



**Glossary of Engineering Properties**

Axial Compression (N/mm)	Compression and Tension are important to the Engineer for specialized designs and applications, such as roof diaphragms and splice joints.
Axial Stiffness - in tension or compression (N/mm)	Compression and Tension are important to the Engineer for specialized designs and applications, such as roof diaphragms and splice joints.
Axial Tension (N/mm)	Compression and Tension are important to the Engineer for specialized designs and applications, such as roof diaphragms and splice joints.
Bearing Strength (MPa)	Bearing strength is the ability to resist crushing when a large concentrated load is applied perpendicular to the panel face. Examples include structures where a beam or column must rest on a panel, and industrial applications where the panel must support heavy machinery over a small contact area.
Bending (N•mm/mm)	Bending Strength is one of the main properties in determining the maximum safe loads for roofs and floors.
Bending Stiffness (N•mm <sup>2</sup> /mm)	Bending Stiffness is important when it comes to the performance of a floor. Higher stiffness panels make for a floor that doesn't feel bouncy, and will reduce tile popping and cracking.
Bearing Strength (MPa)	Bearing strength is the ability to resist crushing when a large concentrated load is applied perpendicular to the panel face. Examples include structures where a beam or column must rest on a panel, and industrial applications where the panel must support heavy machinery over a small contact area.
CSP	CSP - Canadian Softwood Plywood manufactured to CSA 0151
DFP	DFP - Douglas Fir Plywood manufactured to CSA 0121
Density	Panel weight is influenced by two main factors - the panel compression during the manufacturing process and the wood species. For the builder, a lighter panel makes for easier handling and installation. For the distributor, the heavier product will cost more to ship.
Nail Holding	Nail holding is especially important for hardwood flooring and roof shingle installations. Both these products rely on the panel to grip the nail for the life of the structure. Inadequate nail holding can lead to a loose and squeaky flooring nail, or losing shingles in high winds.
Orientation	Orientation is relative to the face grain direction or the panel's long dimension.
OSB Sheathing	"Sheathing" OSB is intended for roof and wall sheathing, and for sub-flooring where a separate underlayment panel must be installed over the OSB.
OSB Single Floor	"Single-floor" OSB is intended for floor sheathing where a separate underlayment is NOT required.
Panel Weight (kg)	Panel weight is influenced by two main factors - the panel compression during the manufacturing process and the wood species. For the builder, a lighter panel makes for easier handling and installation. For the distributor, the heavier product will cost more to ship.
Planar Shear-Bending (N/mm)	Some industrial applications require a panel to carry very high loads over a short span, such as concrete formwork, warehouse storage areas and decking. Planar Shear Strength is very often a limiting property in determining the maximum safe load capacity.
Planar Shear-Shear in Plane (MPa)	Some industrial applications require a panel to carry very high loads over a short span, such as warehouse storage areas and decking. Planar Shear Strength is very often a limiting property in determining the maximum safe load capacity.
Shear-through-thickness (N/mm)	Shear-Through-Thickness stresses are caused by forces acting along opposites edges of a panel. Such forces are generated in wooden I-joists - where the panel serves as the web in a beam and must carry loads applied to its edges.
Shear Through Thickness Rigidity (N/mm)	Shear-Through-Thickness stresses are caused by forces acting along opposites edges of a panel. Such forces are generated in wooden I-joists - where the panel serves as the web in a beam and must carry loads applied to its edges.
Thickness Swell	Thickness Swell happens when a panel is exposed to wet conditions during construction. Excessive Thickness Swell may cause "ridging" at the panel edges. These ridges can show through materials such as carpet, vinyl flooring and asphalt shingles, and can also lead to floor tiles popping or cracking.

