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Media Release

Significant energy reduction achieved by innovative building system

9 September, 2009

A recent peer-reviewed paper has found an innovative, polymer formwork system offers potentially significant reductions in embodied energy and greenhouse gas emissions over conventional wall systems.

The Australian-made Dincel Construction System using interlocking PVC (polyvinyl chloride), or vinyl panels is generating enormous interest in the construction sector and has the ability to reduce the greenhouse gases produced as a result of construction material use over the life time of a building.

Independently verified by Swinburne University of Technology's National Centre for Sustainability (NCS), the Paper 'Part 1 Energy Efficiency in Building materials – Embodied Energy' shows that the embodied energy offered in a case study residential apartment building by Dincel Construction System (Dincel) is 42 percent lower compared to the conventional building system at the time of construction and as much as 70 percent lower when a 100 year building life cycle is taken.

'Embodied energy' is the energy consumed by all of the processes associated with the production of a product, from the acquisition of natural resources to product delivery. This includes the energy used in mining, manufacturing and transport of materials to produce the construction product.

Reducing material use at each floor level of a building's structure represents less embodied energy in materials consumed and therefore less carbon dioxide equivalent emissions related to that energy. Using the PVC formwork enables Dincel Walls to reduce the amount of concrete and steel required, which reduces the embodied energy of the wall system. The report found the use of Dincel Walls saves over 75 tonnes of greenhouse gas emissions compared to conventional wall construction systems. This would be equivalent to taking 20 cars off the road for every apartment built using Dincel.

The use of PVC for the permanent formwork panels means this wall construction system is light-weight, safer, faster and more economical to install than traditional wall systems. The unique properties of the PVC panels provide durable, water-proof protection of the concrete walls and mean Dincel walls can also be used for basements, lift and stair shafts, retaining walls, storage tanks and in flood- and bushfire-prone areas.

For a copy of the peer reviewed paper visit the following link http://www.dincelconstructionsystem.com/documents/Part%201%20Energy%20Efficiency.pdf or www.dincelconstructionsystem.com and click on Product Information/Technical Info, or contact info@vinyl.org.au

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The Vinyl Council of Australia (VCA) is working to advance the sustainability of the vinyl, or PVC, industry in Australia. Its members are drawn across the supply chain of the vinyl industry.

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