Acting on Climate
#LHLowCarbonTransition

Solidia Cement™: Reducing Significantly the Carbon Footprint of Precast Concrete

What is the challenge?

The manufacturing of Ordinary Portland Cement generates CO_2 emissions both from the energy in the manufacturing process as well as from the chemical reaction resulting from the process of heating raw materials.

How can we improve the carbon footprint of concrete, with alternative products & processes?

Key figures

- Up to 30% less CO_2 emissions during the production of Solidia Cement™
- CO_2 curing binds up to 30% of cement weight in CO_2
- Overall carbon footprint reduced up to 60% compared to Ordinary Portland Cement

Our solution

Solidia Cement™, developed through a partnership between Solidia Technologies and LafargeHolcim, is a new binder made from similar raw materials to Ordinary Portland Cement (OPC) and can be produced in existing traditional cement rotary kilns. It is produced at lower temperatures and through a different raw mix composition, using less limestone, that emits up to 30% less CO_2 during production. Solidia Cement™ can be used for non-reinforced precast concrete products, such as pavers or blocks and hardens through the addition and permanent absorption of CO_2 ("carbonation") in a patented curing process. This reduces the overall carbon footprint by up to 60%.

Precast products using Solidia Concrete™ are produced in traditional precast concrete manufacturing facilities. The products have reduced efflorescence and better color saturation and reach full strength in under 24 hours, compared to 28 days for precast OPC concrete. Solidia Concrete™ precast products offer a low CO_2 solution with superior characteristics and potential efficiency gains for the precast producer.

LafargeHolcim