

# DuPont™ Tyvek® ThermaWrap® LE

Breathable, Low-Emissivity Water-Resistive and Air Barrier (WRB)  
for Enhanced Energy Efficiency



## FEATURES/BENEFITS

### Description

DuPont™ Tyvek® ThermaWrap® LE is a non-woven, non-perforated, spun-bonded polyethylene sheet air and water-resistive 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-resistive barriers (WRBs), 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 light weight, 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

Tyvek® ThermaWrap® LE provides many layers of thermal and moisture protection to a home:

- 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
- breathes to help indoor water vapor diffuse out of wall systems
- provides an effective air barrier to help reduce infiltration and exfiltration
- provides a barrier to bulk water that helps keep the wall dry at all times
- ASTM E2556, Type II Compliant – Standard Specification for Vapor Permeable Flexible Sheet Water-Resistive Barriers Intended for Mechanical Attachment.

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 the following roll sizes:

- 5' x 150' (1.5 m x 46 m)
- 9' x 100' (2.7 m x 31 m)

### 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.

### 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 (120 days) 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.

## PROPERTIES

Review all instructions and (Material) Safety Data Sheet ((M)SDS) before use. Please contact your local DuPont™ Tyvek® Specialist before writing specifications around this product. Product properties are as follows.

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

Test Method	Property	Typical Value	Units
ASHRAE Tables <sup>1</sup> (emittance measured with ASTM C1371)	Effective R-value (including 3/4" air space)	R-2	-
ASTM E2178	Air Penetration Resistance	.002	cfm/ft <sup>2</sup> @1.57 psf
Gurley Hill (TAPPI T-460)	Air Penetration Resistance	900	sec/100cc
ASTM E96-00 Method B	Water Vapor Transmission	475 68	g/m <sup>2</sup> -24 hrs perms
AATCC 127	Water Penetration Resistance	210	cm
TAPPI T-410	Basis Weight	2.5	oz/yd <sup>2</sup>
ASTM D882	Breaking Strength	29/27	lbs/in
ASTM D1117	Tear Resistance (Trapezoid)	12/7	lbs
ASTM E84	Surface Burning Characteristics	10 Class A	Flame Spread Index
AATCC 127	Surface Burning Characteristics	40 Class A	Smoke Developed Index
-	Ultra Violet Light Exposure (UV)	120 (4)	days (months)

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.

<sup>1</sup> 2001 ASHRAE Handbook of Fundamentals, Chapter 25 - Table 3

\* Formerly called DuPont™ Tyvek® ThermaWrap® and now known as DuPont™ Tyvek® ThermaWrap® LE. This rebranding is intended to place emphasis on the low emissivity benefits that Tyvek® ThermaWrap® LE has to offer. The physical properties of the product have not changed.



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