



Sustainable Development



Sustainable development is firmly established in HeidelbergCement's corporate strategy, and the same applies to those companies within the group, including Hanson Brick and Tile – North America. Reducing the consumption of resources and increasing resource efficiency are the foundations of sustainable business. The following are some of the achievements over the past decade and the goals for the future.

Durability

One of the basic requirements for sustainability is durability – products that last as long as the building, requiring minimum maintenance and repair. Hanson clay brick and concrete roof tiles are manufactured to meet or exceed the ASTM/CSA standards for durability. Extensive research and ongoing quality control testing ensures that these products provide the intended service.

Resource Management

Clay brick is manufactured from clay or shale extracted from quarries in close proximity to the plant. Roof tiles use aggregate also from quarries close to the plant. Almost all plants have Environmental Management Systems in place to control effluent, emissions and resource extraction. The quarries are managed to ensure a long life of high-quality consistent material. At the end of the quarry life, the quarry is rehabilitated and in many cases is used for residential development. Once mining operations are complete, the land is carefully and meticulously backfilled and returned to a state as close as possible to what it had been, to ensure that it continues to offer future generations equivalent potential for use and development.

Another change brought about to help conserve resources is the move to increase voids in the brick and move from C216 to C652 brick (increasing the voids from 25% to 30%). Research at the National Brick Research Center in South Carolina has shown that these bricks with larger voids provide equivalent performance as the C216 brick with respect to resisting water penetration and flexural bond strength.

Reduced Energy Consumption

Reducing energy use is a key component of sustainability. In 2004, the amount of energy required to manufacture a clay brick was just 50% of what it was in 1981. Hanson Brick has continued to improve on this, further reducing fuel use by 10%.

Emissions

The savings in fuel use since 2004 has also resulted in significant reduction in emissions, a reduction of approximately 85,000 tons of CO₂. One third of the clay brick plants have scrubbers which largely eliminate emissions, and more scrubbers are planned with upgrades to existing plants and construction of new plants. Hanson has spent millions of dollars in upgrading plants and making them more efficient and environmentally friendly.



Mission Statement: Hanson Brick and Tile

We aim to be proactive in the provision of sustainable products and services, to reduce the environmental effects of production and delivery and to ensure we act in an ethical and sustainable manner in all our business decisions.



Recycled Material

No material used to manufacture clay brick lands up in landfill. Any waste green (unfired) brick is fed back into the system. Some plants use the fired brick as grog as part of the raw material. Where waste fired brick is not used as grog, it is either crushed and sold as landscaping material, or it is used to repair and maintain quarry roads.

Some plants use waste ceramic tile or pots, bottom ash from power stations or waste scrubber lime as part of the raw material for the brick.

Some initiatives under investigation include:

- the use of sawdust in the brick
- waste glycerin as a kiln fuel
- shale from tunnel excavation as raw material
- use of fly ash as cement replacement in roof tiles
(Supplementary Cementitious Materials)

Most plant use recycled material for the packaging of the cubes.

Regional Material

Because of the geographical spread of Hanson clay brick and concrete roof tile plants, most urban areas in the USA and Canada are within 500 miles (800 km) of a brick or tile plant. Quarries which supply raw materials are generally situated in close proximity to the plant. The LEED Plant Locator on the Hanson website is a useful tool that lists all plants within 500 miles (800 km) from a given project based on the zip code. (see www.hanson.com).

Transportation

Brick and tile are transported by rail and truck, but mostly by truck. Computer software programs are used for load planning, to minimize trips and to ensure full loads. In some areas, GPS and on board computers are used to facilitate deliveries. Managers and drivers are measured in terms of miles per load delivered. In the north, where pallets are used extensively in the winter months, a pallet recovery program is in place and over 50% of pallets are recovered and reused. Recent modification of the pallets has resulted in a 13% saving in wood used.

Communities

Although Hanson Brick and Tile is a large company with plants throughout a large part of the USA and Canada, we operate as a series of independent local businesses, providing jobs in mainly rural areas.

Culture of Environmental Sensitivity

Our goal is to make our employees more environmentally sensitive and to develop a culture within the organization. As part of this goal, a survey was carried out early in 2008 of all the plant and transportation managers relating to environmental issues. This survey is to benchmark the current situation so that we can measure improvements over time.



