



This factsheet has been prepared for general information purposes only and is provided as a guide for builders and buyers of Log and Timber Structures.

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Choosing The Log Species

BC Log and Timber Builders use tree species that grow naturally in British Columbia. The most common species used are Lodgepole Pine, Western Red Cedar, Douglas Fir, Engelmann Spruce and Yellow Cedar.

All species have individual characteristics and features when used for log home and/or timber frame buildings so, in general, choosing your species is a matter of personal choice, destination regulations, and engineering specifications.

- **Western Red Cedar** is renowned for its natural beauty and physical properties. It is also the preferred species for export to Europe and Japan. Its natural coloring in ambers, reds and browns is complemented by its uniform, fine-grained texture. Cedar is naturally durable, free from pitch and has a naturally resistant to decay, insects, and mold. It is lightweight with outstanding dimensional stability and is preferred where appearance and weather resistance are important.

Western Red Cedar is one of the most sought after wood and is widely used for log homes. The heartwood is medium to dark coffee brown in color, with sapwood that is nearly white. The Western Red Cedar is slow growing, and as it is composed primarily of heartwood, has a high concentration level of both natural fungi and insect repellent toxins. Its bug resistance makes this species preferably for export, especially to tropical climates. The grain is tight, but it is a softer wood. Western Red Cedar is one of the most expensive building logs on the market today.

- High resistance to decay and damage
- Naturally resists insects and molds
- Light in Mass
- Best for wet climates

- **Yellow Cedar**, also known as "Alaska Yellow Cedar", it is truly prized for its resistance to decay and its strength. However, as it is less available than other species, it is the highest in cost. The countless positive characteristics including its pale yellow colored wood with a very distinct aromatic odor, make this amazing wood the number one choice for expert wood carvers of all sorts.

- Pale yellow
- Hard, very resistant to decay
- Distinctive fragrance
- Straight grain

- **Lodgepole Pine** has long been used for building and, as its name suggests it is usually long but narrow in diameter. Pine has good tensile strength and once cut resists splitting and cracking. Aesthetically, pine is often knotty or scarred and may have blue and or grey streaking providing it with characteristics not found in other species. Lodgepole Pine is most often offered as a dead-standing timber. Timber that has died by natural causes and remains standing begins to dry even before it has been harvested which does offer a head start to the drying process and reduces the shrinkage problems encountered if you were to build with green logs. Most boreholes are removed when the log is hand-peeled. The subtle blue staining commonly seen with some of these logs only adds to the character. People concerned with a healthy environment are requesting dead-standing timber and are proud to have built a home without harvesting any living green trees.

- Slightly resistant to heartwood decay.
- The heartwood is light yellow to yellow-brown
- The sapwood is nearly white
- Weight when dried is moderate
- Less expensive than Western Red Cedar,

- **Douglas Fir** is not a true fir at all, but is one of the most plentiful softwood species in North America. It is unique in that it seasons well in position and many builders prefer to use Douglas Fir in “green” or unseasoned condition. Douglas Fir has superior strength-to-weight ratio and is best known for its dense grain structure and strength. Engineers for use in key structural locations often recommend Douglas Fir. Fir is also used in most roofing systems The inner layer (heartwood) varies from light brown to reddish and even pinkish in color, while the outer layer (sapwood) remains a nearly white shade. For versatility and beauty, few woods in the world match the magnificence of Douglas Fir. Its rosy color is set off by its remarkably straight grain which reddens over time when exposed to light.

- Less expensive than Western Red Cedar, but more costly than Pine or Spruce
- Moderate heartwood decay resistance
- The heartwood is orange brown to deep reddish brown and sometimes yellowish brown
- The sapwood is nearly white
- Weight when dried is moderate

- **Engelmann Spruce** is fine-grained, very light in color, with minimal taper. As with Douglas Fir, it is available in very large diameters. Engelmann Spruce has a moderate resistance to heartwood decay. It has a good strength to weight ratio, is a beautiful white wood and is native to many dry climates. Engelmann Spruce less expensive than both Western Red Cedar and Douglas Fir

- Light in color
- Lightweight and durable
- Heartwood is nearly white with a tinge of red
- The color of the Sapwood is not distinguishable from the heartwood
- Straight with minimum taper
- Slightly resistance to heartwood decay.

Wood Species	Amount of Shrinkage	Resistance to Heartwood Decay	Characteristics
Western Red Cedar	Small	Resistant	Heartwood reddish or pinkish brown to dull. Sapwood nearly white. Very attractive and very stable. Resistance to mildew, fungus, and insects.
Douglas Fir	Moderate to Large	Moderately resistant	Varies in width and strength. Very strong wood. Beams span greater distances than many other woods. Less supportive of mildew and fungus.
Lodgepole Pine	Moderate	Slightly resistant	Heartwood varies from light yellow to light yellow-brown. Sapwood yellow or nearly white. A strong wood, easy to work.
Engelmann Spruce	Moderate	Slightly resistant	Heartwood nearly white, tinge of red. Sapwood difficult to distinguish from heartwood. Medium to fine texture. Contains numerous small knots.
Yellow Cedar	Small	Resistant	Pale Yellow with a strong distinctive fragrance. Very attractive. Resistant to mildew, fungus, and insects.