INFORMATION SHEET
FIRE

STANDARD TEST METHODS

The information provided below has been taken from the New Zealand Timber Design Guide 2007, published by the Timber Industry Federation and edited by Professor A H Buchanan. To purchase a copy of the Timber Design Guide, visit www.nztif.org.nz

Standard fire resistance tests subject the test specimens to a prescribed time temperature heating regime.

In real fire situations the actual heating regime may be more or less severe depending on a range of factors including the amount of ventilation and the nature and quantity of the fuel.

For this reason the actual observed time to failure in practice will be different than the fire rating period.

However, fire resistance ratings derived from a standard fire test are a convenient way to describe the fire performance of building assemblies in fully developed fires.

In some situations, calculations of fire resistance may be possible such as for heavy timber structures.

Fire resistance of light timber frame construction will most commonly be based on standard fire testing.

Section 9 of NZS 3603 sets out the methods for determining the fire resistance rating of load bearing timber elements and assemblies.

This can be established by one of the following methods:

- Standard fire tests in accordance with AS 1530 Part 4 or other approved test method, or
- Extrapolation from standard tests using well established criteria, or
- Calculation in accordance with design criteria in NZS 3603, or
- Determination of the time taken to the start of charring of the load bearing timber elements when shielded by appropriate materials and subjected to the thermal environment of the standard fire test.