

Nuheat MEMBRANE

BY PROGRESS®
P R O F I L E S

INSTALLATION INSTRUCTIONS

TABLE OF CONTENTS

Warranty 2

Intro 3

Laying Nuheat Membrane 4–5

Laying the Tiles 6

Waterproofing 7

Installing on Different Substrates

 Wood Structure 8–9

 Cement Based Slab 10

 Gypsum Based Underlayment 11

 Existing Vinyl Floor 12

Ordering Information 13

Combine with Nuheat Cable 13

WARRANTY



Nuheat Membrane offers a 25-year Product Warranty and/or 25-year Total Care Warranty.* To register your warranty visit www.nuheat.com/warranty

* Total Care Warranty is an upgrade of our product warranty and is offered exclusively at no additional cost for all installations completed by Nuheat Certified PRO installers. To learn more on how to become a Certified PRO installer visit www.nuheat.com.

For more information, please call 1.800.778.WARM(9276)
or email res.customercare@pentair.com

NUHEAT MEMBRANE – THE INTEGRATED UNCOUPLING AND HEATING SOLUTION

Nuheat Membrane is a tile underlayment that can be installed over the entire subfloor for uncoupling, crack isolation and waterproofing purposes and can eliminate the need for a second layer of plywood or concrete backer board in most tile installations.

Fast Facts:

- Eliminates need for a second layer of plywood or concrete backer boards – reduces floor build-up
- Accepts use of modified and unmodified thinsets for tile setting
- Flexible cable spacing and heat output (10, 12, or 15 watts/sqft)
- 'Extra Heavy' rating on Robinson Floor Test (ASTM C627)
- Available in roll and sheet formats
- 25-year product warranty

LAYING NUHEAT MEMBRANE

Thinset required for setting **Nuheat Membrane** to substrate: 50 lbs for 100 ft² using 1/4" x 3/8" (6 mm x 10 mm) square or U-notched trowel.



Spread a suitable thinset mortar to the substrate using a suitable trowel.



Roll **Nuheat Membrane** onto the thinset mortar.



Press the **Nuheat Membrane** with a roller or a flat trowel.



Check underside of **Nuheat Membrane** to ensure 100% thinset coverage.

LAYING NUHEAT MEMBRANE *continued*

5



Lay down the next sheet of **Nuheat Membrane** and align it with the previous one without overlapping. Line up the pillars of **Nuheat Membrane** to facilitate the installation of the heating cable.

WARNING:

If heavy mechanical loads are foreseen (eg. foot traffic or machinery), it is recommended to protect **Nuheat Membrane** with wooden planks to prevent damage.

After Nuheat Cable is installed in membrane as per the Nuheat Cable Installation Manual, tiles can be immediately installed. Using the flat side of the trowel, fill the cavities of **Nuheat Membrane** with a suitable thinset mortar.

ROBINSON FLOOR TEST (ASTM C627) RESULTS

REPORT NUMBER	SUBSTRATE	TILE	JOIST SPACING	RATING
TNCA-773-14	OSB/Plywood	12 x12 Porcelain Tile	19.2" O.C	Extra Heavy
TCNA-772-14	Concrete	12 x12 Porcelain Tile	N/A	Extra Heavy

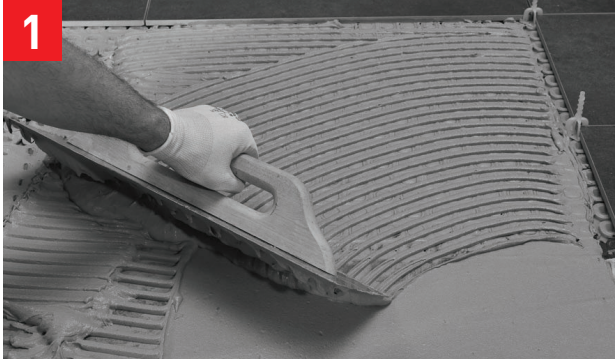
LAYING THE TILES

WARNING: Be careful not to damage the heating cable with the trowel while applying the thinset mortar on **Nuheat Membrane**.

Thinset mortar required for setting tile to **Nuheat Membrane**:

50 lbs for 40–50 sq ft using 1/4" x 3/8" (6 mm x 10 mm) square or U-Notched trowel

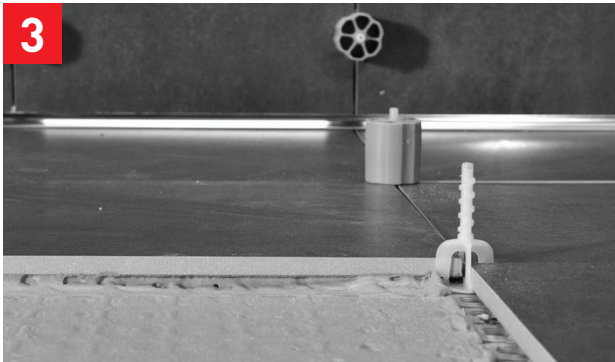
50 lbs for 30–40 sq ft using 1/2" x 1/2" (12.5 mm x 12.5 mm) square or U-notched trowel.



Apply an additional layer of thinset mortar on top using a notched trowel suitable for the tile type/size.



Apply thinset to the back of the tile using a notched trowel. Ensure 100% coverage especially with large format tiles. Lay the tile onto **Nuheat Membrane** and onto the fresh layer of thinset.



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

WATERPROOFING

Nuheat Membrane is a waterproof polyethylene membrane. For indoor installations in areas that are prone to water damage, the corners and seams of **Nuheat Membrane** need to be waterproofed utilizing **PROBAND 150** waterproofing foil tape (double-sided polyethylene tape) and unmodified thinset (ANSI A118.1).

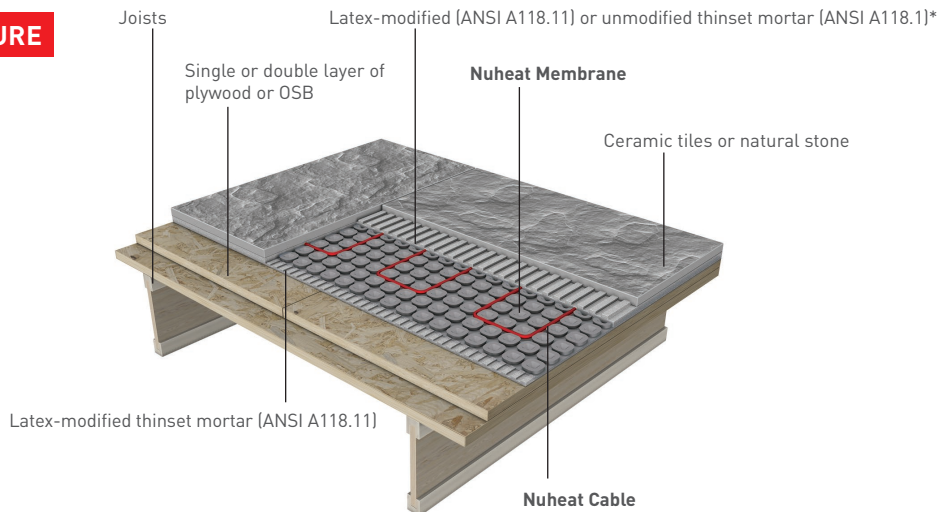
The following steps are required only when waterproofing is necessary:

WARNING: Be careful not to damage the heating cable with the notched trowel while applying the adhesive to **Nuheat Membrane**.

- 1** Apply unmodified thinset (ANSI A118.1) along the between two adjacent sheets with the flat side of the trowel. Apply the thinset mortar 4" (100 mm) on each side of the joint while making sure to fill the cavities of **Nuheat Membrane**. Leave a thin layer of thinset mortar on top of the membrane pillars.
- 2** Apply **PROBAND 150** tape to the unmodified thinset (ANSI A118.1) to cover the joint. Using a flat trowel, apply strong and even pressure along **PROBAND 150** to ensure sealing. Smooth over to avoid and eliminate bends and folds.
- 3** Apply the unmodified thinset (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" (100 mm).
- 4** Apply **PROBAND 150** tape to unmodified thinset (ANSI A118.1) following the perimeter joint. Inside and outside corners can be cut from **PROBAND 150** tape. Using a flat trowel, apply strong and even pressure along **PROBAND 150** to ensure sealing.
- 5** Apply unmodified thinset (ANSI A118.1) along the perimeter floor with the flat side of the trowel to a width of about 4" (100 mm). Particular attention must be paid to fill the cavities of **Nuheat Membrane** and leaving a thin layer of thinset mortar on top of the membrane pillars. Apply the unmodified thinset (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" (100 mm).
- 6** Apply **PROBAND 150** tape to unmodified thinset (ANSI A118.1) following the perimeter joint.
- 7** Using a flat trowel apply strong and even pressure along **PROBAND 150** to ensure sealing. Smooth over to avoid and eliminate bends and folds.

INSTALLING ON DIFFERENT SUBSTRATES

WOOD STRUCTURE



* Refer to thinset manufacturer recommendations for setting tile on non-permeable polyethylene substrates/membranes.

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" or 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" or 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: Exposure 1, plugged-face plywood.
- 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" (13 mm) or thinner: Fasteners spacing 4" (102 mm) around the perimeter and 6" (152 mm) in the field.
- Underlayment thicker than 1/2" (13 mm): Fasteners spacing 6" (152 mm) around the perimeter and 6" (152 mm) in the field.
- Total thickness of plywood substrate shall not exceed 1.5" (38 mm).
- Seams, perimeters, and corners need to be sealed with Proband 150 when water migration is expected or when a waterproof installation is necessary.

INSTALLING ON DIFFERENT SUBSTRATES

WOOD STRUCTURE

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 **Nuheat Membrane**. Remove all exposed nails, screws, fasteners, and debris.

EXPANSION JOINTS:

Nuheat Membrane 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).

WOOD SUBFLOORS (OSB OR PLYWOOD) SETTING AND GROUTING MATERIALS

Adhesive to set Nuheat Membrane to subfloor	Latex-modified thinset mortar (ANSI A118.11)
Adhesive to set tiles to Nuheat Membrane	Latex-modified (ANSI A118.11) or unmodified thinset mortar (ANSI A118.1)*
Grout	Polymer-modified cement grout (ANSI A118.3, A118.6, A118.7, A118.8)

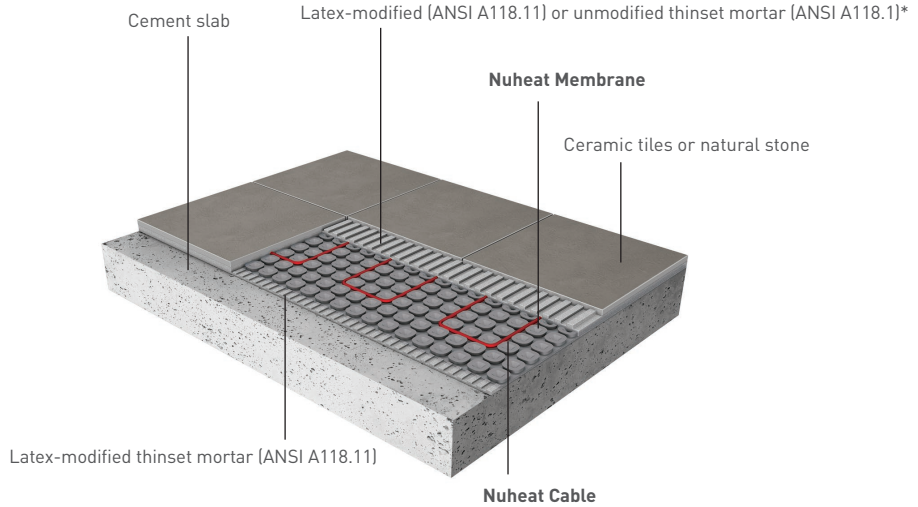
* Refer to thinset manufacturer recommendations for setting tile on non-permeable polyethylene substrates/membranes.

WOOD SUBFLOORS (OSB OR PLYWOOD) ANSI INSTALLATION SPECIFICATION

Tile Setting	ANSI (108.5)
Grouting	ANSI (A108.6, A108.9, A108.10)

INSTALLING ON DIFFERENT SUBSTRATES

CEMENT BASED SLAB



* Refer to thinset manufacturer recommendations for setting tile on non-permeable polyethylene substrates/membranes.

CEMENT SUBFLOOR SETTING AND GROUTING MATERIALS	
Adhesive to set Nuheat Membrane to subfloor	Latex-modified thinset mortar (ANSI A118.11)
Adhesive to set tiles to Nuheat Membrane	Latex-modified (ANSI A118.11) or unmodified thinset mortar (ANSI A118.1)*
Grout	Polymer-modified cement grout (ANSI A118.3 A118.6, A118.7, A118.8)

* Refer to thinset manufacturer recommendations for setting tile on non-permeable polyethylene substrates/membranes.

CEMENT SUBFLOOR ANSI INSTALLATION SPECIFICATION	
Tile Setting	ANSI (108.5)
Grouting	ANSI (A108.6, A108.9, A108.10)

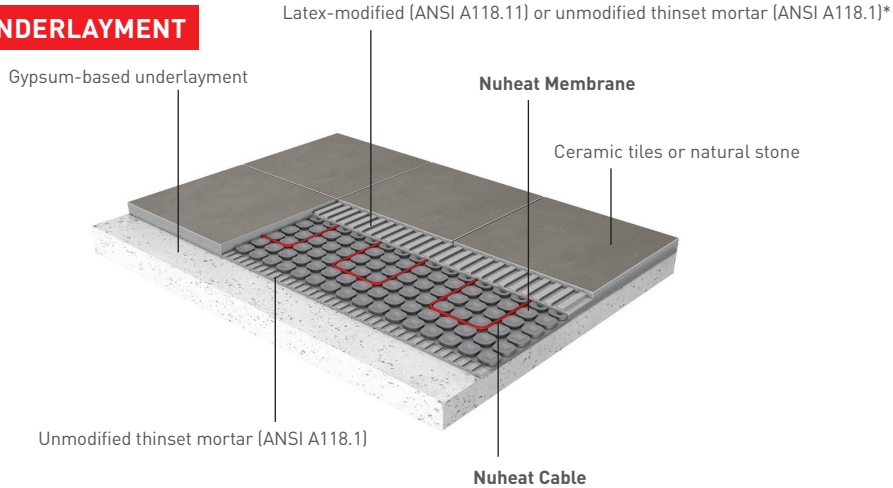
- Cement slab must be compact and structurally sound.
- Cracks and fissure in the cement slab need to present only longitudinal movement (NO VERTICAL MOVEMENT).
- Debris, dust, wax, grease, and oil residue must be removed or abraded/scored to create better bond to the thinset.
- Minimum tile size 2" x 2" (50 mm x 50 mm).
- Seams, perimeters, and corners need to be sealed with Proband 150 when water migration is expected or when a waterproof installation is necessary.

EXPANSION JOINTS:

Nuheat Membrane 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).

INSTALLING ON DIFFERENT SUBSTRATES

GYPSUM BASED UNDERLAYMENT



* Refer to thinset manufacturer recommendations for setting tile on non-permeable polyethylene substrates/membranes.

GYPSUM BASED UNDERLAYMENT SETTING AND GROUTING MATERIALS	
Adhesive to set Nuheat Membrane to subfloor	Unmodified thinset mortar - (ANSI A118.1)
Adhesive to set tiles to Nuheat Membrane	Latex-modified (ANSI A118.11) or unmodified thinset mortar (ANSI A118.1)*
Grout	Polymer-modified cement grout (ANSI A118.3, A118.6, A118.7, A118.8)

* Refer to thinset manufacturer recommendations for setting tile on non-permeable polyethylene substrates/membranes.

GYPSUM BASED UNDERLAYMENT ANSI INSTALLATION SPECIFICATION	
Tile Setting	ANSI (108.5)
Grouting	ANSI (A108.6, A108.9, A108.10)

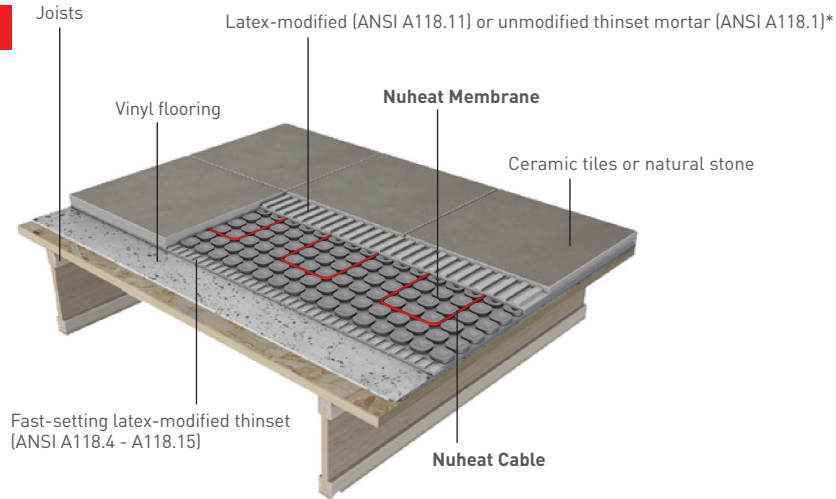
- Gypsum-based underlayment must be installed over a compact and structurally sound subfloor.
- Gypsum-underlayment maximum relative humidity must be 2% or less.
- Follow gypsum manufacturer installation instructions, requirements and warnings.
- Debris dust and oil residue must be removed or abraded/scored to create better bond to the thinset.
- Minimum tile size 2" x 2" (50 mm x 50 mm).
- Seams, perimeters, and corners need to be sealed with Proband 150 when water migration is expected or when a waterproof installation is necessary.

EXPANSION JOINTS:

Nuheat Membrane 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).

INSTALLING ON DIFFERENT SUBSTRATES

EXISTING VINYL FLOOR



* Refer to thinset manufacturer recommendations for setting tile on non-permeable polyethylene substrates/membranes.

OVER EXISTING VINYL FLOOR SETTING AND GROUTING MATERIALS

Adhesive to set Nuheat Membrane to subfloor	Fast-setting latex-modified thinset (ANSI A118.4 - A118.15)
Adhesive to set tiles to Nuheat Membrane	Latex-modified (ANSI A118.11) or unmodified thinset mortar (ANSI A118.1)*
Grout	Polymer-modified cement grout (ANSI A118.3 A118.6, A118.7, A118.8)

* Refer to thinset manufacturer recommendations for setting tile on non-permeable polyethylene substrates/membranes.

OVER EXISTING VINYL FLOOR ANSI INSTALLATION SPECIFICATION

Tile Setting	ANSI (108.5)
Grouting	ANSI (A108.6, A108.9, A108.10)

ADDITIONAL CONSIDERATIONS WHEN INSTALLING 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 under cushioning mat had previously been installed under the vinyl floor, the vinyl floor needs to be removed entirely and **Nuheat Membrane** will be set directly to the subfloor.
- Vinyl floor need to be clean of debris, dust, grease and wax substance.
- Outside perimeter-secured vinyl flooring is NOT acceptable for direct installation of **Nuheat Membrane** as it may cause undesired stress to the tile assembly.
- Minimum tile size 2" x 2" (50 mm x 50 mm).
- Seams, perimeters, and corners need to be sealed with Proband 150 when water migration is expected or when a waterproof installation is necessary.

EXPANSION JOINTS:

Nuheat Membrane 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).

ORDERING INFORMATION

CATALOG NUMBER	PART NUMBER	DESCRIPTION	DIMENSIONS	STANDARD PACKAGE	
				WEIGHT (lbs)	SIZE (in)
NUMEM161	AC0105	Nuheat Membrane - Large Roll (161 sq ft)	3'3" x 49.5 ft	30 lbs	39" x 14.5"
NUMEM054	AC0106	Nuheat Membrane - Small Roll (54 sq ft)	3'3" x 16.5 ft	10 lbs	39" x 9.5"
PRBPE 1505	AC0107	Waterproofing Seam Tape - 6" x 16 ft	6" x 16 ft	6 lbs	16" x 6" x 12"
PRBPE 1530	AC0108	Waterproofing Seam Tape - 6" x 98 ft	6" x 16 ft	13 lbs	16" x 6" x 12"
NUMEM250	FG0800	Nuheat Membrane - 10.6 sq ft Sheets (25 sheets per box)	3'3" x 3'3"	45 lbs	40" x 40" x 8"

COMBINE WITH NUHEAT CABLE



- Low profile heating cable and electrical lead
- Durable heating cable construction
- Flexible heat output (10 to 15 watts per sq ft)

NUHEAT CABLE 120 VOLT KIT

Model #	Square Foot Coverage			Length (ft)	Total Watts
	3 pillars*	2/3/2 pillars*	2 pillars*		
	10 watts/sq ft	12 watts/sq ft	15 watts/sq ft		
N1C008	9	8	6	29	80
N1C012	14	12	10	47	138
N1C015	17	15	12	57	170
N1C025	30	25	21	98	299
N1C030	36	31	25	120	343
N1C040	45	38	31	148	442
N1C050	57	48	39	188	562
N1C060	71	60	49	234	719
N1C070	81	68	55	265	810
N1C080	97	82	66	318	947
N1C085	102	86	69	334	1021
N1C095	115	97	78	377	1161
N1C110	129	109	88	423	1299
N1C120	145	122	98	474	1461

NUHEAT CABLE 240 VOLT KIT

Model #	Square Foot Coverage			Length (ft)	Total Watts
	3 pillars*	2/3/2 pillars*	2 pillars*		
	10 watts/sq ft	12 watts/sq ft	15 watts/sq ft		
N2C015	17	14	12	56	165
N2C020	24	21	17	80	224
N2C025	31	26	21	102	302
N2C035	41	35	28	136	403
N2C045	54	46	37	178	523
N2C055	63	53	43	207	632
N2C065	76	64	52	250	742
N2C070	84	71	58	277	842
N2C085	102	86	69	334	1020
N2C090	109	92	74	358	1102
N2C100	120	101	82	393	1211
N2C120	145	121	98	472	1427
N2C135	162	136	110	529	1621
N2C145	172	144	116	561	1704
N2C160	193	162	131	630	1914
N2C170	204	171	138	665	2054
N2C190	233	195	157	757	2314
N2C215	261	219	176	849	2589
N2C240	293	246	198	953	2905

Square foot coverages are estimates based on square area with unheated border. * pillars of the uncoupling membrane.

