

## DESCRIPTION

EVOLVE lumber is composed of a blend of pre-consumer/post-consumer and virgin high density polyethylene (HDPE #2 Plastic) and does not harbor harmful mold or bacteria. The plastic is impregnated with colorant and UVI to help protect the material from physical degradation, flaking, and color fade. EVOLVE is made from 100% recyclable material. However, it may not be accepted by standard municipal recycling centers or curbside programs. Please contact us for recycling options.

EVOLVE lumber is a non-commingled “pultruded” product. This promotes a network of complete molecular linkage. EVOLVE lumber is able to sustain normal loading at temperatures ranging from -40°F to 110°F with proper installation. EVOLVE lumber is manufactured using only heavy-metal free colorant to meet current and future federal standards.

EVOLVE lumber not only looks like natural wood materials, but outperforms them by decades. EVOLVE can be used to create any outdoor living space including decks, docks, pergolas, playgrounds, and boardwalks. EVOLVE can be sawed, drilled and screwed with standard tools without the typical splitting and warping of traditional wood products. EVOLVE is a beautiful, premium finishing product and is not intended to be used as a structural component.

EVOLVE lumber products are manufactured in a variety of dimensional lumber and timber sizes. EVOLVE lumber has excellent weathering resistance; however, as with many other polyolefin, the material will fade over the service life of the product. The product requires no waterproofing, painting, staining, or similar maintenance when used in many exterior applications.

## BASIC USES

EVOLVE lumber products are used in a variety of residential, commercial, and marine applications. EVOLVE lumber is often the product of choice for exterior applications where resistance to salt and fresh water, marine borers, and other environmentally harsh conditions are required. It is well suited for:

- ⇒ Dock and deck planks
- ⇒ Commercial Site Furnishing
- ⇒ Outdoor Furniture
- ⇒ Wall Guards
- ⇒ Posts and rails
- ⇒ Speed Bumps
- ⇒ Parking Blocks
- ⇒ Pallets

## Technical Properties

Mechanical Properties @ 70°F	ASTM Standard	Average Value
Density/Specific Gravity (g/cc)	D6111	0.7064
Density/Specific Gravity (pcf)	D6111	44.1
Water Absorption	D570	< 0.1
Compression - Secant Modulus (psi)	D6108	104,420
Compression – Stress @ 3% Strain (psi)	D6108	1,999
Flexure – Secant Modulus (psi)	D6109	113,595
Fastener Pullout Failure Load (lbs)	D6117	1,522
Fastener Shear Maximum Load (lbs)	D6117	769
Coefficient of Friction – Embossed (Dry) Rubber	D2047	0.90
Coefficient of Friction - Embossed (Wet) Rubber	D2047	0.97
Thermal Expansion (standard) (in/in/°F)	D6341	4.965 x 10 <sup>-5</sup>
Thermal Expansion (decking) (in/in/°F)	D6341	4.33 x 10 <sup>-5</sup>
Flame spread	E84	Class C

## LIMITATIONS

Building code regulations vary by region, so all users should consult local building and safety codes prior to installation for specific requirements.

## INSTALLATION

EVOLVE lumber can be fabricated and installed with the same tools used to work wood lumber. The product will cut and drill very cleanly, as there is no grain to split or chip, or knots to bind tools and bend fasteners. Standard wood working safety equipment should be used when working with the material, as well as safety glasses or goggles. Please reference the EVOLVE lumber installation guide.

## TECHNICAL SERVICES

Technical inquiries should be directed to RENEW Plastics at 1-800-666-5207 or visit our website at <http://www.renewplastics.com>

- *1 ½" x 5 ½" EVOLVE® profile used in testing data at various lengths required by the ASTM test method noted*
- *Lower density may occur in larger cross sections*
- *The above testing was performed by an independent 3<sup>rd</sup> party testing agency in or before January 2014*