


## Molded Lumber



Tangent Molded Lumber is manufactured to fit a wide variety of project applications and comes in many different sizes and colors. Made from recycled plastic, Tangent Molded Lumber is strong enough to withstand even the most extreme weather conditions and environments. Tangent Molded Lumber is the best choice for those who seek a durable, low-maintenance commercial building material.

### COMMON APPLICATIONS

- Playgrounds
- Dunnage
- Cribbing
- Equipment Pads
- Park Benches
- Picnic Tables
- Landscape Timbers
- Dry Dock Blocks

### STANDARD COLORS



### TECHNICAL INFORMATION

Properties	ASTM	Value/Units
Specific Gravity	D6111	0.86
Flexural Strength	D6109	1,355
Flexural Modulus (Secant, at 1% strain)	D6109	96 ksi
Compressive Strength (Perpendicular to grain)	D6108	650 psi
Compressive Modulus (Perpendicular to grain, Secant, at 1% strain)	D6108	26,549 psi
Coefficient of Thermal Expansion	D6341	0.0000551 in/in/°F
Static Coefficient of Friction - Dry	D2047	0.85 average
Static Coefficient of Friction - Wet	D2047	0.97 average
Impact Resistance (Izod)	D256	2.64 ft-lb/in
Water Absorption	D570	0.27% max by weight
Screw Withdrawal	D6117	646 lb
Useful Temperature Range		-40°F to +140°F

All above values shall be considered average except flexural strength. This value must have appropriate reduction factors set by the engineer of record.

## 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 Molded Lumber 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 masks, gloves and normal safety precautions must be used when handling and fabricating the product. (See SDS sheet for more details)

Inherent in Molded Lumber 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 dry days there is potential to experience a static shock if you walk across Molded Lumber and touch a conducting surface such as a metal fixture. The physics is similar to walking across a carpet and receiving a shock when you touch a door handle. We do not warranty against static electricity as it is naturally occurring and is not a manufacturing defect. Contact our technical sales reps to learn how to minimize the generation of static electricity through product selection, available additives and construction details.

During winter conditions, you might find any surface made from Molded Lumber 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 Molded Lumber products.

## Warranty

Tangent Technologies LLC, the manufacturer of Molded Lumber products, 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 Molded Lumber products. However, the installer and/or purchaser of any Molded Lumber product is solely responsible for interpreting specific job conditions and determining the engineering design and suitability of end use and application of any Molded Lumber 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 Molded Lumber products, be liable for labor, installation, reinstallation or for any indirect, punitive, exemplary or consequential damages of any kind whatsoever from the provisions of this information.

*This revision 1.8 [1/25/24] supersedes all other Molded Lumber technical data sheets. Check [www.tangentmaterials.com](http://www.tangentmaterials.com) for updates.*

Material Property	Description of Test Method	ASTM	Value/Units
<b>Brittleness</b>	Standard Test Method for Brittleness Temperature of Plastics and Elastomers by Impact	D746-07	No break at -40°F
<b>Density and Specific Gravity</b>	Standard Test Methods for Density and Specific Gravity of Plastics by Displacement	D792	54 lbs/cu.ft 0.0311 lbs/cu.in Specific Gravity: 0.86
<b>Hardness-Shore D</b>	Standard Test Method for Rubber Property—Durometer Hardness	D2240-Type D	80
<b>Abrasion Resistance</b>	Standard Test Method for Abrasion Resistance of Organic Coatings by Taber Abraser	D4060 CS17 Wheel 10,000 cycles 2.2lb load	Weight Loss 0.023g / 0.043%
<b>Ignition Temperature</b>	Standard Test Method for Determining Ignition Temperature of Plastics; Flash Point / Ignition Temperature	D1929-96	>824°F (440°C)
<b>UV: Effect on Hardness</b>	Standard Practice for Florescent UV Exposure of Plastics	D4329	500 hrs: <1% Change in Hardness
<b>Chemical Resistance</b>	Standard Practices for Evaluation the Resistance of Plastics to Chemical Reagents	D543-06	Sea Water: 0.06% weight increase
<b>Chemical Resistance</b>	Standard Practices for Evaluation the Resistance of Plastics to Chemical Reagents	D543-06	Gasoline: 3.0% weight increase
<b>Chemical Resistance</b>	Standard Practices for Evaluation the Resistance of Plastics to Chemical Reagents	D543-06	No.2 Diesel: 1.05% weight increase

*Tangent Technologies, LLC, is a manufacturer of recycled plastic lumber. Tangent does not provide engineering services and assumes no responsibility, or liability, for any element of a projects design and/or construction details.*