **PRODESO HEAT MEMBRANE** uncoupling properties make it possible to install under-tile electrical heat over plywood and other problematic subfloors.

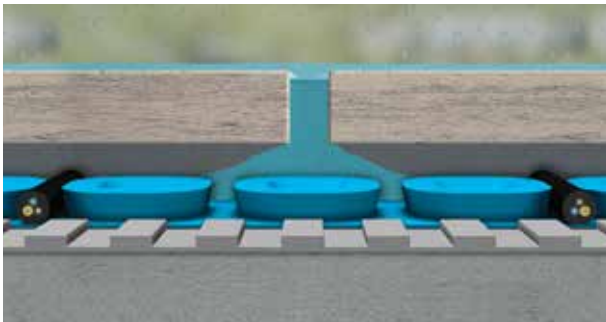
- Thanks to the thinness of the **PRODESO HEAT MEMBRANE** (5.5mm / 1/4 inch) it's the ideal choice when the new tile floor meets an existing surface and height difference is a concern.

- The lightweight system assembly makes it the perfect choice when the load limits of the subfloor are a concern.



- Low thermal inertia guarantees the heat is rapidly and efficiently transferred to the tiles above for immediate warmth and comfort.

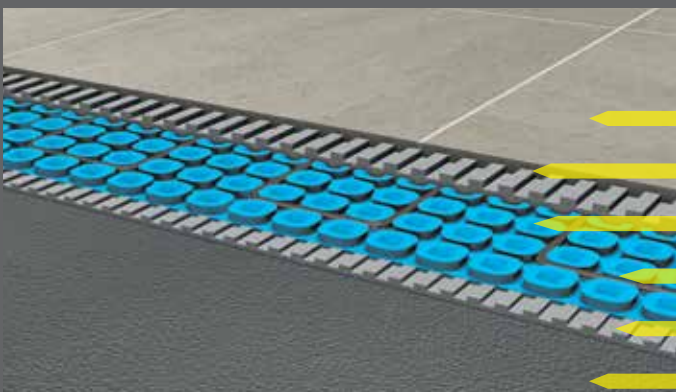
- Being able to customize the exact area where to install the heating cable optimizes your comfort while minimizing the overall cost.



- Drastic savings in installation time, effort and cost, combined with the comfort of electric radiant heat makes the **PRODESO HEAT SYSTEM** the obvious choice for any new or remodeling project.

- **PRODESO HEAT SYSTEM** is durable and requires NO maintenance.

PRODESO HEAT SYSTEM SECTION



- 1 Tiles (Ceramic or natural stone)
- 2 Adhesive
- 3 PRODESO HEAT MEMBRANE
- 4 PRODESO HEAT CABLE
- 5 Adhesive
- 6 Subfloor

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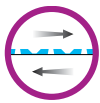
Wood subfloor considerations and installation details

Wood and its derivatives are commonly used in today's construction. All wood materials expand, contract, bend, and flex with changes in temperature, humidity, and load in the surrounding environment. These deformations can be seasonal or due to an isolated incident such as a plumbing accident, and will naturally occur over the life of a building structure.



PRODESO HEAT SYSTEM properties provide a solution for these challenges.

UNCOUPLING



PRODESO HEAT MEMBRANE will compensate for relative longitudinal movement between the Sub-floor and the tiles eliminating the major cause of tile cracking and delamination making it possible to install underfloor electric heating on wood substrates. **PRODESO HEAT MEMBRANE** eliminates the need for the second layer of Plywood with the exception of Natural Stone tile installations.

VAPOR MANAGEMENT



Wood is particular sensitive to relative moisture changes in their environment. **PRODESO HEAT MEMBRANE** unique and patented design allows for air pockets to form between the subfloor and the membrane itself. These air pockets allow for a vapor cycle to form and balance the vapor content of the subfloor assembly, increasing the mechanical and structural property of the wood subfloor.

WATERPROOFING



Wood structures are particularly sensitive to variation in humidity in their environment. **PRODESO HEAT MEMBRANE** is made of polypropylene, a completely waterproof substance, that will protect the wood subfloor from water damages to ensure a long lasting installation. For areas prone to flood please follow the waterproofing instructions on page 17.

LOAD DISTRIBUTION

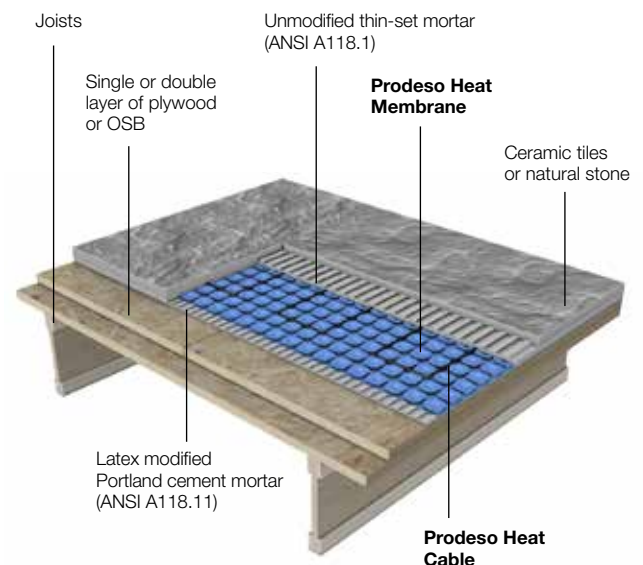


PRODESO HEAT MEMBRANE unique and patented designs allows loads to be evenly distributed from the tile covering to the subfloor. Each rounded square relief has a central cavity shaped like an inverted pyramid. When filled with thin-set this inverted pyramid becomes an incompressible structure. These cavities act like pillars in a building support structure, evenly distributing and transferring the load from the tile floor to the subfloor below.

PRODESO HEAT MEMBRANE

The uncoupling membrane is laid directly over the entire surface intended for tile installation. The heating cable is then installed in the areas where heat is desired using the channels formed between the rounded square reliefs. It's NOT necessary to use self-leveling cement to cover and protect the wire before starting tile installation. This results in significant savings of material, time, cost and overall weight. Tile installation can start immediately after installing the heated cable.

WOOD STRUCTURE



WOOD SUBFLOORS (OSB OR PLYWOOD)				
SPACING Joist/i-beam /floor trusses	OsB plywood layers	Tile type	Min. Tile size	Minimum subfloor thickness
16.0" OC OSB OR PLYWOOD	Single	Ceramic/Porcelain	2" x 2"	19/32" 5/8" Nominal with 1/8" gap
19.2" OC OSB OR PLYWOOD	Single	Ceramic/Porcelain	2" x 2"	23/32" or 3/4" Nominal with 1/8" gap
24.0" OC OSB OR PLYWOOD	Double	Ceramic/Porcelain	2" x 2"	23/32" or 3/4" Nominal with 1/8" gap
16.0" OC OSB OR PLYWOOD	Double	Natural Stone	2" x 2"	19/32" 5/8" Nominal with 1/8" gap
19.2" OC OSB OR PLYWOOD	Double	Natural Stone	2" x 2"	23/32" or 3/4" Nominal with 1/8" gap
24.0" OC OSB OR PLYWOOD	Double	Natural Stone	2" x 2"	23/32" or 3/4" Nominal with 1/8" gap

- Minimum thickness for additional underlayment 3/8" or 10mm.
- Underlayment: APA C-C PLUGGED EXTERIOR
- Additional Underlayment is required for Joist/I-Beam /Floor Trusses spaced more than 19.2" for any type of tile.
- Additional Underlayment is required for all types of natural stone regardless of Joist/I beam/Floor trusses spacing.
- Underlayment 1/2" (13mm) or thinner: Fasteners Spacing 4" (102mm) around the perimeter and 6" (152mm) in the field.
- Underlayment thicker than 1/2" (13mm): Fasteners spacing 6" (152mm) around the perimeter and 6" in the field.
- Seams, perimeters, and corners need to be sealed with Pro Band 150/250 when water migration is expected.
- Seams, perimeters, and corners need to be sealed with Pro Band 150/250 when a waterproof installation is necessary.

WOOD SUBFLOORS (OSB OR PLYWOOD) SETTING AND GROUTING MATERIALS	
Adhesive to fix PRODESIO HEAT MEMBRANE to subfloor	Latex Modified Portland Cement Mortar (ANSI A118.11)
Adhesive to fix Tiles to PRODESIO HEAT MEMBRANE	Unmodified thin-set mortar – (ANSI A118.1)
GROUT	Polymer-modified cement grout (ANSI A118.3 A118.6, A118.7, A118.8)

WOOD SUBFLOORS (OSB OR PLYWOOD) ANSI INSTALLATION SPECIFICATION	
TILE FIXING	ANSI (108.5)
GROUTING	ANSI (A108.6 A108.9 A108.10)

EXPANSION JOINTS:

PRODESIO HEAT does NOT eliminate the need for movement joints, including perimeter joints, within the tiled surface. Movement joints must be installed in accordance with industry standards and norms TCNA EJ171, and TTMAC 301 MJ.

SUBSTRATE PREPARATION

Wood panels need to be properly fastened and secured to framing structure.

Wood panels need to be clean of dust, residue, wax, oil, and grease.

Wood panels need to be levelled before the installation of **PRODESIO HEAT MEMBRANE**.

Remove all exposed nails, screws, fasteners, and debris.

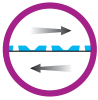
Cement based subfloor considerations and installation details

Thermal expansion, shrinkage, and any other relative movement between a cement based screed and the tiles assembly above will subject the tile assembly to stress. This stress can ultimately cause cracking and delamination. Tile installers cannot always be certain of the curing stage of the cement based subfloor in addition cracks may be already present or develop over time.



PRODESO HEAT SYSTEM properties below provide a solution for these challenges.

UNCOUPLING



The unique and patented design of **PRODESO HEAT MEMBRANE** allows for uncoupling and crack isolation to take place in the tile assembly while embedding the heating cable for radiant floor heating. **PRODESO HEAT MEMBRANE** compensates for the longitudinal movement between the subfloor and the tile preventing breakage and making it possible to install underfloor electric heating even on cracked or not completely cured cement screeds.

VAPOR MANAGEMENT



PRODESO HEAT MEMBRANE design allows for air pockets to be formed between the subfloor and the membrane itself. Excess moisture from the substrate will find its way to these pockets and create a vapor cycle. This vapor cycle will balance the vapor content of the substrate protecting the tile surface and the substrate from undesired damages and allows for tile installation immediately after the slabs is ready for foot traffic.

WATERPROOFING

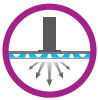


PRODESO HEAT MEMBRANE is made of polypropylene, a completely waterproof substance, that will protect the cement subfloor from water damages to ensure a long lasting installation. waterproof properties has 2 major functions.

1. Slow-down the curing of the fresh cement slab preventing cracking and curling.
2. Prevent water and other substances from reaching the cement subfloor and the possible damages to the screed and the tile floor.

For areas prone to flood please follow the waterproofing instructions on page 17.

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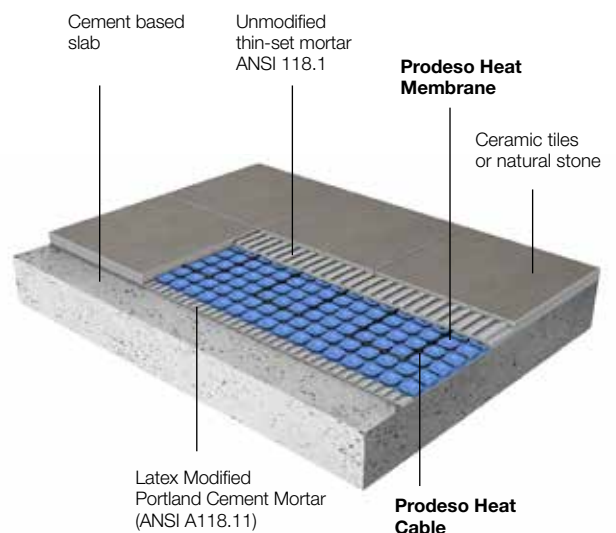


PRODESO HEAT MEMBRANE unique and patented designs allows loads to be evenly distributed from the tile covering to the subfloor. Each rounded square relief has a central cavity shaped like an inverted pyramid. When filled with thin-set this inverted pyramid becomes an incompressible structure. These cavities act like pillars in a building support structure, evenly distributing and transferring the load from the tile floor to the subfloor below.

PRODESO HEAT SYSTEM is the ideal solution to install ceramic and natural stone tiles on cement slabs even not perfectly cured or cracked.

PRODESO HEAT MEMBRANE uncoupling membrane is laid directly over the entire surface intended for tile installation, the heating cable is then installed in the areas where heat is desired using the channels formed between the rounded square reliefs. It's NOT necessary to use self-leveling cement based to cover/protect the wire before starting tile installation. This results in saving material/weight/time/cost. Tile installation can start immediately after installing the heated cable.

CEMENT BASED SLAB



Installing tiles on a cement based subfloor presents many challenges. The following table illustrates the difference in thermal expansion between a cement subfloor and the tiles surface...

TILE SURFACE MATERIAL	THERMAL EXPANSION RATIO
Ceramic	6 times the thermal expansion of cement
Marble	7 times the thermal expansion of cement
Granite	9 times the thermal expansion of cement

CEMENT SUBFLOOR SETTING AND GROUTING MATERIALS	
Adhesive to fix PRODESOS HEAT MEMBRANE to subfloor	Latex Modified Portland Cement Mortar (ANSI A118.11)
Adhesive to fix Tiles to PRODESOS HEAT MEMBRANE	Unmodified thin-set mortar - (ANSI A118.1)
GROUT	Polymer-modified cement grout (ANSI A118.3 A118.6, A118.7, A118.8)

CEMENT SUBFLOOR ANSI INSTALLATION SPECIFICATION	
TILE FIXING	ANSI (108.5)
GROUTING	ANSI (A108.6 A108.9 A108.10)

- Cement Based Substrate must be compact and structurally sound
- Cracks and Fissure in the substrate need to present only longitudinal movement (NO VERTICAL MOVEMENT)
- Debris, dust, wax, grease, and oil residue must be removed or abraded/scored to offer better bond to the thin set.
- Minimum Tile Size 2" x 2" (50mm x 50mm)
- Seams, perimeters, and corners need to be sealed with Pro Band 150/250 when water migration is expected.
- Seams, perimeters, and corners need to be sealed with Pro Band 150/250 when a waterproof installation is necessary.

EXPANSION JOINTS:

PRODESOS-HEAT does NOT eliminate the need for movement joints, including perimeter joints, within the tiled surface. Movement joints must be installed in accordance with industry standards and norms TCNA EJ171, and TTMAC 301 MJ.

Gypsum based underlayment

PRODESO HEAT SYSTEM installed over Gypsum based underlayment

Gypsum based underlayment or more properly anhydrite based substrate present many advantages, but also a few challenges to the tile installer. CaSO₄ calcium sulfate is the component of anhydrite based underlayment and when in contact with water could lead to the formation of ettringite (hydrate calcium aluminium sulfate), which could cause an increase in volume. Anhydrite based underlayment need to be waterproofed if any exposure to water or moisture throughout the life of the installation is possible. Please follow underlayment manufacture direction for proper preparation and primer application before fixing **PRODESO HEAT MEMBRANE** to the anhydrite based underlayment. Anhydrite based underlayment need to be applied to a structural subfloor (Cement based subfloor or wood based subfloor. For subfloor preparation see page 9-10).



PRODESO HEAT SYSTEM properties below provide a solution for these challenges.

UNCOUPLING



The unique and patented design of **PRODESO HEAT MEMBRANE** allows for uncoupling and crack isolation to take place in the tile assembly while embedding the heating cable for radiant floor heating. **PRODESO HEAT MEMBRANE** compensates for the longitudinal movement between the subfloor and the tile preventing cracking and delamination even on Gypsum based subfloor.

VAPOR MANAGEMENT



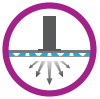
PRODESO HEAT MEMBRANE unique and patented design allows for air pockets to be formed between the subfloor and the membrane itself. Excess moisture from the substrate will find its way to these pockets and create a vapor cycle. This vapor cycle will balance the vapor content of the substrate protecting the tile surface and the substrate from undesired damages.

WATERPROOFING



Gypsum based subfloor are particularly sensitive to variation in humidity in their environment. It is particularly important to prevent reintroducing moisture into a gypsum based substrate. **PRODESO HEAT MEMBRANE** waterproof properties prevents water and other substances from reaching the anhydrite based underlayment and the possible damages to the tile floor.

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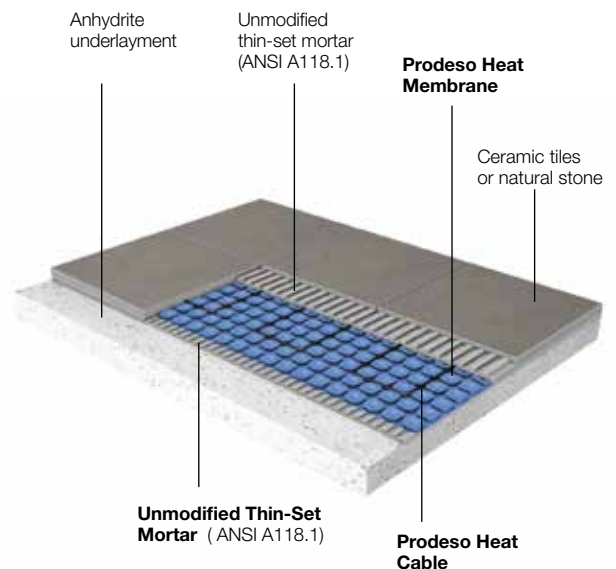


PRODESO HEAT MEMBRANE unique designs allows to evenly distribute load from the floor to the subfloor. Each rounded square relief has a central cavity shaped like an inverted pyramid. When filled with thin set this inverted pyramid become an incompressible structure that like pillars will evenly distribute and transfer the load from the tile floor to the subfloor.

PRODESO HEAT SYSTEM is the ideal solution to install ceramic and natural stone tiles on anhydrite based underlayment.

PRODESO HEAT MEMBRANE uncoupling membrane is laid directly over the entire surface intended for tile installation, the heating cable is then installed in the areas where heat is desired using the channels formed between the rounded square reliefs. It's NOT necessary to use self-leveling cement based to cover/protect the wire before starting tile installation. This results in saving material/weight/time/cost. Tile installation can start immediately after installing the heated cable.

GYPSUM BASED UNDERLAYMENT



ANHYDRITE BASED UNDERLAYMENT SETTING AND GROUTING MATERIALS	
Adhesive to fix PRODESIO HEAT MEMBRANE to subfloor	Unmodified thin-set mortar - (ANSI A118.1)
Adhesive to fix Tiles to PRODESIO HEAT MEMBRANE	Unmodified thin-set mortar - (ANSI A118.1)
GROUT	Polymer-modified cement grout (ANSI A118.3 A118.6, A118.7, A118.8)

ANHYDRITE BASED UNDERLAYMENT ANSI INSTALLATION SPECIFICATION	
TILE FIXING	ANSI (108.5)
GROUTING	ANSI (A108.6 A108.9 A108.10)

Anhydrite based underlayment must be installed over a compact and structurally sound subfloor

- Gypsum underlayment maximum relative humidity must be 2% or less.
- Follow gypsum manufacturer installation instructions, requirements and warnings.
- Debris dust and oil residue must be removed or abraded/scored to offer better bond to the thin set.
- Minimum Tile Size 2" x 2" (50mm x 50mm)
- Seams, perimeters, and corners need to be sealed with Pro Band 150/250 when water migration is expected.
- Seams, perimeters, and corners need to be sealed with Pro Band 150/250 when a waterproof installation is necessary.
- PRODESIO-HEAT does NOT eliminate the need for movement joints, including perimeter joints, within the tiled surface. Movement joints must be installed in accordance with industry standards and norms TCNA EJ171, and TTMAC 301 MJ.

Existing vinyl floor

Indoor tile floor installation of ceramic or natural stone over an existing structurally sound vinyl floor

Vinyl floor tiles are a non-supporting layer over a supporting subfloor typically wood or cement. Supporting subfloor preparation and consideration are identical as per application without the Vinyl floor.



ADDITIONAL CONSIDERATIONS INSTALLATION OVER EXISTING VINYL FLOOR:

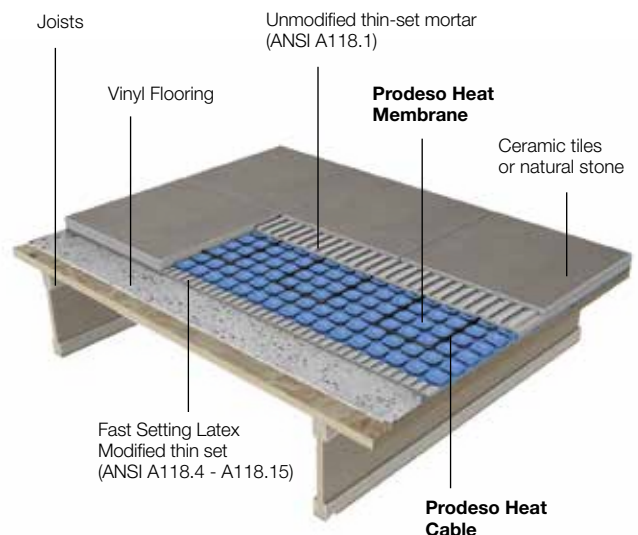
- Vinyl floor needs to be secured and flat over the entire surface.
- Single vinyl floor ONLY (Multiple layer of vinyl floor need to be removed)
- If foam or any cushioning mat had previously been installed, the vinyl floor needs to be removed entirely and **PRODESO HEAT MEMBRANE** will be fixed directly to the subfloor.
- Vinyl floor need to be clean of debris, dust, oil, grease, and wax substance.
- Outside perimeter secured vinyl flooring is NOT acceptable for direct installation of **PRODESO HEAT MEMBRANE** as it may cause undesired stress to the tile assembly.
- To adhere **PRODESO HEAT MEMBRANE** to existing vinyl floor please use Fast-setting latex modified thin set. ANSI A118.4 or A118.15
- **PRODESO-HEAT** does NOT eliminate the need for movement joints, including perimeter joints, within the tiled surface. Movement joints must be installed in accordance with industry standards and norms TCNA EJ171, and TTMAC 301 MJ.

OVER EXISTING VINYL FLOOR SETTING AND GROUTING MATERIALS	
Adhesive to fix PRODESO HEAT MEMBRANE to subfloor	Fast Setting Latex Modified thin set (ANSI A118.4 - A118.15)
Adhesive to fix Tiles to PRODESO HEAT MEMBRANE	Unmodified thin-set mortar (ANSI A118.1)
GROUT	Polymer-modified cement grout (ANSI A118.3 A118.6, A118.7, A118.8)

OVER EXISTING VINYL FLOOR ANSI INSTALLATION SPECIFICATION	
TILE FIXING	ANSI (108.5)
GROUTING	ANSI (A108.6 A108.9 A108.10)

- Minimum Tile Size 2" x 2" (50mm x 50mm)
- Seams, perimeters, and corners need to be sealed with Pro Band 150/250 when water migration is expected.
- Seams, perimeters, and corners need to be sealed with Pro Band 150/250 when a waterproof installation is necessary.
- PRODESO-HEAT does NOT eliminate the need for movement joints, including perimeter joints, within the tiled surface. Movement joints must be installed in accordance with industry standards and norms TCNA EJ171, and TTMAC 301 MJ.

EXISTING VINYL FLOOR



Waterproofing - Movement/Expansion joints

Waterproofing

Tile surfaces (Ceramic and Natural Stone) are preferred and chosen because of their Beauty, Color, Design, Finish, and Texture. Tile surfaces are used for both floor and walls in a variety of project from residential, commercial, hospitality, institutional, health care and industrial. The use of tile has become so extensive that tile installers find themselves facing new challenge every day. Water penetration can cause extensive damages to the tile assembly itself as well the subfloor and the floors underneath the tile assemblies. Waterproofing is required under and around tubs and showers. It's also recommended to waterproof tile assemblies that can possibly be exposed to considerable amount of water because of flooding. Waterproofing the tile assembly is cheaper and safer than repairing water damages.



PRODESO HEAT MEMBRANE, is a Polypropylene membrane and as such is naturally waterproof. For indoor installations in areas that are prone to water damage, the corners and seams of the **PRODESO HEAT MEMBRANE** need to be waterproofed utilizing **PROBAND 150/250** waterproofing foil tape (double-sided Polypropylene foil tape) and **Unmodified Thin-Set ANSI A118.1**.

Movement/Expansion joints

Any tile surface assembly cross section is made of several different materials, Tiles, Wood, Screw, Cement, Anhydrite, Adhesives, Beams and more. All these different materials contract and expand in different ways when temperature, moisture and load change, causing stress in the overall tile assembly and ultimately cracks and possibly delamination of the tiles. Ceramic and Natural Stone Tiles are rigid and are not capable to compensate for movements. An expansion/movement joint is the part of the assembly designed to absorb the stress on the assembly by allowing movement. **PRODESO HEAT MEMBRANE** does NOT eliminate the need for expansion/movement joints, including perimeter joints, within the tiled surface. Movement joints must be installed in accordance with industry standards and norms TCNA EJ171, and TTMAC 301 MJ.



Expansion/Movement Joint Placement

- Perimeter Joint need to be installed around the entire installation perimeter.
- Surface Joint: 16'-20' (4.9meters - 6.1meter) in both direction.
Reduce separation by 25% if exposed to direct sunlight, heating cable or moisture.
- Surface Joint near any structural element (columns, beams, stairways), doorways.
- Structural Joint when 2 separate supporting structure meet under the tile or the underlayment.
- Areas enclosed within joint should be a rectangle with ratio between each dimension not to exceed 1: 1.5.

Installation

Preparation

- Before laying **PRODESO HEAT MEMBRANE** make sure that the substrate is load bearing, compact, flat and free of oils, greases and waxes which could prevent proper adhesion.
- Before laying **PRODESO HEAT MEMBRANE** make sure that the substrate is in accordance with local and national building codes and norms.
- In case of a wood based substrate check that the panels are properly secured.
- In the case of vinyl flooring, make sure that the underlying structure is sound and suitable for the intended use and that the vinyl flooring is securely attached.
- In case of anhydrite based underlayment verify that the moisture content is less than 2%.

Mortar Required for fixing **PRODESO HEAT MEMBRANE** to substrate.
50lbs (22.70Kg) for 100ft² (9.3 m²) using 1/4" x 3/8" (6 mm x 10 mm) square or U-notched trowel

Laying the membrane



Apply a compatible adhesive to the substrate using a suitable trowel.



Apply **PRODESO HEAT MEMBRANE**, previously cut, on the adhesive.



Press the membrane evenly with a roller or a plastic flat trowel.



Check coverage of **PRODESO HEAT MEMBRANE**; in case of partial coverage, increase the amount of adhesive or its fluidity.



Lay the next sheet of **PRODESO HEAT MEMBRANE** making sure to align it with the previous one, without overlapping. Align the square reliefs to facilitate the installation of the heating cables.

Warning:

If heavy mechanical loads are foreseen (frequent passages), it is recommended to protect the laid membrane with wooden planks to ensure proper bonding.

Installation

Laying the heating cables

Warnings: Do not run the heating cables under walls, cabinets, furniture, and appliances.



Before removing the cable from the spool, you need to conduct the resistance, continuity, insulation resistance tests. These first set of tests are required, please write the values obtained in the "Test Log" (page 22).



Insert the cold heating cable and floor temperature sensors inside two separate corrugated pipes from the base of the wall to the thermostat electrical box.



Insert the heating cable in the membrane using minimum spacing suggested by cable manufacturer.
Two reliefs spacing will result in a heating cable spacing of 2 1/2" (63.5 mm)
Three reliefs spacing will result in a heating cable spacing of 3 3/4" (95 mm)
Smaller spacing would cause overheating, which may damage the assembly structure.



Perform floor temperature sensor test to ensure functionality.



Install the floor temperature sensors exactly in the center between two cables and at a distance of at least 2 ft (60cm) from the wall. Do not cross sensor cables with heating cables. It is recommended to install a second temperature sensor as a backup in case the primary fails throughout the life of the installation. Record the exact position of the sensors.



After installation of heating cables, repeat all previous tests and record the values obtained in the "Test Log" (page 22).



NEVER exceed 15 watts per square foot



NEVER cross heating cables

Warnings:

- During installation of the heating cables, leave space for the placement of the floor temperature sensors.
- The maximum length of a straight line run for each individual path is 3 m - 9 ft.
- The cable must be installed at a minimum distance of 20 cm - 8 in from other heat sources (fireplaces) and 15 cm - 6 in from waist drains.

Waterproofing

The following steps are required only in case waterproofing is necessary:

Warning: Be careful not to damage the heating cable with the notched trowel while applying the adhesive to the membrane.



Apply **Unmodified Thin-Set ANSI A118.1** along the joints between two adjacent sheets with the flat side of the trowel, 4" (100mm) each side of the joint, making sure to fill the cavities of the membrane, leaving a thin layer of adhesive on top of the reliefs.



Fix **PROBAND 150/250** tape to **Unmodified Thin-Set ANSI A118.1** following the joint. Using a flat trowel apply strong and even pressure along **PROBAND 150/250** to ensure sealing. Smooth over to avoid and eliminate bends and folds.



Apply the **Unmodified Thin-Set ANSI A118.1** to the corner (wall and floor) with a 3/16" X 3/16" (4 mm x 4 mm) notched trowel to a width of about 4" (100mm).



Fix **PROBAND 150/250** tape to **Unmodified Thin-Set ANSI A118.1** following the perimeter joint. Inside and outside corners can be cut from **PROBAND 150/250** tape, but pre-cut corners (**PRBI** and **PRBE**) are also available on page 20. Using a flat trowel apply strong and even pressure along **PROBAND 150/250** to ensure sealing.



Apply **Unmodified Thin-Set ANSI A118.1** along the perimeter floor with the flat side of the trowel, to a width of about 4" (100mm). Particular attention must be paid to fill the cavities of the Prodeso Heat membrane and leaving a thin layer of adhesive on top of the reliefs. Apply the **Unmodified Thin-Set ANSI A118.1** to the perimeter wall with a 3/16" X 3/16" (4 mm x 4 mm) notched trowel to a width of about 4" (100mm).



Fix **PROBAND 150/250** tape to **Unmodified Thin-Set ANSI A118.1** following the perimeter joint.



Using a flat trowel apply strong and even pressure along **PROBAND 150/250** to ensure sealing. Smooth over to avoid and eliminate bends and folds.

Warning:

When using **PROBAND 150/250**, **PROBAND FIX** is to be used in the place of **Unmodified Thin-Set ANSI A118.1** for non-cement based substrates.

Products

PROBAND 150/250 ROLLS IN HDPE E PP

PROBAND 150/250 is a waterproof polyethylene tape with a non woven fleece sheet on both sides, which ensures adhesion.

AREA OF USE

• Use

Construction of perimeter joints and between adjacent sheets of

PRODESO HEAT SYSTEM.

• Don't use

On bituminous coverings, for waterproofing walking and exposed surfaces, on inverted roof insulation made of insulating panels or lightened screeds. With adhesives containing solvents.

WARNING

Store in a cool and dry place avoiding direct sunlight and heat sources. Read the technical details prior to application; in the case of special applications, we recommend you consult our technical department. Interior and exterior preformed polyethylene corners with a non woven sheet on both sides, which ensures adhesion.

Rolls in HDPE and PP – thickness 0,4 mm - 1/64" in

PROBAND 150/250			
Article	Roll width H mm x L LM	H in. x L ft.	Rolls/Pack
PRBPE 1505	150 x 5	6" x 16' 5"	10
PRBPE 1530	150 x 30	6" x 98' 5"	6
PRBPE 2505	250 x 5	10" x 16' 5"	5
PRBPE 2530	250 x 30	10" x 98' 5"	3



PREFORMED CORNERS

Interior and exterior preformed polyethylene corners with a non woven sheet on both sides, which ensures adhesion.

AREA OF USE

• Use

Internal and external for PRODESO HEAT SYSTEM.

• Don't use

On bituminous coverings, for waterproofing walking and exposed surfaces, on inverted roof insulation made of insulating panels or lightened screeds. With adhesives containing solvents.

WARNING

Store in a cool and dry place avoiding direct sunlight and heat sources. Read the technical details prior to application; in the case of special applications, we recommend you consult our technical department.

Preformed corners in HDPE and PP thickness 0,40 mm

PREFORMED CORNERS			
Article	H x L mm	H x L in.	Pcs/Pack
PRBI (internal)	150 X 150	6" x 6"	10
PRBE (external)	150 X 150	6" x 6"	10



EXTERNAL CORNER



INTERNAL CORNER



Installation

Laying the tiles

Warning: Be careful while applying the adhesive on the membrane not to damage the heating cable with the flat/notched trowel.

Mortar Required for fixing Tile to **PRODESO HEAT MEMBRANE.**

50lbs (22.70Kg) for 40/50 ft² (3.7 m² / 4.6 m²) using 1/4" x 3/8" (6 mm x 10 mm) square or U-Notched trowel

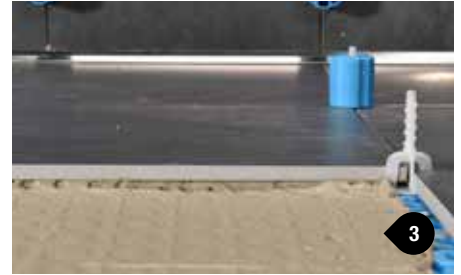
50lbs (22.70Kg) for 30/40 ft² (2.8 f²/ 3.7m²) using . " X . ." (12.5mmX12.5mm) square or U-Notched trowel.



Tiles can be immediately laid after the installation of the heating cables is completed. Using the flat side of the trowel fill with Unmodified thin set mortar (ANSI A118.1) the cavities of the membrane. Apply additional of the same mortar with a notched trowel over according to the tile size.



Apply the thin set to the back of the tiles with a notched trowel and lay them on the layer of thin set previously applied. Occasionally remove and check some tiles, to ensure full back coverage.



Carefully lay the tiles and press them on the layer of thin set. If a layer of skin has formed on the thin set, remove and apply again.

Warning:

Full back coverage may vary depending on the consistency of the adhesive, the angle of inclination of the notched trowel and the flatness of the substrate. If full back coverage is not achieved, remove the tile and apply new adhesive paying attention to the consistency of the Thin set and its application. In case of large format tiles 12" x 12" and larger is recommended to double spread each tile before laying them.



After laying the tiles, repeat all previous tests and record the values obtained in the "Test Log" (page 22).

