External Uses

Building With New Zealand Pine

New Zealand pine is not naturally durable for exterior uses. But when preservative treated it is totally accepted by architects, engineers, builders, and consumers for virtually all uses which in the past have required lumber of high natural durability.

More than 40 years' research in evaluating the performance of preservative-treated New Zealand pine has resulted in detailed specifications for both the preservation operation and for treated products in New Zealand.

In all tests controlled by the New Zealand Forest Research Institute (NZFRI), performance has been equal to or has exceeded that expected of naturally durable species from throughout the world. Long term experience has been gained through extensive field testing of a wide range of treated products.

Field Testing

Results from tests carried out by the NZFRI at a range of sites around New Zealand have shown that preservative treatment can make New Zealand pine last a long time, even if small stakes are used and the test is very severe.

Field testing is carried out not only on small stakes but at a range of outdoor structures which have been commercially treated. Detailed records of the performance are kept at the NZFRI, and the condition of the structures is assessed regularly. Any deterioration caused by either physical or biological agents is carefully recorded. Tests continue until an accurate assessment can be made of the probable service life of the structure, or until it is obvious that the structure will not deteriorate significantly during its required life.

CCA is the most widely used water-borne preservative in New Zealand and throughout the world. It is possible to treat New Zealand pine with CCA to a high standard, for any end use. LOSP are also used for the treatment of New Zealand pine, particularly for exterior building components which are to be painted or stained, such as finishing wood, plywood and windows.

Tests of CCA-treated products have been installed at various times since the late 1950s and no significant deterioration or failure of any components either through decay or insect attack has been recorded.

General End Uses

Preservative treated pine has been established in commercial, industrial, and domestic buildings including foundations, flooring, framing, exterior cladding, joinery and roofing shingles. It is also used in a range of outdoor furniture, landscaping, garden and farm situations such as posts, poles, reinforcing, and fencing.

Cooling tower structural and interior lumber, glue laminated beams for bridges and arches, and plywood are also suitable outdoor uses for treated New Zealand pine.

Most wood in contact with the ground or actually in the ground and treated with CCA is expected to have an average service live exceeding 30 years. House foundation piles are expected to have service lives of 50 years or more.

An impressive application of preservative treated New Zealand pine is as silencers for bore holes in geothermal energy systems. In this application it has had three to four times the life of concrete silencers which failed because of the intense heat and corrosive nature of the effluent.

Transmission & Building Poles

Tests have examined the effect of CCA preservative retention and treatment method on durability of transmission and building poles. Results have shown that poles treated appropriately will have expected average service lives in excess of 50 years.

Marine & Fresh Water Piles

CCA-treated New Zealand pine has been thoroughly tested for use in marine and fresh water situations. Average lives in excess of 20 years are expected for marine piles and results indicate an average 35 years plus for piles in fresh water.

Preservative treatment to the strict hazard class specifications outlined in the 'Preservation' section allow the New Zealand industry to give service life guarantees for external use products.