DuPont™ Tyvek® ThermaWrap® LE

Breathable, Low-Emissivity Weather Barrier for Enhanced Energy Efficiency

FEATURES/BENEFITS

Description
DuPont™ Tyvek® ThermaWrap® LE is a non-woven, non-perforated, spun-bonded polyethylene sheet air and moisture barrier made with a metallized, low-emission (low-e) surface that reflects solar radiation away from the building.

In cold weather, this helps prevent radiant heat loss from within the structure. In warmer weather, Tyvek® ThermaWrap® LE turns the tables, reflecting warm air out and away from the structure, to help improve air-conditioning efficiency. In all seasons, that can help make both residential homes and commercial buildings more comfortable, more energy efficient, and less costly to operate.

Like all Tyvek® air and water barriers, Tyvek® ThermaWrap® LE helps prevent water accumulation inside the wall system by allowing moisture vapor to escape to the outside. In turn, this helps reduce the risk of mold and wood rot, which is important in all climates. With its combination of air and water holdout, vapor permeability, and a low-e surface, Tyvek® ThermaWrap® LE provides the best of both worlds for managing energy efficiency.

Ease of Installation
Tyvek® ThermaWrap® LE is easy to install. It is pliable, so it wraps around corners with ease. It is also lightweight, easier to handle, and faster to install than the average house wrap. In addition, because of its flexibility, Tyvek® ThermaWrap® LE easily interfaces at joints and over architectural elements.

Air and Water Barrier Performance
As the only high-perm reflective membrane available today, Tyvek® ThermaWrap® LE provides many layers of thermal and moisture protection to a home:

1. manages radiant heat flow by reflecting solar radiation away from the house, and by reducing the emissivity of the exterior surface to help prevent radiant heat loss
2. breathes to help indoor water vapor diffuse out of wall systems
3. provides an effective air barrier to help reduce infiltration and exfiltration
4. provides a barrier to bulk water that helps keep the wall dry at all times

Nearly two-thirds of the total heat lost or gained through the building envelope occurs through radiant heat flow. Tyvek® ThermaWrap® LE addresses this by helping to dramatically improve the effective R-value of the wall system, making it an excellent vapor-permeable air and water barrier.

Available Sizes
Tyvek® ThermaWrap® LE is available in two different roll sizes:
• 5’ x 150’ (750 sq.ft.)
• 9’ x 100’ (900 sq.ft.)
**Sustainable Solutions**

- By helping to effectively seal the building envelope, DuPont™ Tyvek® ThermaWrap® LE offers the optimal balance of water and air hold-out with vapor permeability, which helps contribute to more sustainable homes and commercial structures by reducing the amount of energy required for heating and cooling.
- **Tyvek® ThermaWrap® LE** may contribute toward LEED® points in the areas of Energy and Atmosphere (EA): Optimizing the Building Envelope and Indoor Environmental Air Quality (EQ): Construction IAQ Management Plan and Low Emitting Materials. In addition, the use of a continuous air barrier is a prerequisite for LEED® applications requiring compliance with ASHRAE 90.1-2010.

**High Performance Durability**

- Originally designed to improve thermal performance of wall systems in some of the coldest climates of northern Europe, Tyvek® ThermaWrap® LE is also highly effective at reducing heat gain when the weather turns hot.
- The high-perm, reflective membrane regulates radiant energy for increased comfort and reduced energy costs by using a metallized face to reflect heat away from wall surfaces and provides the best possible control of condensation in a wall, helping to minimize the risk of mold, mildew and wood rot.
- **Tyvek® ThermaWrap® LE** withstands up to four months of UV exposure.

**Complete System**

Tyvek® ThermaWrap® LE can be integrated with DuPont self-adhered flashing products and Tyvek® Fluid Applied products to offer seamless protection for wall systems that require mechanically fastened and fluid applied air and water barriers.

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**PROPERTIES**

Tyvek® ThermaWrap® LE exhibits physical properties as indicated in Table 1 when tested as represented. Review all instructions and (Material) Safety Data Sheet (M)SDS before use. Please contact DuPont at 1-800-488-9835 when additional guidance is required for writing specifications that include this product.

**TABLE 1: Physical Properties for Tyvek® ThermaWrap® LE**

<table>
<thead>
<tr>
<th>Test Method</th>
<th>Property</th>
<th>Typical Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASHRAE Tables1 (emittance measured with ASTM C1371)</td>
<td>Effective R-value (including 3/4” air space)</td>
<td>R-2</td>
<td>–</td>
</tr>
<tr>
<td>ASTM E2178</td>
<td>Air Penetration Resistance</td>
<td>0.02</td>
<td>cfm/ft²@1.57 psf</td>
</tr>
<tr>
<td>Gurley Hill (TAPPI T-460)</td>
<td>Air Penetration Resistance</td>
<td>900</td>
<td>sec/100cc</td>
</tr>
<tr>
<td>ASTM E96-00 Method B</td>
<td>Water Vapor Transmission</td>
<td>475</td>
<td>g/m²-24 hrs</td>
</tr>
<tr>
<td>ASTM E96-00 Method B</td>
<td>Water Vapor Transmission</td>
<td>68</td>
<td>perms</td>
</tr>
<tr>
<td>ATTC 127</td>
<td>Water Penetration Resistance</td>
<td>210</td>
<td>cm</td>
</tr>
<tr>
<td>TAPPI T-410</td>
<td>Basis Weight</td>
<td>2.5</td>
<td>oz/yd²</td>
</tr>
<tr>
<td>ASTM D882</td>
<td>Breaking Strength</td>
<td>29/27</td>
<td>lbs/in</td>
</tr>
<tr>
<td>ASTM D1117</td>
<td>Tear Resistance (Trapezoid)</td>
<td>12/7</td>
<td>lbs</td>
</tr>
<tr>
<td>ASTM E84</td>
<td>Surface Burning Characteristics</td>
<td>10</td>
<td>Class A</td>
</tr>
<tr>
<td>ASTM D1117</td>
<td>Surface Burning Characteristics</td>
<td>40</td>
<td>Class A</td>
</tr>
<tr>
<td>ATM E84</td>
<td>Flame Spread Index</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATM D1117</td>
<td>Smoke Developed Index</td>
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</tr>
</tbody>
</table>

Test results shown represent roll averages. Individual results may vary either above or below averages due to normal manufacturing variations, while continuing to meet product specifications.

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1 2001 ASHRAE Handbook of Fundamentals, Chapter 25 - Table 3

For more information visit us at tyvek.com or call 1-800-448-9835

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