

**PolyTuf™** custom engineered extruded shapes are manufactured from purified blends of post consumer, post industrial and virgin HDPE (high density polyethylene) base resins. Additional proprietary additives are compounded into each product as the customer specifies for their unique application. UV –inhibited pigments, anti-oxidant processing aids, foaming agents and other compounds are introduced pending the end use and customers needs.

**FEATURES**

- Manufactured to exacting specifications.
- Essentially maintenance free due to exceptional resistance to moisture, fading, insects, splintering, warping and other common outcomes from environmental stress that one observes with common wood or wood fiber composite products.
- Requires no waterproofing, staining or other common reoccurring maintenance other than the occasional washing with soap and water to remove dirt and debris if desired.
- Very color stable due to UV pigment systems which resist breakdown from prolonged sun and weather exposure.

It is possible that the material may fade very slightly over the entire service life of the product. However, most wood and wood composite products will fade quickly to a weathered gray color due to the wood fiber content inherent in the products.

Property	ASTM Method	Units	Value
Specific Gravity	D6111	Lbs cubic in	0.0216-0.0275*
Water Absorption	D570	%	< 0.1
Tangent Modulus	D6109-03	Psi	117,000
Secant Modulus 2.1% Strain	D6109-03	Psi	86,000
Stress @ 3% Strain	D6109-03	Psi	1,598,000
Coefficient of Linear Expansion	D6341-98	In/in ° f	0.000064
Screw Withdrawal	D6117-97	Pounds force	703

\* Lower density may occur in larger cross sections  
 \*\* Testing performed on samples of 2"x6" nominal size

**TAILORED OPTIONS**

Tangent Technologies LLC has over one hundred custom shapes in house to meet your requirements or we can customize a unique shape to meet your needs.

The popular wood tones are all available as standard colors such as: Cedar, Sand, Gray, Redwood, Mahogany, Light Oak, White, Tudor Brown as examples. Custom colors can be made available.

Upon special request, semi-reinforced physical properties can be enhanced and achieved by the addition of engineered additives that increase stiffness and reduce expansion contraction properties.

A multitude of finishes are available with new ones are being developed every day.

- **Uniform Finish** – Deep rich color
- **Tiger Striping** – Generates highlights between the dark and lights in a single base color. A varied but consistent look that creates depth in tone similar to wood finishes.
- **Multi-layered Striping** – Blend of multi-colors that maintain their identify and streak together to produce a unique rich blend of colors and tones. Can be customized to your application.
- **Wood Grain** – Visually non-repeating deep wood grain embossed pattern can be applied to most shapes.
- **Textured Anti-slip Surface**

**TYPICAL APPLICATIONS**

Extremely well suited for exterior applications where resistance to weathering and minimal maintenance is required but the high value appearance must be maintained such as color stability and surface finish over the useful service life.

Used in a multitude of commercial applications, **PolyTuf™** is well suited for site amenities, casual furniture, playground, agricultural, spa & pool, golf course, marine, dock & boardwalks to name just a few applications.



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## SUITABILITY AND LIMITATIONS

These products have greater impact resistance than wood but conversely less rigidity and therefore prior to use a thorough design engineering study must be performed to determine the suitability of PolyTuf™ in any critical application.

Fabrication is similar to wood and normal woodworking tools can be used. One should be advised that by transforming the product by drilling holes and routing edges the integrity and strength of the part can be altered. Eye protective wear, dusk mask, gloves and normal safety precautions must be used when handling and fabricating the product. (See MSDS sheet for more details)

Inherent in PolyTuf™ Products you will observe a greater coefficient of thermal expansion than stiffer wood products. Therefore when designing your application an accommodation must be made to properly allow for expected expansion and contraction over the length of the product.

Static electricity is a naturally occurring phenomenon to all resin based products. On extremely dry days there is the potential to experience a small static shock if you walk across a PolyTuf™ product and touch a conducting surface such as a metal fixture. This is comparable to walking across your carpet and receiving a static shock when you touch the door handle. We do not warranty against static electricity as it is a natural occurring phenomenon and is not a manufacturing defect.

During winter conditions, you might find any surface made from PolyTuf™ to be slippery in snow, wet and frost conditions. Unlike most other surfaces you can easily spread rock salt or calcium chloride to restore decent traction and melt the frost or ice layer with no harmful effect to the PolyTuf™ products.

## WARRANTY

Tangent Technologies LLC the manufacturer of the PolyTuf™ product offers a limited warranty that this product will not rot, splinter, decay or suffer structural damage directly from termites or fungal decay under normal use. Tangent Technologies LLC does not recommend or approve this product for all end use applications. The appropriate national and local code authorities should be consulted for safety, suitability and applicability for intended use prior to purchasing product. (See Full Warranty Details)

This guideline and summary is intended to provide the distributor, installer and end user with basic guidelines and technical specifications for designing and properly installing the PolyTuf™ products. However, the installer and/or purchaser of any PolyTuf™ product is solely responsible for interpreting specific job conditions, and determining the engineering design and suitability of end use and application of any PolyTuf™ product. Adherence to applicable building and safety codes for specific locations and applications of this product are the sole responsibility of the installer and/or purchaser. In no event shall Tangent Technologies LLC the manufacturer of the PolyTuf™ products be liable for labor, installation, reinstallation or for any indirect, punitive, exemplary or consequential damages of any kind whatsoever from the provision of this information.

*This revision 1.0 [12/1/05] supersedes all other PolyTuf™ technical data sheets*