

Recycling the Athlone Cooling Towers and other demolished buildings.

Cape Brick manufactures concrete masonry units with possibly the lowest embodied energy of any masonry product available in the Western Cape.

We have developed a methodology to process construction and demolition waste (C&DW), consisting mainly of reinforced concrete, into a sand (3mm and less) and stone (3mm-9mm) aggregate. These aggregates together are commonly referred to as Recycled Crushed Aggregate (RCA). The RCA is then used as the main ingredient in the masonry manufacturing process.

Our products contain an average of 70% recycled material and we use approximately 70,000 tons of RCA every year. This equates to 4800 truck loads (10m³) which would normally have been dumped in a landfill site.

Using **R**ecycled **C**rushed **A**ggregate has significant benefits, namely:

- Less virgin materials such as sand and stone have to be quarried, thereby directly lessening the mining impact on the environment.
- The quality of the RCA produced is superior (better shaped) to that of normally quarried materials available at a similar price. This means that a lesser percentage of cement can be used to achieve the same compressive strength, resulting in a lower embodied energy
- The transportation of raw materials is significantly reduced. Instead of trucking in our sand and stone from quarries located up to 50km away, 70% of Cape Brick's raw materials are sourced from demolition sites within 10km of the factory. At the same time the transport of demolition material from the demolition site to a landfill site is also eliminated. The impact of this in terms of fuel saved, emissions, wear and tear on the roads and traffic congestion is enormous.

During the recycling process, primary and secondary crushing removes all steel, wood, paper, plastic and other impurities to ensure a clean stream of perfectly graded sand and stone is ready to be turned into concrete bricks and blocks.

Energy Saving

Building a typical residential house, using 40,000 bricks would result in an energy saving of:

- 21,000 Kwh when compared to conventional concrete bricks.
This is equivalent to the energy required to power this house for 23 months.
- 82,000 Kwh when compared with conventional clay bricks
This is equivalent to the energy required to power this house for 91 months.

Average (ordinary) household electricity consumption in SA (per Eskom published figures) is 900 Kwh per month.

The Athlone Cooling Towers

“POWER STATION COOLING TOWERS NOW ECO-FRIENDLY MASONRY BLOCKS

The cooling towers of Cape Town’s old Athlone Power Station, which were imploded earlier this year, are making a substantial contribution to reducing the carbon footprint of a concrete masonry and paving block manufacturer in the heart of the city.

The company is Concrete Manufacturers Association (CMA) member, Cape Brick, which has been sourcing up to 70% of its raw material from demolished buildings and other structures with a high percentage of concrete for the past 10 years.”

*Concrete Manufacturers Association
Hamish Laing (011) 805 6742*

The Athlone cooling towers yielded roughly 16 000m³ of demolition rubble, equivalent to 20 000 tons of concrete, which provided Cape Brick with enough raw material to last roughly four months and was turned into nearly 6 million bricks.



STANDING PROUD



READY TO TUMBLE



GOING....GOING....



.....GONE

Whilst the Athlone Cooling Towers was a high profile demolition, the fact of the matter is that every day we repeat this exercise and turn one man's waste into another man's home.

To view our recycling in operation, visit: www.capebrick.co.za

or simply click on the link below to watch the video on youtube.

<http://www.youtube.com/watch?v=k4EeWdogyec>