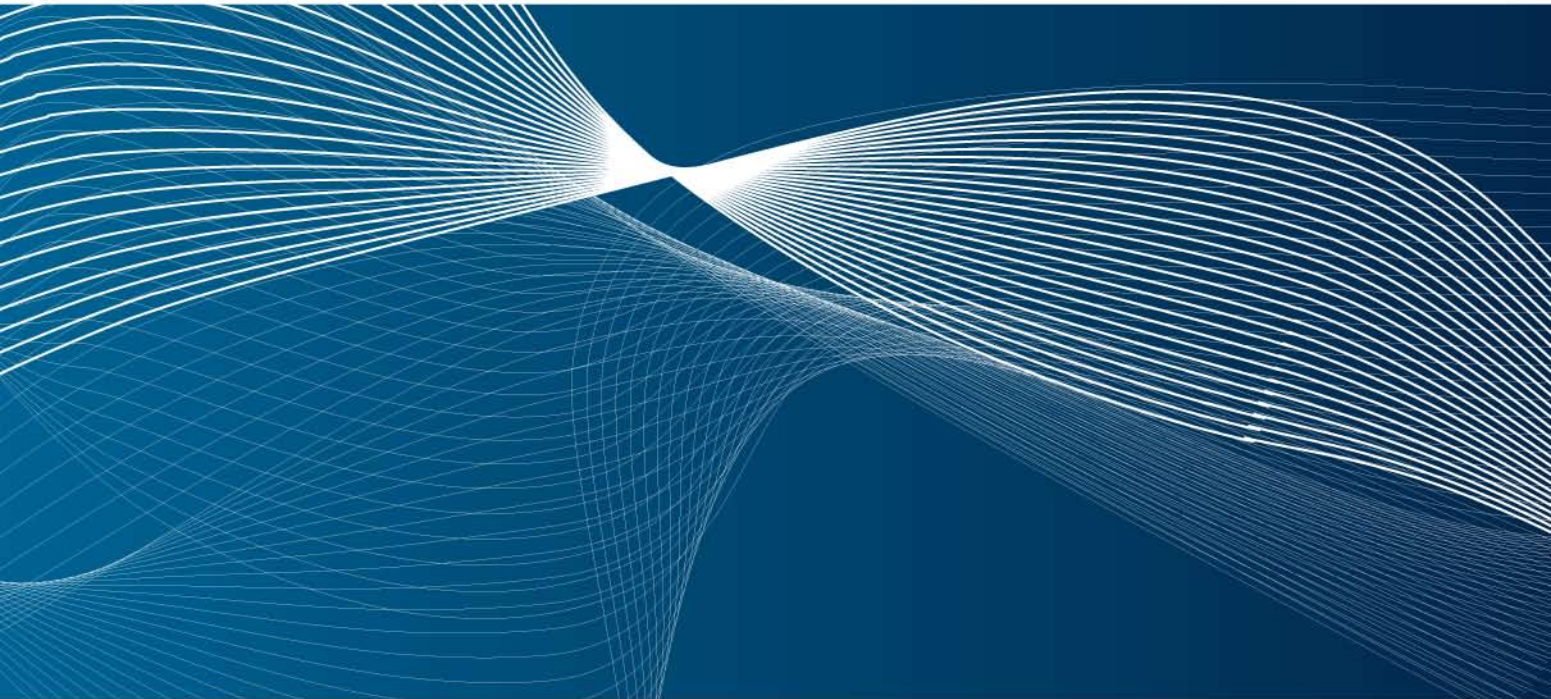




**CDS**  
CONCRETE

concrete curing systems  
*the successful steps to curing for the precast concrete industry*



## Advanced Curing Technologies...Setting the Standard

- // consistently superior
- // lowest manufacturing cost
- // lowest running cost

## 5 essential factors for good curing

- 1...accurate temperature control
- 2...accurate humidity control
- 3...recirculation & energy saving
- 4...insulation
- 5...time

## the ideal for concrete curing

### to achieve successful curing...

The CDS systems use independent control of temperature and humidity allowing the manufacturer to dial in the ideal conditions for their process. One of CDS' major advantages is that it does not use steam to generate either heat or humidity, it uses separate heat generation and water atomization to create the desired humidity levels.

The whole concept of CDS curing is to reduce manufacturing costs – with possible lower cement content and/or cement substitution opportunities. Energy consumptions are reduced along with general maintenance procedures, the system is designed for user-friendliness.

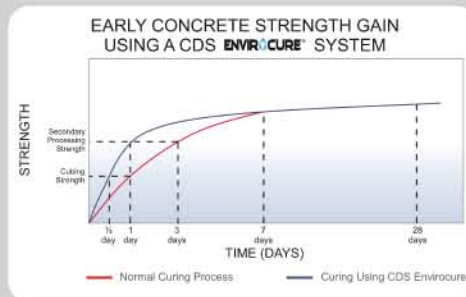
The main production issues arising from poor curing techniques mainly comprise – efflorescence, colour & strength variation of the product. However, controlled curing can resolve these issues. With controlled parameters (i.e. air circulation, temperature, humidity control and a non condensing atmosphere - all of which the CDS design incorporates), ensures that strength & quality parameters can fully meet high quality production standards.

The CDS System effectively ensures optimum energy usage and takes full advantage from the heat of hydration.

Heat and air loss from the system is minimised and high air circulation within the kiln results in constant conditions, top to bottom, front to back. Control set points of +/-1DegC & 2%RH are attainable.

Humidity is monitored continuously and maintained at a very high level, but just below the dew point - i.e. a non condensing atmosphere. All of which is a great advantage for any mechanical handling equipment that enters the curing system.

Upon completion of the curing cycle, the products leave the kiln in a very consistent strength condition, the product surface is very hard and non friable, because of the lack of evaporation in the high humidity atmosphere. Also, the colours are the same throughout the kiln and will not differentiate from that of natural curing as **this is natural curing, but consistent! 24 Hours/day, 365 Days/Year**



(graph showing strength vs time)



## the cds systems

### ENVIRO-CURE™

The CDS systems come in two basic different guises, 'The Big Room' System & 'The Individual Lane' System. Each system can achieve the same benefits, but operate in different plant configurations.

### the CDS 'Big Room' system...

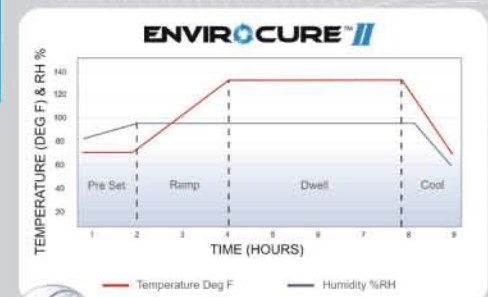
With the CDS 'Big Room' system, the products enter the curing environment soon after being manufactured & are maintained in the curing conditions until the product is ready for packaging. Also contained within the curing environment is the loading and unloading equipment.

### the CDS 'Individual Lane' system...

With an Individual Lane system, the products are loaded into a lane and must wait for the last product to enter before the curing process is initiated.

### the CDS ENVIRO-CURE II system...

The envirocure II system is specifically designed to give the flexibility of having different controlled parameters in each kiln/lane, thus enabling different product groups to be cured at differing temperatures & humidities, so the customer can produce retaining wall, block & paving, etc. on the same shift if so desired with differing temperatures & humidity levels to suit each product.



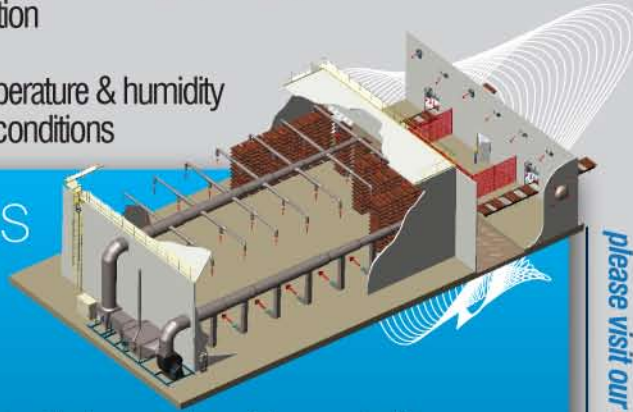
(graph showing temperature vs time)



# the cds system is based upon...

- // industrial air conditioning & air handling techniques
- // moving air - no stratification
- // low running cost
- // individual control of temperature & humidity
- // non condensing curing conditions

## advantages of the cds system...



- The CDS System will raise the temperature of the product from ambient up to the desired curing temperature which is input through an MMI. The product temperature will be raised over a controlled ramp rate. The temperature is maintained precisely and efficiently, i.e. very little overshoot and lag as could be expected from a steam generation system.
- As the system is constantly monitoring the temperatures within each cell the heat of cement hydration is also taken into consideration thus maximizing the efficiencies. During the summer months, there may be a situation where the heat source on the CDS System will actually de-energize as the temperatures are satisfied by the conditions and the heat of hydration.
- Humidity would only be injected when required when the humidity level falls below the desired setpoint of around 95%. The full recirculation system also ensures that the product in the cells are maintained at the same conditions throughout the cell.
- Because the atmosphere is non condensing, plant corrosion and maintenance is kept to an absolute minimum.
- The CDS System has the heat generated with each cell's demand closely monitored and controlled, therefore the efficiencies are as close to 100% as possible.
- The CDS System requires only routine maintenance and a once per annum service
- The CDS System does not require any specialist water treatment, only a non-contaminated, clean water supply

please visit our website... [www.cds-concrete.com](http://www.cds-concrete.com)



## in conclusion...

The CDS Systems offer manufacturers complete flexibility with optimal energy efficiency, and lowest manufacturing costs.



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### Our Services

- Envirocure systems
- Air circulation systems
- Concrete curing racks
- Aggregate heating systems
- Mechanical handling systems
- Automation
- Accoustic enclosures
- Industrial high temperature drying systems
- R-O2 processing systems

### US Office

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