

Technical Information > Timber Species Database

> Hemlock, Western



Tsuga heterophylla

Also known as: Western hemlock, Pacific hemlock (USA), British Columbia hemlock (USA)

- Wood type** Softwood
- Introduction** Western hemlock from Canada and the USA may be graded and shipped for structural purposes in the species mix 'Hem-fir'. In Canada this comprises Western hemlock, amabilis fir (*Abies amabilis*) and grand fir (*Abies grandis*). In USA in addition to these species California red fir (*Abies magnifica*), noble fir (*Abies procera*) and white fir (*Abies concolor*) may also be included. The mechanical properties quoted for material from Canada and USA are for this species mix.
- Environmental** Not listed in CITES. Believed available from well-managed sources. Check certification status with suppliers.
- Distribution** This species ranges from Alaska southward along the whole British Columbia coast, and is also found in the interior of British Columbia in certain areas of heavy rainfall. It extends into northern Washington, Idaho, and to the western slopes of the Cascades.
- The Tree** A much larger tree than eastern hemlock, it reaches a height of 60m and a diameter of 2m or more, with a straight bole that is often clear of branches for about three-quarters of its length.
- The Timber** Neither the tree nor the timber bears close similarity to eastern hemlock. The timber of western hemlock is pale brown in colour and somewhat lustrous, with a straight grain and fairly even texture, non-resinous and non-tainting when dried, it has a faint sour odour when freshly sawn. The darker-coloured late-wood bands have a reddish or purple cast and produce a well-marked growth-ring figure on plain-sawn surfaces. with an occasional short, purplish-coloured line here and there on the wood. The growth-rings are less prominent than those of 'Douglas fir'. The timber weighs about 500 kg/m³ when dried.
- Drying** The initially high moisture content of this species requires care in drying processes in order to avoid surface checking, and to ensure uniform drying throughout the thickness. Warping and twisting tendencies are usually low.

Strength	The timber is not as hard as 'Douglas fir' but compared with that species, it is about 30 per cent less stiff and 50 per cent less tough, and in respect of general strength properties it is more closely comparable to European redwood (<i>Pinus sylvestris</i>).
Working Qualities	Good - The timber works readily with all hand and machine tools with little dulling effect on cutting edges. A good finish is obtained in planing and moulding, but cutters must be kept sharpened. It can be glued, stained, painted and varnished, and takes a good polish. It can be screwed and nailed, but although it is less inclined to split in nailing than 'Douglas fir', it should be pre-bored if nailing takes place close to the ends of dry boards.
Durability	Slightly durable
Treatability	Difficult
Moisture Movement	Small
Density (mean, Kg/m³)	500
Texture	Fine
Availability	Regular
Price	Low to medium
Sizes	Obtainable in large sizes, long lengths and clear grades
Use(s)	Mouldings, Interior joinery, Turnery
Colour(s)	Light brown
Suppliers	<ul style="list-style-type: none"> • Roger Haydock & Co Limited

Structural design data for engineers working to BS5268-2

- [Hemlock, Western \(Origin: Canada/USA - Strength Grade: GS, Joist & Plank No1, No2 - Strength Class: C16\)](#)
- [Hemlock, Western \(Origin: Canada/USA - Strength Grade: SS, Joist & Plank Sel - Strength Class: C24\)](#)
- [Hemlock, Western \(Origin: Canada/USA - Strength Grade: GS - Strength Class: Species mix/grade specific data\)](#)
- [Hemlock, Western \(Origin: Canada/USA - Strength Grade: SS - Strength Class: Species mix/grade specific data\)](#)