

# SUSTAINABILITY FOR THE CONSTRUCTION INDUSTRY

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## **DISCLAIMER**

The information contained in this document is intended for the use of suitably qualified and experienced architects and engineers and other building professionals. This information is not intended to replace design calculations or analysis normally associated with the design and specification of buildings and their components. Dincel Construction System Pty Ltd accepts no liability for any circumstances arising from the failure of a specifier or user of any part of Dincel Construction System to obtain appropriate professional advice about its use and installation or from failure to adhere to the requirements of appropriate Standards and Codes of Practice, and relevant Building Codes.

# Dincel Construction System

## PREFACE

The planet's ecology is rapidly changing with the increasing human population.

Our basic needs such as food, clothing and shelter are provided by processing the planet's limited resources namely water, grain and minerals.

The CO<sub>2</sub> emissions, due to industrialisation accumulate within our atmosphere. The vegetation including trees and various types of plants being air cleansing tools of the planet are gradually losing their effectiveness.

The growing human needs by industrialisation and land clearance results in rapid depletion of the planet's plants and vegetables. One of the contributors for destruction of arable land is the excessive reliance on timber and land required for ever increasing building construction activities.

The loss of vegetation therefore significantly affects the quality of the air we breathe and hence our health. Urbanisation is replacing the vegetation with roofing and hardstand areas which causes "flash" flooding. Our limited fresh water supply is becoming alarmingly scarce with the increasing demands for agriculture, industry and basic human needs.

The majority of our energy needs are catered by burning fossil fuels. However, our reality is that we do not have adequate alternative energy sources to replace the fossil fuel combustion. We can only try to minimise the human expansion impact on the environment by increasing the usage of other environmentally friendly alternative energy sources, use long lasting building materials, encourage recyclability, enforce new solutions for water sources/usage, implement urban planning for consolidation while embracing true sustainability principles.

The following table illustrates how to achieve a better environment, as well as increasing our quality of life with the consideration of economics, incorporating the contribution of the Dincel Construction System.

<b>TO REDUCE / ELIMINATE</b>	<b>TO INCREASE</b>
<ul style="list-style-type: none"> <li>• Timber, steel, aluminum and cement use.</li> <li>• Energy use required for raw materials and production.</li> <li>• CO<sub>2</sub> emissions.</li> <li>• Building waste creation and management.</li> <li>• Building construction and maintenance costs.</li> <li>• Skilled labour use.</li> <li>• Construction defects for material and workmanship.</li> <li>• Construction accidents.</li> <li>• Non-renewable resource depletion.</li> </ul>	<ul style="list-style-type: none"> <li>• Long term sustainability.</li> <li>• Construction cost reduction and advantages.</li> <li>• Speed of building construction.</li> <li>• Recyclability.</li> <li>• Increase building life to at least 200 years.</li> <li>• Food conservation.</li> <li>• Water conservation.</li> <li>• Fire safety.</li> <li>• Health and air quality of building occupants.</li> <li>• Safety and security of building occupiers against break-ins, hurricanes and earthquakes.</li> <li>• Asset values.</li> </ul>

## EXECUTIVE SUMMARY

Australian Construction Engineers have developed a new building construction technology called Dintel Construction System (DCS).

The new innovation represents a major advance over any comparable system anywhere in the world for manufacturing, material science technologies and installation methodologies. The system uses a patented concrete forming technology with rigid polymer housing accommodating a concrete fill. The result is a waterproof, crack-free, load bearing or non-load bearing, fire and acoustic wall which is more cost effective than traditional wall systems, and can be both installed faster and safer.

### DCS can be used in the following areas:

- (i) Waterproofed basement walls and sea wall construction.
- (ii) All types of residential, commercial and industrial buildings, internal and external walls and floors of low or high rise building
- (iii) Liquid containment tanks (water, manure and oil), storage (grain silos, cold storage, warehouses and barns), irrigation, water management channels, flood levies and controlling devices.
- (iv) Environmental usages: noise barriers, protection of river banks and hillsides against flooding and erosion.
- (v) Excellent corrosion resistance for marine and agricultural building structures such as poultry, piggeries, fertiliser and sewerage plants.

### DCS addresses the following important key sustainability issues:

- Green Star Rating  
And DCS [\(Download – 7 Green Star For Your Next Project\)](#)
- Sustainable Construction [\(Download – Sustainable Construction\)](#)
  - Energy Efficiency [\(Download – Part 1 - Energy Efficiency – Embodied Energy\)](#)  
[\(Download – Part 2 – Energy Efficiency for Building Operational Use\)](#)
  - Housing Affordability [\(Download – Housing Affordability\)](#)
  - Workplace Safety [\(Download – FAQ, Answer No: 4 – Safer/General\)](#)
  - Indoor Air Quality [\(Download – Indoor Air Quality, Condensation, Mould and Mildew\)](#)
  - Water Conservation [\(Download – Water Conservation\)](#)
  - Food Conservation [\(Download – Storage Tanks/Silos for Grains/Liquids\)](#)
  - Structural Safety [\(Download – Earthquake Hazard Risk Prevention for Developers and Design Professionals\)](#)