

Hycrete-Cementing Building Technology

When it comes to improvements, it is good to start with the basics. The fundamental part of any city, road, or building is concrete. By reducing the amount of energy needed to build, and by simplifying the components of the concrete, CO2 emissions are reduced while the whole building process is made more efficient.

Voted a [GoingGreen](#) winner and covered in numerous publications ranging from [Time Magazine](#) to [Gizmag](#), [Hycrete](#) is a company at the forefront of cement technology. Hycrete has been manufacturing products in New Jersey for 40 years, and had already made a significant impact to the building industry by bringing a class of rust inhibitors to the market in the 1950s. Its more recent claim to fame-waterproof cement technology-was developed in the mid 90s when Michael S. Rhodes, one of Hycrete's key inventors, developed the unique moisture and corrosion blocker.

Rhodes' accomplishments are impressive: He has worked with NASA to develop solid rocket fuels and improve the heat shield of the Apollo series. The inventors' interests are varied, however, and don't stop there: Rhodes was also involved in creating products for the military, such as protective foams for submarines. At Hycrete, it was time to develop a product to shield one of the most used building materials on earth-Cement-from the elements.

The main problems associated with cement are corrosion and cracking. Hycrete describes the issue in their [data sheet](#): "Conventional concrete absorbs water and dissolved salts through a network of capillaries and cracks. [This water weakens the cement and may cause rusting to any steel piping or internal structures. Also, water runoff is often an issue] Hycrete Elite's hydrophobic properties shut down the capillary wicking action that carries salts to the reinforcement layer and transforms concrete into a waterproof construction material. Unlike external membranes or coatings, Hycrete Elite provides real time protection as it is mixed into concrete to provide integral waterproofing and corrosion resistance." Being waterproof, cement mixed with hycrete elite is perfect for rooftop gardens, parking lots, erosion control etc.

Waterproofing cement the 'old-fashioned' way is a major environmental issue: A popular approach is to line the entire structure with a waterproof membrane. The problem with this membrane is that it is typically composed of volatile organic compounds (VOCs) which are non recyclable, so when this cement needs replacing it is simply tossed into a landfill. Almost half of the building materials sitting in landfills are made up of this kind of cement.

The soap like properties of hycrete, on the other hand, follow the 'cradle to cradle' philosophy and break down when returned to the soil. By being mixed into the cement rather than sprayed on top of it (though this is an option with other hycrete waterproofing products), the cement is recyclable and can be reused. It would be nice not to have to worry about leaky roofs while watering your fruit garden on top of a high rise complex.