



Western Hemlock – *Tsuga heterophylla*

Other Names: Pacific Hemlock, Alaska Pine, Hemlock Spruce

Region of Origin: Canada

SPECIES OVERVIEW:

Western Hemlock heartwood is a uniform pale brown with distinctive growth ring figuring. The wood is straight grained, non-resinous with a lustrous surface and a fine, even texture.

MAIN USES:

Structural framing, interior joinery and panelling. Used in boatbuilding for interior framing and cleating. Also used to make ladder rails and timber venetian blinds and louvers.

WORKING PROPERTIES:

Holds nails well and satisfactory for gluing.

MECHANICAL PROPERTIES:

Relatively hard for a softwood.

AVAILABILITY:

Specifications stocked at Rosenfeld Kidson are:
Sawn 100x50mm.

GRADING:

Clears.

DENSITY (kg/m ³)*:	500
DURABILITY:	Non-durable

STRENGTH GROUP:	SD6
MOR (MPa):	71
MOE(GPa):	10.5
JANKA(kN):	2.1

SHRINKAGE GREEN TO 12% M.C.	Tangential	Radial
	7.0	4.0

*Air Dry Density (kg/m³) is average indication only and actual value may vary. Refer to timber properties tables over page for strength, shrinkage and durability classifications.



STRENGTH GROUPINGS:

Minimum values for strength groups (unseasoned timber)			
(units are Mpa = 145 lb/sq.inch)			
Strength group	Modulus of rupture	Modulus of elasticity	Maximum crushing strength
S1	103	16300	52
S2	76	14200	43
S3	73	12400	36
S4	62	10700	31
S5	52	9100	26
S6	43	7900	22
S7	36	6900	18

Minimum values for strength groups (seasoned timber)			
(units are Mpa = 145 lb/sq.inch)			
Strength group	Modulus of rupture	Modulus of elasticity	Maximum crushing strength
SD1	150	21500	80
SD2	130	18500	70
SD3	110	16000	61
SD4	94	14000	54
SD5	78	12500	47
SD6	65	10500	41
SD7	55	9100	36
SD8	45	7900	30

SHRINKAGE CLASSIFICATIONS:

Description of shrinkage	Shrinkage from Green to Oven-dry (12% MC)	
	(% before reconditioning)	
	Tangential	Radial
Very low	0 - 3.5	0 - 2
Low	3.5 - 5.0	2 - 3
Medium	5.0 - 6.5	3 - 4
High	6.5 - 8.0	4 - 5
Very high	> 8.0	> 5

DURABILITY CLASSIFICATIONS:

Grade of durability	Approximate service life (years)		
	Fully protected	Above ground, exposed	In-ground, exposed
Very durable	>50	>40	>25
Durable	>50	15-40	15-25
Moderately durable	>50	7-15	5-15
Non-durable	>50	0-7	0-5