

#### White Cedar - a matter of tradition...

For centuries, one of Quebec's traditions has been to use white cedar wood chests for protective storage of clothes against insect damage. Shingle roofs and decorative perch fences have always been part of Quebec's architectural heritage because of their unique beauty. For ages, farmers have been using white cedar posts to fence in cattle due to the exceptionally high durability of its wood

The QWEB is an organisation showcasing wood products from Quebec in export markets. Representing more than 200 manufacturers in different sectors, QWEB provides you with direct access to Quebec's vast array of wood products.

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#### Beautiful and versatile

Eastern White Cedar (*Thuja occidentalis L.*) is also called Northern White Cedar. White cedar wood is mainly used in appearance products and is perfectly suited for both exterior and interior applications.

Interior applications include:

- siding,
- ceiling.
- woodwork,
- furniture.

Exterior applications include:

- shingles,
- exterior trim and siding,
- window frames,
- fencing,
- garden furniture.

Shingles is the most common use for white cedar in Canada. They are durable, functional and of distinctive elegance, making them an excellent choice for both roofing and siding projects. Unlike other synthetic materials, (e.g. polyvinyl chloride (PVC), white cedar shingles weather naturally to a beautiful silvery grey colour, which is highly prized by connoisseurs. Furthermore, these shingles require little or no maintenance.

White cedar is a pole species because of its high natural durability in contact with water and soil. White cedar logs are used as highway, fence and foundation posts, poles and piles. White cedar logs are especially appreciated for log houses because the wood has good insulating properties, makes an excellent sound barrier and prevents heat loss. White cedar dries without difficulties, and has good gluing and finishing properties.

## **Exceptionally durable**

White cedar is known for its high resistance to decay and insect damage. The aromatic compounds of its wood act as natural preservatives that are toxic to decay-causing fungi. These compounds give houses a warm "cedary" fragrance. In European tests, the white cedar qualified in natural durability class 1 "very durable" to wood-destroying fungi as per standard EN 350-2. No other softwood had previously obtained this rating. White cedar wood does not usually require treatment to insure long service life in exterior applications (e.g. roof, decking, fence etc.) As an example, the average service life of untreated posts from white cedar is 27 years comparatively to 5 years for posts from black spruce, according to tests conducted by Canada's Wood Products Research Institute, Forintek Canada Corp (now FPInnovations). Even increased longevity and fine architectural effects can be achieved by applying stains to white cedar products.

The wood of white cedar is typically straight and evengrained, fine-textured and very light. Compared with Western red cedar (*Thuja plicata* Donn ex D.Don), the wood of white cedar is lighter in colour, finer in texture and generally has less-prominent growth rings. White cedar is among the most dimension-stable species of all coniferous species grown in Canada.

The basic density of white cedar (oven-dry weight divided by green volume) is about 299 kg/m³. Its volumetric shrinkage is only 3.8 % from green to air-dry (12% moisture content) and 6.8% when kiln-dried according to tests conducted by Forintek Canada Corp.









# Wood – the best ecological choice

Wood is a renewable, recyclable and environmentally friendly material. Scientific studies confirm that wood, wood components and houses built primarily of wood require lesser amounts of energy in their manufacture, assembly and operation compared with typical houses built primarily of concrete and steel. Wood surpasses concrete and steel in energy efficiency. In residential homes, polyvinyl chloride (PVC) takes about 13 times more primary energy for material production and fabrication than wood (77.4 versus 5.8 MJ/kg) according to a report by the University of Michigan. When comparing window frames manufactured with aluminium, PVC, Al-clad wood and wood, wood still consumes the least amount of energy, while aluminium and PVC frames exhibit larger amounts of environmental burdens. Furthermore, wood-imitating products like plastics will never replace the true value of wood.

## **Product grades**

White cedar is harvested on a limited scale compared with other Canadian softwood species (spruce, pine, fir). Due to its high value in appearance products and low density, it is practically never used as construction (structural) lumber. There is no specific grading system for white cedar sidings. For all Canadian softwoods, boards with high quality appearance are usually graded as Select Merchantable. The grades used for white cedar shingles are: A (extra), B (clear), C (2<sup>nd</sup> clear), and D (including undercourse and shims) according to Canadian Standards Association standards.