



# BRITISH COLUMBIA WOOD SPECIES SUITABILITY FOR INDIAN MILLWORK MANUFACTURING



Discerning manufacturers of millwork seek wood species that provide advantages in terms of both appearance and workability. Millwork applications can include products such as mouldings and trim, as well as architectural decorative features.

Wood species used for millwork applications should have straight grain, be available in long lengths with little or no knots present and be capable of being processed through a planer or moulder with very little occurrence of machining defects. As most millwork is coated with paint or stain, the species used must permit good coating adherence and ease of coating application.

**Some of the most sought after wood species from British Columbia (B.C.) for millwork applications are western hemlock and Douglas fir. These two species offer all of the above attributes plus a superior strength-to-weight ratio when compared to Teak in terms of their MOE<sup>1</sup> and MOR<sup>2</sup> values relative to their lower density values. For millwork products where weight is a concern, these two species offer an excellent alternative.**

Due to slow growth and lower densities B.C. species are much easier to work than species like Teak, Meranti, and Sheesham. They sand to a lustrous and smooth finish with less effort than that required for tropical hardwoods. The closed grain characteristic of western hemlock and Douglas fir, when compared to the interlocked grain found in many tropical hardwoods, produces a finish that does not require filling or extensive preparation before a coating is applied.

These B.C. wood species have excellent milling properties when processed through a planer or moulder. When a smooth high quality finish is required, these premium B.C. wood species are uniquely well suited. The presence of considerable edge grain makes edge lamination seamless and difficult to detect with the eye. These species also offer the possibility of applying clear coatings to show their attractive grain pattern and colour. As with all wood species, the application of an appropriate coating will increase the lifespan of the wood product and enhance its natural beauty.

<sup>1</sup> MOE refers to the Modulus of Elasticity which is commonly used to measure the relative stiffness and degree of deflection of the material when force is applied and then released.

<sup>2</sup> MOR refers to the Modulus of Rupture which is commonly used to measure the relative strength of the material under pressure. This is often referred to as "bending strength", as it measures how much the material will bend before it breaks from the force applied.

## COMPARATIVE PHYSICAL, WORKING AND OTHER PROPERTIES OF WOOD SPECIES FOR USE IN MILLWORK

	BRITISH COLUMBIA WOOD SPECIES		TROPICAL WOOD SPECIES
TRADE NAME	Douglas fir	Western hemlock	Teak
BOTANICAL NAME	Pseudotsuga menziesii	Tsuga heterophylla	Tectona grandis

### PHYSICAL PROPERTIES

STIFFNESS / MOE (AIR DRY)	Mpa	13000	12300	11000
STRENGTH (AIR DRY)	Mpa	88.6	81	88
DENSITY (AIR DRY)	kg/m <sup>3</sup>	487	429	650
HARDNESS (SIDE GRAIN)	N	2990	2740	4600
STABILITY (SHRINKAGE-OVEN DRY)	Tang. % (T)	7.4	8.5	5.8
	Radial % (R)	4.8	5.4	2.5
	T/R ratio	1.5	1.6	2.3





### WORKING PROPERTIES Ratings are based on a scale from 10 (excellent) to 1 (poor)

PLANING	8	7	8
TURNING	9	8	7
MORTISING	10	8	7
SCREW HOLDING	9	7	8
NAIL HOLDING	8	8	5
STAINING	10	8	9

### OTHER PROPERTIES

DURABILITY	Fair	Poor	Good
TREATABILITY	Fair	Good	Difficult

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Published February 2024