WORLDSKILLS AUSTRALIA
NATIONAL COMPETITION 2008
JOINERY

"JUST HOW 'GREEN' ARE WE?"

We should all appreciate that what we do as an industry has far reaching and long lasting consequences on the future of our planet.
Poorly informed choices in the selection of materials and their sources, wasteful work practices, poor design, lack of thought for viable and sustainable alternatives, "Eco " and Enviro" unfriendly choices and thoughtless disposal of waste are all issues we can and should become far more aware of.
Our customers are asked to consider a number of alternatives and make choices based on cost, appearance, durability, maintenance and performance.
At this point, our customers should also be informed of environmental issues in their initial choice.
Timber, in its growing phase, is known as "the lungs of the earth", consuming CO_2, storing Carbon and giving off Oxygen.
Except in areas of poor forestry practice, trees are grown, harvested, replanted or naturally regenerate – a true cycle of life.
There are many more reasons in accepting that timber is an environmentally responsible choice.
Timber is an excellent insulator and conserves energy in heating and cooling a building.
Aluminium is an excellent thermal bridge between inside and outside temperatures, one third of all energy loss through an aluminium window is through the frame material itself.
With this in mind, consumers are then faced with the next tier in their selection process.
Hardwood or Softwood, local or imported, plantation or sustainable, new or reclaimed and recycled, 'clear' material or 'feature in', treated or raw, natural or engineered product, paint or stain finish, availability, durability, cost and appearance.
Most joinery timbers are rated for durability on internationally accepted scales.
Engineering and technology have played a role in altering the properties of previously ignored species, making them more suitable for wider use. Some timbers which had been considered non-durable, can have this rating enhanced by chemical treatment, but the addition of chemicals such as Boron, Copper, Chromium, Arsenic and Light Organic Solvent Preservatives can lead to other problems in user hazard, waste disposal and environmental impact.
Knotty species and low grade timber can have properties of appearance and strength vastly improved by docking out defects and finger jointing or laminating the small, previously of little value, pieces into long continuous lengths of clear timber.
Often, the country of origin gives valuable clues as to the enviro-friendliness of a timber in this eco conundrum.
Plantation timbers are grown like any other farmed crop, with attention to growth and land conservation. Cloned, improved and robust seedlings replace previously harvested trees in responsible land use and resource generation.
Sustainable forestry uses selective rather than clear felling, re-generation is naturally occurring and often assisted by the timber producer.
Many local timbers milled decades ago and used in buildings in times gone by are finding their way into new projects through the increasing use of recycled/reclaimed/re-used timbers.
Technology is playing a huge role in the increased yield of timber from each tree felled and is therefore contributing to the social conscience of the industry. In previous centuries, Europe's vast Oak forests were nearly wiped out as entire trees were cut down to provide a single curved rib for a sailing vessel.
In the USA, the massive Redwoods that are now a tourist attraction, were once cut down and dynamited into smaller more manageable sizes for the old steam powered timber mills. Gone are the days when only the 20% of knot free timber in a tree was considered of any value.
First thinnings from forests are used for treated poles in vineyards and paper pulp. This type of forest management produces bigger and better timber.

Forest waste is used in mulch, soil conditioner and fertiliser.
Mill waste is used to power boilers and electricity generated is used in processing the timber. Many timber mills are powered by their own waste. Some North American timber mills are nett suppliers, not users, of power.
The production of recycled paper requires long strand wood chip fibre. The plastic substitute for outdoor decking and furniture uses saw dust as a major component in its manufacture. Shorter logs and even old practice stumps are utilised in remanufactured product and component manufacturing. Saw cuts have been reduced from 10mm to 1.6mm. Recovery from a log has improved markedly with computer aided cutting programmes. Very little of a felled tree is now considered as waste.
As tradespeople, we know that you don't make a toothpick out of a 4 x 2. Careful selection of lengths and sizes of timber reduces waste, in both timber used, time, energy and disposal. Clever design and thoughtful work practice minimises resource waste.
A product designed, specified and built to last 50 years is at least 10 times more cost effective and eco friendly than one with a life of just 5 years.
In our own workshops, we can make informed decisions on the raw material we work with, use energy, chemicals and material sparingly, reduce, re-use and reclaim waste and dispose of any remaining waste thoughtfully.
Armed with this knowledge, we can individually ensure that we have an industry that is globally responsible and informed, take positive action to increase our awareness and better our performance in the greening of our planet.

At the WorldSkills National Joinery Competition, 2008, we will:

- Use *Pinus Sylvestris,* a durable native of Finland, the properties of which are enhanced by a heat treatment process, without using chemicals.
- This will be the very first time this processed timber has been used by many Australian apprentices.
- The amount of timber we use will be regrown in Finland in seven one hundredths of a second on a Finnish summers day!!
- Re-use Jarrah from old warehouse beams from a demolished building in Perth
- Graphically demonstrate to the visiting public how we are addressing areas of waste and misconceptions of bad practice
- Minimise the waste in both section size dressing and cut to length of supplied timber
- Reuse timber packaging material for transporting timber to the Competition
- Where ever possible, print double sided documents on recycled paper, halving our requirements and wastage over previous years
- Not leave machines running when not in use
- Segregate rubbish into separate bins for recycling
- Use the project we have created, or donate it to an organization that can use it
- Ensure that any left over material is used by neighbouring TAFEs
- Share our knowledge of environmental issues in discussion with fellow competitors and Judges and take the outcomes back to our own workshops for action.