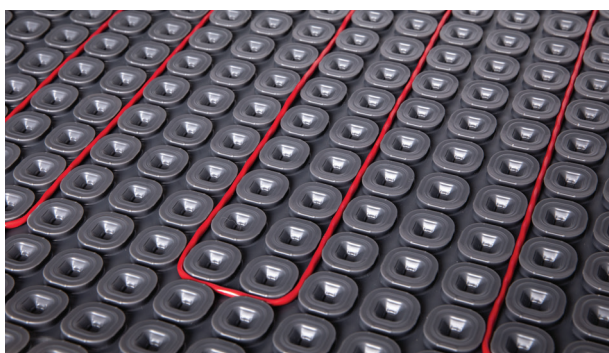


## CONNECT AND PROTECT

# The Integrated Electric Floor Heating and Uncoupling Solution

### PRODUCT OVERVIEW

nVent NUHEAT Membrane is a tile underlayment that can be installed over the entire subfloor for uncoupling, crack isolation, and to make the installation of nVent NUHEAT Cable quicker and easier.



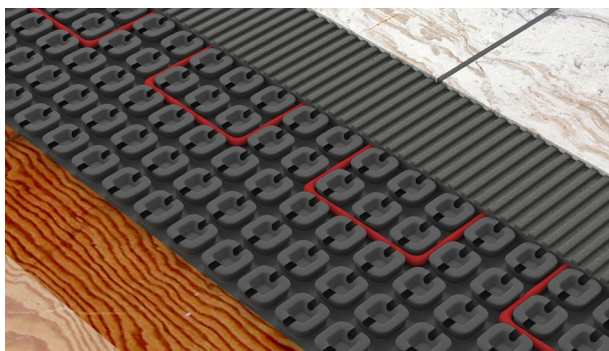
#### nVent NUHEAT Membrane

nVent NUHEAT Membrane is comprised of a polypropylene layer, with square-shaped pillars, that is heat-welded to a layer of non-woven polypropylene fabric. The fabric absorbs thinset in order to bond the Membrane to the substrate below. The square-shaped pillars provide vapor management, allowing moisture to escape from the substrate during the curing process.

nVent NUHEAT Membrane offers waterproofing when installed with waterproofing seam tape.

Once nVent NUHEAT Cable is installed, floor coverings can be installed on top, using [thinset mortar](#) or [self-levelling compound](#).

Membrane is available in rolls and sheets.



#### nVent NUHEAT Peel & Stick Membrane

nVent NUHEAT Peel & Stick Membrane is comprised of a polypropylene layer with vented, square-shaped pillars. The underside of the polypropylene layer is treated with pressure-sensitive adhesive. The square-shaped pillars provide vapor management, allowing moisture to escape from the substrate during the curing process. The vents in the pillars allow thinset applied on top of Peel & Stick Membrane to pass through the polypropylene layer and bond to the substrate below, anchoring Peel & Stick Membrane to the substrate while maintaining the air gaps necessary to absorb subfloor movement.

Peel & Stick Membrane installs in 40% less time than membranes that require a layer of thinset below. Eliminating the lower layer of thinset means it doesn't ooze up through the seams and it reduces floor height buildup.

Once nVent NUHEAT Cable is installed, floor coverings can be installed on top [using thinset mortar](#).

Peel & Stick Membrane is available in sheets only.

#### Additional benefits of nVent NUHEAT Membrane

- Reduces the risk of tile cracks ('High Performance' rating on ANSI A118.12 System Crack Resistance test)
- Replaces one layer of plywood or cement board in the subfloor assembly
- Accommodates nVent NUHEAT Cable, cold lead joint, end seal, and sensor probe without cutting or modification
- nVent NUHEAT Cable can be installed with varied spacing for 10, 12, or 15 W/ft<sup>2</sup> heat output
- Compatible with modified or unmodified thinsets
- 'Extra Heavy' rating in the Robinson Floor Test (ASTM C627): nVent NUHEAT Membrane
- 'Moderate' rating in the Robinson Floor Test (ASTM C627): nVent NUHEAT Peel & Stick Membrane

## PRODUCT SELECTION

### NVENT NUHEAT MEMBRANE

Model #	Part #	Description	Area (ft <sup>2</sup> )	Dimensions	PKG Weight	PKG Size
NUMEM250PS	FG0801	Peel & Stick Membrane Sheets (25 sheets per box)	10.6	3'3" x 3'3"	45 lb.	40" x 40" x 8"
NUMEM161	AC0105	Large Membrane Roll	160.9	3'3" x 49'6"	30 lb.	39" x 14.5"
NUMEM054	AC0106	Small Membrane Roll	53.6	3'3" x 16'6"	10 lb.	39" x 9.5"
NUMEM250	FG0800	Membrane Sheets (25 sheets per box)	10.6	3'3" x 3'3"	45 lb.	40" x 40" x 8"
PRBPE 1505	AC0107	Small Seam Tape Roll		6" x 16'	1 lb.	6" x 3" x 3"
PRBPE 1530	AC0108	Large Seam Tape Roll		6" x 98'	1 lb.	6" x 5" x 5"

### NVENT NUHEAT CABLE

Model number	Square Foot Coverage			Length (ft)	Total Watts
	3 pillars <sup>†</sup>	2/3/2 pillars <sup>‡</sup>	2 pillars <sup>†</sup>		
	10 w/ft <sup>2</sup>	12 w/ft <sup>2</sup>	15 w/ft <sup>2</sup>		
<b>120 Volt Kit</b>					
N1C008	9	<b>8</b>	<b>6</b>	29	80
N1C012	14	<b>12</b>	<b>10</b>	47	138
N1C015	17	<b>15</b>	<b>12</b>	57	170
N1C025	30	<b>25</b>	<b>21</b>	98	299
N1C030	36	<b>31</b>	<b>25</b>	120	343
N1C040	45	<b>38</b>	<b>31</b>	148	442
N1C050	57	<b>48</b>	<b>39</b>	188	562
N1C060	71	<b>60</b>	<b>49</b>	234	719
N1C070	81	<b>68</b>	<b>55</b>	265	810
N1C080	97	<b>82</b>	<b>66</b>	318	947
N1C085	102	<b>86</b>	<b>69</b>	334	1021
N1C095	115	<b>97</b>	<b>78</b>	377	1161
N1C110	129	<b>109</b>	<b>88</b>	423	1299
N1C120	145	<b>122</b>	<b>98</b>	474	1461
<b>240 Volt Kit</b>					
N2C015	17	<b>14</b>	<b>12</b>	56	165
N2C020	24	<b>21</b>	<b>17</b>	80	224
N2C025	31	<b>26</b>	<b>21</b>	102	302
N2C035	41	<b>35</b>	<b>28</b>	136	403
N2C045	54	<b>46</b>	<b>37</b>	178	523
N2C055	63	<b>53</b>	<b>43</b>	207	632
N2C065	76	<b>64</b>	<b>52</b>	250	742
N2C070	84	<b>71</b>	<b>58</b>	277	842
N2C085	102	<b>86</b>	<b>69</b>	334	1020
N2C090	109	<b>92</b>	<b>74</b>	358	1102
N2C100	120	<b>101</b>	<b>82</b>	393	1211
N2C120	145	<b>121</b>	<b>98</b>	472	1427
N2C135	162	<b>136</b>	<b>110</b>	529	1621
N2C145	172	<b>144</b>	<b>116</b>	561	1704
N2C160	193	<b>162</b>	<b>131</b>	630	1914
N2C170	204	<b>171</b>	<b>138</b>	665	2054
N2C190	233	<b>195</b>	<b>157</b>	757	2314
N2C215	261	<b>219</b>	<b>176</b>	849	2589
N2C240	293	<b>246</b>	<b>198</b>	953	2905

**Notes:**

nVent NUHEAT Cable offers flexible spacing for varying watt density, allowing installers flexibility on the job site. Square foot coverages above are estimates based on a square area with unheated border of 2" and actual coverage will vary depending on the number of turns in the cable path (more turns result in slightly less coverage).

**NVENT NUHEAT CABLE GUIDE SPACING/OUTPUT**

\*3-inch spacing in Cable Guides produces 12 W/ft<sup>2</sup> (standard output)

\*\*Alternating 3-inch / 2-inch spacing in Cable Guides produces 15 W/ft<sup>2</sup> (high output), which is best for installations on a concrete slab or when heat loss is a concern.

**NVENT NUHEAT MEMBRANE SPACING/OUTPUT**

†3 pillar spacing in nVent NUHEAT Membrane produces 10 W/ft<sup>2</sup> (low output), which is not typically recommended but possible for low-use areas when trying to stretch coverage.

‡Alternating 2-3-2 pillar spacing in nVent NUHEAT Membrane produces 12 W/ft<sup>2</sup> (standard output).

◆2 pillar spacing in nVent NUHEAT Membrane produces 15 W/ft<sup>2</sup> (high output), which is best for installations on a concrete slab or when heat loss is a concern.

## ROBINSON FLOOR TEST (ASTM C627) RESULTS

Product	Report number	Substrate	Tile	Joist Spacing	Rating
nVent NUHEAT Membrane	TNCA-773-14	OSB/Plywood	12 x 12 Porcelain Tile	19.2" o.c	Extra Heavy
nVent NUHEAT Membrane	TNCA-772-14	Concrete	12 x 12 Porcelain Tile	n/a	Extra Heavy
nVent NUHEAT Peel & Stick Membrane	TCNA-0411-20	OSB/Plywood	12" x 12" Porcelain Tile	19.2" o.c.	Moderate

## APPROVALS



### NUVENT NUHEAT MEMBRANE SPECIFICATIONS

Materials	Polypropylene sheet thermo-bonded to non-woven polypropylene fabric, 0.22 in. thick, 840 grams/m <sup>2</sup>
Subfloor bond	Apply modified or unmodified thinset with 1/4" x 3/8" square- or u-notch trowel
Waterproofing	Yes, when used with waterproofing seam tape
Ratings	Robinson Floor Test (ASTM C627): 'Extra Heavy' rating ANSI A118.12 System Crack Resistance: 'High Performance' rating
Max Ambient Temp.	194°F (90°C)
Storage Conditions	Store in a cool and dry place avoiding direct sunlight and heat sources
Available Formats	Large Roll (161 ft <sup>2</sup> ), Small Roll (54 ft <sup>2</sup> ), Sheets (10.6 ft <sup>2</sup> )

### NUVENT NUHEAT PEEL & STICK MEMBRANE SPECIFICATIONS

Materials	Vented polypropylene sheet with pressure sensitive adhesive and release liner, 0.22 in. thick, 840 grams/m <sup>2</sup>
Subfloor bond	Prep surface with acrylic flooring primer, remove release liner and apply membrane to subfloor; additional mechanical bond is created when thinset passes through mortar vents during floor covering installation
Waterproofing	No
Ratings	Robinson Floor Test (ASTM C627): 'Moderate' rating ANSI A118.12 System Crack Resistance: 'High Performance' rating
Max Ambient Temp.	194°F (90°C)
Storage Conditions	Store in a cool and dry place avoiding direct sunlight and heat sources
Available Formats	Sheets (10.6 ft <sup>2</sup> )

### NUVENT NUHEAT CABLE SPECIFICATIONS

Operating voltage	120 V and 240 V
Power output	10-15 W/ft <sup>2</sup> (depending on wire spacing)
Minimum bending radius	0.5 in (12 mm)
Maximum continuous exposure temperature	194°F (90°C)
Minimum installation temperature	50°F (10°C)
Heating cable	2-wire, grounded, twisted pair with PVC outer jacket
Cold lead	2-wire, 16-18 AWG plus ground braid; 10 ft (3 m) length

#### Notes:

- Recommended nVent NUHEAT Cable spacing is alternating 2-3-2 pillar spacing which produces 12 W/ft<sup>2</sup>
- 2-pillar spacing produces 15 W/ft<sup>2</sup>, which is recommended for installations over concrete slab-on-grade or other areas that require more heat
- 3-pillar spacing produces 10 W/ft<sup>2</sup>, which is insufficient heat output for most applications

## **INSTALLATION: NVENT NUHEAT MEMBRANE**

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1. Prefit nVent NUHEAT Membrane Sheets onto the subfloor, cutting as required to ensure proper coverage of the install area and proper alignment of the pillars and channels.
2. Apply a suitable thinset mortar to the substrate using a 1/4" x 3/8" square-notch or u-notch trowel. nVent NUHEAT Membrane requires approximately 50 lb. of thinset mortar per 100 ft<sup>2</sup>. Follow the thinset mortar manufacturer's preparation instructions.
3. Press Membrane into the thinset mortar using a roller or flat trowel. Check the underside of the Membrane to ensure 100% thinset coverage.
4. Position subsequent rolls or sheets of Membrane to ensure the edges do not overlap and the pillars and channels are aligned to facilitate the installation of nVent NUHEAT Cable. Repeat steps 3 and 4 as required.
5. If using Membrane as a waterproofing layer, apply waterproofing seam tape to all seams.
6. If thinset mortar was allowed to harden prior to Cable installation, it may be necessary to chip hardened thinset away from seams to facilitate Cable routing.
7. Route nVent NUHEAT Cable throughout the heated area using consistent spacing to ensure even heat coverage.
8. Use a flat trowel to cover the membrane with thinset or self-levelling compound to ensure heating cable is encapsulated with thinset.
9. Install floor covering using thinset mortar.

## **INSTALLATION: NVENT NUHEAT PEEL & STICK MEMBRANE**

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1. Prefit nVent NUHEAT Peel & Stick Membrane Sheets onto the subfloor, cutting as required to ensure proper coverage of the install area and proper alignment of the pillars and channels.
2. Clean the substrate to remove any excess dust or debris.
3. Use a 1/4" thin nap roller or brush to apply a thin layer of acrylic floor primer to the substrate. Follow the primer manufacturer's instructions. Apply an even, continuous film and do not allow the primer to puddle.
4. Allow time for the primer to dry and become slightly tacky to the touch (approximately 20 to 25 minutes).
5. Remove release liner from the underside of the Peel & Stick Membrane and place onto the primed substrate. Press down on the membrane to ensure complete contact/bond. To test bond, pull back on one corner of the membrane sheet. If it peels back easily, remove the entire sheet and allow more curing time for the primer.
6. Position subsequent sheets of Peel & Stick Membrane to ensure the edges do not overlap and the pillars and channels are aligned to facilitate the installation of nVent NUHEAT Cable.
7. Route nVent NUHEAT Cable throughout the heated area using consistent spacing to ensure even heat coverage.
8. Use a flat trowel to cover the membrane with thinset. Ensure heating cable is encapsulated and thinset is pushed through the vents in the Peel & Stick Membrane and bonds to the substrate below.
9. Install floor covering using thinset mortar.

### **Notes:**

- If heavy mechanical loads are foreseen (e.g. heavy foot traffic or machinery), it is recommended to protect the Membrane with wooden planks to prevent damage
- Cable resistance must be tested before, during and after installation for warranty coverage
- All wiring connections should be completed by a certified electrician

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