Environmental Impact

Use EVOLVE® for Green Building

When you build with EVOLVE recycled plastic lumber, you demonstrate your commitment to the environment and sustainable living.

EVOLVE recycled plastic lumber products are 100% plastic and generally contain over 90% recycled high density polyethylene (ReHDPE) material. Unlike wood-plastic composite (WPC), EVOLVE is 100% recyclable.

- Highly sanitized, pure plastic from post-consumer and post-industrial material
- No harsh chemicals to leach into the environment
- PVC and BPA Free
- 100% recyclable

Because EVOLVE doesn’t absorb water, it won’t harbor harmful mold or bacteria. That means a healthier environment for you and the rest of the world.

Our Green Initiative

---

N E W Plastics Corp. makes efforts to reduce the footprint of human consumption. This seal represents our commitment to corporate policies and practices that protect the environment for future generations.

Click on the seal to learn more >>>
FAQs - Consumer

For additional information and construction details, visit the FAQ Professional page.

Q. What is EVOLVE® high-density plastic lumber?
A. EVOLVE high-density plastic lumber is a solid, non-hollow foamed recycled plastic made from recycled high density polyethylene (ReHDPE) plastic, with no fillers. Common HDPE (recycling code # 2) products are gallon style milk, water and juice containers, as well as some detergent and shampoo bottles.

Q. What percentage of EVOLVE high-density plastic lumber is made from recycled plastic?
A. EVOLVE plastic lumber is 100% plastic with no wood fillers to rot, peel, weather or blister, and generally contains over 90% recycled HDPE plastic material.

Q. How much does EVOLVE alternative plastic decking weigh?
A: EVOLVE® plastic decking is comparable in weight to a good hardwood such as oak.

Q. What standard decking colors are available in inventory?
A. Standard colors in our deck and dock profiles are Dove Gray, Cedar, Weatherwood, and some railing material in White. Standard decking profile colors are subject to change over time.

Q. Are the EVOLVE plastic lumber boards colored throughout?
A. Yes, even when cut or routed, the exposed product is colored.

Q. Will my EVOLVE plastic lumber boards have consistent color and texture?
A. We make every effort to maintain color consistency. However, due to utilizing recycled materials, and the standard allowable variances in the color we purchase, shade variations can occur in our lumber. The texture may be slightly different from board to board due to the manufacturing process.

Q. Can an EVOLVE deck be stained or painted?
A. Staining or painting will not harm alternative decking material from EVOLVE. However, EVOLVE was designed to eliminate the need for such work. Stain or paint, if applied to the boards, will not penetrate the surface because the product doesn’t absorb moisture. Therefore, stains or paints will tend to flake off the surface of the material over time.

Q. Will EVOLVE plastic lumber fade over time?
A. All of our EVOLVE high density plastic lumber has ultra-violet (UV) stabilizers added to help protect the color and the integrity of the HDPE.

Q. Do you have any minimum order requirements?
A. Yes, please see the Profile Chart for minimum order quantities.

Q. Does EVOLVE plastic lumber have a grain pattern?
A. EVOLVE high density plastic lumber is very durable, and yet flexible. It does require more substructure compared to wood lumber because it doesn’t have a grain pattern. Our product eliminates grain splitting.

Q. How long will my EVOLVE deck or dock last?
A. EVOLVE high density plastic lumber is still going strong after over twenty years of accelerated weather testing. We haven’t seen the total life span of the product to date. We do have product installed on boat docks since 1976 with no sign of degradation.

Q. How do I take care of my plastic lumber decking?
A. Washing EVOLVE plastic lumber with a hose or a mop is about all that is needed under normal circumstances. You can use a mixture of bleach and water (1 part bleach to 10 parts water) to clean stubborn stains on the material.

Q. Will an EVOLVE deck or dock be slippery when wet?
A. EVOLVE high density plastic lumber is no more slippery than painted or sealed wood when wet. A natural film, which can’t be seen or felt, is left on the surface of the material after manufacturing. Sunlight will normally "burn off" this film in a few weeks.
Environmental Impact

Sustainable Manufacturing

EVOVLE® is 100% polyethylene recyclable plastic. Companies who use it can promote their commitment to green manufacturing and appeal to a growing consumer demand for environmentally responsible products.

EVOOLVE recycled plastic lumber products generally contain over 90% recycled high density polyethylene (ReHDPE) material.

- Highly sanitized, pure plastic from post-consumer and post-industrial material
- No harsh chemicals to leech into the environment
- 100% recyclable

Because EVOOLVE doesn’t absorb water, it won’t harbor harmful mold or bacteria. That means a healthier environment for you and the rest of the world.

Our Green Initiative

NEW Plastics Corp makes efforts to reduce the footprint of human consumption. This seal represents our commitment to corporate policies and practices that protect the environment for future generations.

Click on the seal to learn more >>>
DIVISION 06 - WOOD AND PLASTICS
Section 06500 - Structural Plastics

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www.renewplastics.com
(920) 845-2326

1.0 SUBJECT
1.1 Perma-Poly™ Lumber Plastic Decking
1.2 EVOLVE® Lumber Plastic Decking

2.0 PROPERTY FOR WHICH EVALUATION IS SOUGHT
Structural

3.0 DESCRIPTION
3.1 General
RENEW Plastics’ Perma-Poly™ and EVOLVE® Lumber Plastic Decking are used as a flooring or non-structural trim components for exterior balconies, porches, decks, and other exterior walking surfaces where combustible construction is permitted. Perma-Poly™ and EVOLVE® are the same product with different names for marketing purposes. Perma-Poly™ and EVOLVE® is a plastic composite material that consists of at least 90% recycled Type 2 High Density Polyethylene (HDPE) with the remainder of material being foaming agents and color with UV inhibitors. The HDPE composite material is manufactured by a continuous extrusion process in accordance with the listed quality control manual to produce comparable lumber-sized members with nominal sizes as listed in Table 1 of this report.

3.2 Structural
Table 1 lists the allowable spans of Perma-Poly™ and EVOLVE® Lumber used as decking (flat-wise bending).

4.0 INSTALLATION
The manufacturer’s published installation instructions and this report shall be strictly adhered to and a copy available on the jobsite at all times during installation. The installation instructions within this report govern if there are any conflicts between the manufacturer’s published installation instructions and this report.

### TABLE 1

<table>
<thead>
<tr>
<th>LUMBER SIZE (inches)</th>
<th>MAXIMUM UNIFORM LOAD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40 psf</td>
</tr>
<tr>
<td>¾ x 5½</td>
<td>12</td>
</tr>
<tr>
<td>¾ x 6</td>
<td>12</td>
</tr>
<tr>
<td>1 x 5½</td>
<td>16</td>
</tr>
<tr>
<td>1½ x 3½</td>
<td>16</td>
</tr>
<tr>
<td>1½ x 5½</td>
<td>23</td>
</tr>
</tbody>
</table>

SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa

1. Spans are for members used as planking (flat-wise bending).
2. Members shall be supported by a minimum of three joist (2 spans) and shall be fastened at each joist.
3. Use of members as stair treads is outside the scope of this table.

5.0 IDENTIFICATION
Perma-Poly™ and EVOLVE® Lumber Plastic Decking planks shall be labeled with the manufacturer’s name and/or trademark, the product name, the name and/or trademark of the third party inspection agency (Intertek) and this evaluation report number.

6.0 EVIDENCE SUBMITTED
6.1 Manufacturer’s descriptive literature and installation instructions.


6.6 Test report on Standard Flame Spread Test Program in accordance with ASTM E 84, prepared by Intertek Testing Services, Report No. 3031070, dated August 30, 2002, signed by Greg Philp and Michael van Geyn.

6.7 Span length calculations for 40 psf and 100 psf at 130°F, prepared by Intertek Testing Services, Project 3022869, dated July 30, 2003, signed and sealed by Cameron Robinson, P.Eng.

7.0 CONDITIONS OF USE

The ICC-ES Subcommittee for the National Evaluation Service, Inc. finds that the application of Perma-Poly™ and EVOLVE® Lumber Plastic Decking as described in this report complies with or is a suitable alternate to the materials prescribed in the 2000 International Building Code®, the 2002 Accumulative Supplement to the International Codes™, the BOCA® National Building Code©1999, the 1999 Standard Building Code©, the 1997 Uniform Building Code™, and the 2000 International Residential Code® subject to the following conditions:

7.1 Perma-Poly™ and EVOLVE® Lumber Plastic Decking shall be limited to exterior applications where combustible construction is permitted.

7.2 Use of Perma-Poly™ and EVOLVE® Lumber Plastic Decking in applications where fire-rated construction is required is outside the scope of this report.

7.3 Perma-Poly™ and EVOLVE® Lumber shall be gapped to permit adequate drainage in accordance with the manufacturer's instructions.

7.4 Perma-Poly™ and EVOLVE® Lumber shall not be attached to any solid surface or watertight flooring system, such as sheathing, waterproof membranes, concrete, roof decks, or patios.

7.5 Use of Perma-Poly™ and EVOLVE® Lumber in applications where the code requires solid-sawn lumber to be naturally durable or preservative-treated is outside the scope of this report.

7.6 Use of Perma-Poly™ and EVOLVE® Lumber for single span applications is outside the scope of this report.

7.7 Perma-Poly™ and EVOLVE® Lumber shall be fastened directly to floor joists having adequate strength and stiffness in accordance with the applicable code.

7.8 Perma-Poly™ and EVOLVE® Lumber shall not be used in applications that will cause the temperature of the board to exceed 130°F (54°C).

7.9 This report is subject to periodic re-examination. For information on the current status of this report, consult the ICC-ES website.
### Applications

**Strong, Recyclable Plastic**

EVOLVE® is strong, impervious to most chemicals, needs minimal (if any) maintenance, and is highly cost effective. EVOLVE is composed of polyethylene and is entirely recyclable.

<table>
<thead>
<tr>
<th>Material Characteristics</th>
<th>Application Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-absorptive</td>
<td>Trim costs</td>
</tr>
<tr>
<td>Impervious to most chemicals</td>
<td>Increase product life</td>
</tr>
<tr>
<td>Solid color to core</td>
<td>Decrease noise</td>
</tr>
<tr>
<td>Durable, wear resistant</td>
<td>Reduce wear</td>
</tr>
<tr>
<td>Flame resistant</td>
<td>Minimize downtime</td>
</tr>
<tr>
<td>Environmentally friendly</td>
<td></td>
</tr>
<tr>
<td>Machinable</td>
<td></td>
</tr>
<tr>
<td>Variety of colors</td>
<td></td>
</tr>
</tbody>
</table>

EVOLVE has been successfully utilized in many industrial, commercial and agricultural applications.

[Product Application List](#)
EVOLVE® LUMBER
EVOLVE lumber is a solid, non-hollow, foamed recycled product manufactured from recycled Type 2 High Density Polyethylene (ReHDPE), with no fillers. The composite mixture of the end product is at least 90% ReHDPE, utilizing both post-consumer and post-industrial materials. The plastic is impregnated with colorant and UVI to help protect the material from physical degradation, flaking and color fade.
EVOLVE lumber is a non-commingled "pulltruded" 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 colorants, to be environmentally friendly, and to meet current and future federal standards.

PERMA-POLY® SHEETING
Perma-Poly sheet material is manufactured from a mixture of virgin and recycled Type 2 High Density Polyethylene (HDPE & ReHDPE). The composite mixture of the end product is at least 50% ReHDPE, utilizing both post-consumer and post-industrial materials. The plastic is impregnated with colorant and UVI to help protect the material from physical degradation, flaking and color fade.
Perma-Poly sheet is a non-commingled, extruded product. This promotes a network of complete molecular linkage. Perma-Poly sheet is able to sustain normal loadings at temperatures ranging from -40°F to 110°F with proper installation.
Perma-Poly sheet is manufactured using only heavy-metal free colorants, to be environmentally friendly, and to meet current and future federal standards.
EXHIBIT B
Structural Components without the worry

Trimax Structural Lumber is a patented formulation of fiberfil and recycled milk jugs. Together, these ingredients form structural components that allow the consumers the ability to build structures out of plastic lumber, from the ground up!

Why Trimax?

ACQ, CCA, what does this REALLY mean for me?

Pressure treated lumber has become a topic that is ever changing. First, in many years past, CCA (chromated copper arsenate) treated lumber was the answer. This was a durable treatment that would help the lumber weather the elements. Upon research and investigation, in December of 2003, the EPA (Environmental Protection Agency) banned the use of CCA treated lumber saying that other treatments are "safer." Now ACQ (alkaline copper quat) is recommended, but within the first year, ACQ, due to the extremely high levels of copper has been found to corrode fasteners at an accelerated pace.

The question is, what health issues in the future will they find wrong with ACQ? And how can I protect my loved ones against any of these issues?

And by the way, Trimax doesn't rot, warp, crack, chip, splinter or fade.

The answer is simple. Trimax Structural Lumber.

Trimax as a Deckboard

Trimax Structural Lumber is a great fit for use as structure but because it is structural, Trimax is also a great fit for a deck board. Trimax manufactures boards that have varying thicknesses. Please refer the the chart below that shows the joist spacing that can be used for deckboards of varying thicknesses.

<table>
<thead>
<tr>
<th>Trimax Deckboard Allowable Joist Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>
TRIMAX® Structural Lumber

DESCRIPTION

TRIMAX® Structural Lumber is a high-performance construction material consisting of a patented formula of recycled plastic, fiberglass, and select additives. The plastic raw material utilized in Structural Lumber is derived from post-consumer bottle waste such as milk and detergent bottles. The material is compounded into a consistent mixture of fiberglass and plastic that give it the structural properties in the table below.

Structural Lumber is a cost-effective and high-performance timber product for marine construction and commercial applications. It has exceptional resistance to marine borers, salt spray, termites, corrosive substances, oils and fuels, fungi, and other environmental stresses. It does not absorb moisture, therefore, it will not rot, splinter or crack.

Structural Lumber products are manufactured in many dimensional lumber and timber sizes, particularly in large cross sections. Deck and dock planks, sheet piling, wale timbers, canals, fenders, and piles are all available from TRIMAX® Structural Lumber. The product comes in almost any transportable length and is standard in Black. It can be special ordered in colors to complement HDPE.

Structural Lumber has excellent weathering resistance; however, as with many other polyolefins, 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

Structural Lumber products are used in a variety of commercial and marine applications and are often the product of choice for exterior applications where resistance to salt and fresh water, marine borers, and other environmentally harsh conditions is required. Due to the unique composition of TRIMAX® Structural Lumber, the product can be used for a number of structural members in commercial and shoreline timberwork. It is well suited for:

- Dock and dock planks
- Wale Timbers
- Sheet piling
- Canals
- Piling
- Fenders
- Channel markers
- Posts, beams, and joists

Structural Properties

<table>
<thead>
<tr>
<th>Mechanical Properties @ 70 F</th>
<th>Test Method</th>
<th>Average Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density lbs/cu. ft</td>
<td>ASTM D611-09</td>
<td>0.34</td>
</tr>
<tr>
<td>Water Absorption</td>
<td>ASTM D570-98</td>
<td>&lt; 0.1</td>
</tr>
<tr>
<td>Modulus of Rupture (MOR)</td>
<td>ASTM D6109-05</td>
<td>4.134 psi</td>
</tr>
<tr>
<td>Modulus of Elasticity (MOE)</td>
<td>ASTM D6109-05</td>
<td>329.787 psi</td>
</tr>
<tr>
<td>Secant MOE at 1% Strain</td>
<td>ASTM D6109-05</td>
<td>288.751 psi</td>
</tr>
<tr>
<td>Compression Parallel to Grain</td>
<td>ASTM D196-05</td>
<td>3.715 psi</td>
</tr>
<tr>
<td>Compression Perpendicular to Grain</td>
<td>ASTM D143-94</td>
<td>2.516 psi</td>
</tr>
<tr>
<td>Shear Strength</td>
<td>ASTM D143-94</td>
<td>1.826 psi</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>ASTM D196-05</td>
<td>3.078 psi</td>
</tr>
<tr>
<td>Doumometer Hardness</td>
<td>ASTM D2240-05</td>
<td>68.2</td>
</tr>
<tr>
<td>Abrasion Resistance</td>
<td>ASTM D4000-10</td>
<td>42 mg</td>
</tr>
<tr>
<td>Chemical Resistance</td>
<td>ASTM D643-06</td>
<td>3%</td>
</tr>
<tr>
<td>Tensile Properties</td>
<td>ASTM D636-10</td>
<td>3660 psi</td>
</tr>
<tr>
<td>Coefficient of Friction (Dry)</td>
<td>ASTM D2047</td>
<td>0.95</td>
</tr>
<tr>
<td>Coefficient of Thermal Expansion</td>
<td>ASTM D341-98</td>
<td>0.000021</td>
</tr>
<tr>
<td>Screw Withdrawal</td>
<td>ASTM D1761-06</td>
<td>938 lbf/in</td>
</tr>
<tr>
<td>Flame spread</td>
<td>ASTM E84</td>
<td>Class C</td>
</tr>
</tbody>
</table>

*Load limited by allowable stress of 1000 psi.

Note: Table provides limiting uniform load present on three spans in pounds per square foot (psf) based on noted deflection criteria.

Recommended standard is to limit live load deflection for floors to L360° and to limit total deflection (dead + live load) to L240°. Designers may choose less restrictive or more restrictive criteria for a given application. Except for very unusual and heavy loading, deflection criteria will control allowable plank span.

Deflection determination is based on a modulus of elasticity equal to 325,000 psi at 70° Fahrenheit.

Technical Services: Technical inquiries should be directed to RENEW Plastics at 1-800-686-5207 or visit our website at http://www.trimaxdp.com

LIMITATIONS

This type of plastic lumber product has a significantly higher modulus of elasticity (MOE) than conventional forms of plastic lumber. It is important to evaluate the suitability of this product for specific uses. It is recommended that an engineering study be performed prior to the use of Structural Lumber products for structural applications. Building code regulations vary by region, so all users should consult local building and safety codes prior to installation for specific requirements.

INSTALLATION

Structural 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. It is reinforced with glass fibers, and precautions should be taken when fabricating this product. Maintain adequate ventilation when generating fabrication dust, and personal respiratory protection such as dust masks should be employed during fabrication, as well as safety glasses or goggles.

Pilings and sheet piling products, can be driven with pile-driving equipment such as vibratory hammers, land-based or barge-mounted drop hammers, or waterjets. For sheet piling installations, backfill soils should always be analyzed to determine that the proper amount of force would be exerted on the sheet piling system. For shoreline timberwork applications, Structural Lumber is used with conventional hardware such as stainless or galvanized bolts, tie rods, nuts, washers, and anchor systems.

When using Structural Lumber for decking, joist spacing should be in accordance with the span tables. Multiple span data at 120°F or less are presented here:

| Structural Allowable Live Load (psf), Multiple Span, at 120° F or less |
|-----------------------------|---------------------|---------------------|
| Deflection Limit            | 12" Span | 18" Span | 24" Span |
| Structural 2X Decking Board (f = 1.50) | L360°  | 2988 PSF | 927 PSF | 278 PSF |
| L240°                        | 3000 PSF | 1391 PSF | 412 PSF |
| L180°                        | 3000 PSF | 1618 PSF | 550 PSF |

Note: Tables provide limiting uniform load present on three spans in pounds per square foot (psf) based on noted deflection criteria.

Recommended standard is to limit live load deflection for floors to L360° and to limit total deflection (dead + live load) to L240°. Designers may choose less restrictive or more restrictive criteria for a given application. Except for very unusual and heavy loading, deflection criteria will control allowable plank span.

Deflection determination is based on a modulus of elasticity equal to 325,000 psi at 70°F Fahrenheit.

Technical Services: Technical inquiries should be directed to RENEW Plastics at 1-800-686-5207 or visit our website at http://www.trimaxdp.com

Updated 2/18/13
TRIMAX Structural Lumber

- TRIMAX is a Plastic (HDPE)-fiberglass blend
  - The plastic component is recycled
  - The product is recyclable & CONTAINS NO WOOD
  - It resists stains, mold and spotting like EVOLVE®

- TRIMAX is great for:
  - Deck / dock substructures
  - Posts
  - Benches and Bleachers
  - Fencing
  - And more

- Call your representative or customer service for information
COLORS: Standard = Safety Yellow
Special Order colors are available – contact RENEW Plastics for more details.

Slight color variations may occur from one production run to another due to variations in recycled feedstock and standard allowable tolerances of colorants used in the manufacturing process.

LENGTHS: Standard = 4', 6', 8', 9', 10', and 12'
Special Order lengths are available in virtually any desired length - contact RENEW Plastics for more details.

COMPOSITION: EVOLVE® speed bumps are solid, non-hollow, foamed recycled products manufactured from recycled Type 2 High Density Polyethylene (ReHDPE), with no fillers. The composite mixture of the end product is at least 90% ReHDPE, utilizing both post-consumer and post-industrial materials. The plastic is impregnated with colorant and UV to help protect the material from physical degradation, flaking and color fade.

EVOLVE plastic extrusions are non-commingled “pullrused” products. This promotes a network of complete molecular linkage. EVOLVE products are able to sustain normal loadings at temperatures ranging from -40°F to 110°F with proper installation.

EVOLVE products are manufactured using only heavy-metal free colorants, to be environmentally friendly, and to meet current and future federal standards.
DIVISION: 06—WOOD AND PLASTICS
Section: 06500—Structural Plastics

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EVALUATION SUBJECT
EVOLVE® PLASTIC LUMBER DECKING (ALSO KNOWN AS PERMA-POLY DECKING)

1.0 EVALUATION SCOPE
Compliance with the following codes:
- 2006 International Building Code® (IBC)
- 2006 International Residential Code® (IRC)

Properties evaluated
- Structural
- Durability
- Surface-burning characteristics

2.0 USES
The EVOLVE® (also known as Perma-Poly) Plastic Lumber Decking is limited to exterior use applications as deck boards for balconies, porches and decks of one- and two-family dwellings of Type V-B (IBC) construction and constructions allowed by the IRC.

3.0 DESCRIPTION
3.1 General:
EVOLVE® or Perma-Poly Plastic Lumber Decking is made of a plastic composite material that consists of 90 percent recycled high-density polyethylene (HDPE), with the remaining 10 percent being foaming agents and color with ultraviolet inhibitors. The deck boards are manufactured by an extrusion process in the colors black, dove gray, dark green, weatherwood, cherrywood and white. The deck boards are manufactured in 7/4-inch-by-3-1/2-inch (19 by 89 mm), 7/4-inch-by-5-1/2-inch (19 by 140 mm), 7/4-inch-by-6-inch (19 by 152 mm) tongue and groove, 1-inch-by-6-inch (25.4 by 140 mm), 1-inch-by-6-inch (25.4 by 152 mm) tongue and groove, 1-1/2-inch-by-3-1/2-inch (38 by 89 mm), 1-1/2-inch-by-5-1/2-inch (38 by 140 mm) and 1-inch-by-11-1/2-inch (25.4 by 286 mm) solid profiles. See Figure 1 for typical cross sections.

2.2 Durability:
When subjected to weathering, insect attack, and other decay-related elements, the material used to manufacture EVOLVE® decking is equivalent in durability to preservative-treated or naturally durable lumber when used in locations described in Section 2.0 of this report. The deck boards have been evaluated for structural use when exposed to temperatures from -20°C to 125°F (-29°C to 52°C).

3.3 Surface-burning Characteristics:
When tested in accordance with ASTM E 84, the deck board products have a flame-spread index no greater than 200.

4.0 DESIGN AND INSTALLATION
4.1 General:
Installation of the deck boards must comply with this report and the manufacturer's published installation instructions. The manufacturer's published installation instructions must be available at the job site at all times during installation. When the manufacturer's published installation instructions differ from this report, this report governs.

4.2 Design (Structural):
When used as a deck board, EVOLVE® decking products have an allowable capacity, when installed at a maximum center-to-center spacing of supporting construction, as prescribed in Table 1.

4.3 Installation:
The end-to-end gap of the deck boards must be 1/16 inch (1.6 mm) for every 20°F (11°C) of difference between the installation temperature and the hottest anticipated temperature after installation. A minimum 1/8-inch (3.2 mm) gap must be provided between deck board edges. The end of each deck board must be supported by a joist. Double joists are required where deck joists butt-joins occur. The EVOLVE® deck boards must be attached at each joist with two No. 7 by 2-1/4-inch-long (57 mm) corrosion-resistant screws. Minimum fastener edge and end distances must be 1 inch (25.4 mm).
5.0 CONDITIONS OF USE

The EVOLVE® decking described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 The EVOLVE® (also known as Perma-Poly) Plastic Lumber Decking is limited to exterior use applications as deck boards for balconies, porches and decks of one- and two-family dwellings of Type V-B (IBC) construction and dwellings constructed in accordance with the IRC.

5.2 Balconies constructed on one- and two-family dwellings in accordance with the IBC and rated for 60 psf (2874 Pa) must not exceed 100 square feet (9.29 m²) in total area.

5.3 The use of EVOLVE® deck boards as stair treads is outside the scope of this report.

5.4 Installation must comply with this report, the manufacturer's published installation instructions and the applicable code. When the manufacturer's published installation instructions differ from this report, this report governs.

5.5 The use of deck boards as a component of a fire-resistance-rated assembly is outside the scope of this report.

5.6 Only those fasteners and fastener configurations described in this report have been evaluated for installation of the EVOLVE® deck boards. The compatibility of the fasteners with the supporting construction, including chemically treated wood, is outside the scope of this report.

5.7 Adjustment factors outlined in the AFS&PA National Design Standard and applicable codes do not apply to the allowable capacity and maximum spans for EVOLVE® deck boards.

5.8 The EVOLVE® decking must be fastened to supporting construction. Where required by the code official, engineering calculations and construction documents consistent with this report must be submitted for approval. The calculations must verify that the supporting construction complies with the applicable building code requirements and is adequate to resist the loads imparted upon it from the products and systems discussed in this report. The documents must contain details of the attachment to the supporting structure consistent with the requirements of this report. The documents must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

5.9 The EVOLVE® decking is manufactured in Luxemburg, Wisconsin, under a quality control program with inspections by Intertek Testing Services Inc. (AA-690).

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Deck Board Span Ratings and Guardrail Systems (Guards and Handrails) (AC174), dated February 2008 (editorially revised April 2008).

7.0 IDENTIFICATION

The EVOLVE® decking described in this report is identified by a stamp on each individual piece or on the packaging. The stamp includes the manufacturer's name (RENEW Plastics), the product name (EVOLVE® decking), the name of inspection agency (Intertek Testing Services) and the ICC-ES evaluation report number (ESR-2497).
<table>
<thead>
<tr>
<th>DECK BOARD</th>
<th>MAXIMUM SPAN (inches)</th>
<th>ALLOWABLE CAPACITY (lb/ft²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVOLVE® 3/4-by-3 1/2</td>
<td>12</td>
<td>100</td>
</tr>
<tr>
<td>EVOLVE® 3/4-by-5 1/2</td>
<td>12</td>
<td>60</td>
</tr>
<tr>
<td>EVOLVE® 3/4-by-6 T&amp;G</td>
<td>12</td>
<td>60</td>
</tr>
<tr>
<td>EVOLVE® 1-by-5 1/2</td>
<td>16</td>
<td>60</td>
</tr>
<tr>
<td>EVOLVE® 1 1/2-by-3 1/2</td>
<td>24</td>
<td>60</td>
</tr>
<tr>
<td>EVOLVE® 1 1/2-by-5 1/2</td>
<td>24</td>
<td>100</td>
</tr>
<tr>
<td>EVOLVE® 1-by-6 T&amp;G</td>
<td>16</td>
<td>100</td>
</tr>
<tr>
<td>EVOLVE® 1-by-11/4 Bull Nose (used as deck board only)</td>
<td>16</td>
<td>100</td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm; 1 lb/ft² = 47.9 Pa.

1 Maximum span is measured center-to-center perpendicular, of the supporting construction.
2 Maximum allowable capacity is adjusted for durability. No further increases are permitted.
3 Under the IBC, deck boards not rated for at least 100 lb/ft² are limited to 100 square feet (9.29 m²) in total area.

**FIGURE 1—DECK BOARD PROFILES**
Flatness = ±0.038 (measured at center of board)

3/4" x 5 1/2" Flat
Approximate Unit Weight - 1.48 Lbs./Lin. Ft.

Flatness = ±0.038 (measured at center of board)

Edges may be slightly radiused

Approx. R0.062(TYP)

1" x 6 1/2" Flat
Approximate Unit Weight - 1.76 Lbs./Lin. Ft.

Flatness = ±0.038 (measured at center of board)

Approx. R 1/16(TYP)

1 1/2" x 3 1/2"
Approximate Unit Weight - 1.59 Lbs./Lin. Ft.

FIGURE 1—DECK BOARD PROFILES (Continued)
FIGURE 1—DECK BOARD PROFILES (Continued)