

INFORMATION SHEET

SEISMIC DESIGN

DESIGN PROCEDURE

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.co.nz

This procedure must be carried out for lateral forces in the two principal directions. Different conditions may govern and different structural systems may be used for the two directions.

1. Establish the building geometry.
2. Select the lateral force-resisting systems for the building.
3. Calculate the lateral design forces at each level of the building:
 - Calculate the lateral wind force
 - Calculate the lateral seismic force, for two levels of structure ductility
 - Compare the wind and seismic forces, and decide on the governing design case
4. Allocate the storey shears to the lateral force resisting elements at each level.
5. Calculate the actions in all components of the lateral force resisting system, and size the members.
6. Check the strength of all connections.
7. Check that lateral deflections are within acceptable limits.

Diagram 1: Elements of a lateral force resisting system

