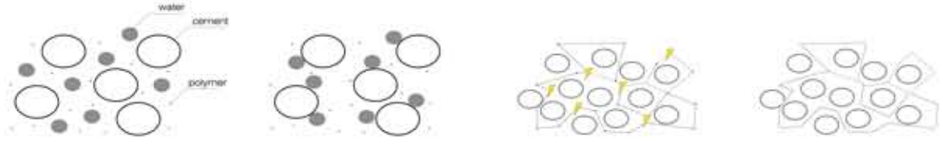
CHAMCRETE

creates sustainable design using concrete white black environment urban technology system renewable energy biochemistry transform form interactive new economic assosiated green chemistry

CONCRETE
- release energy while cement's hydration
- have capacity for storing heat or cool
- has a very low coefficient of thermal expansion

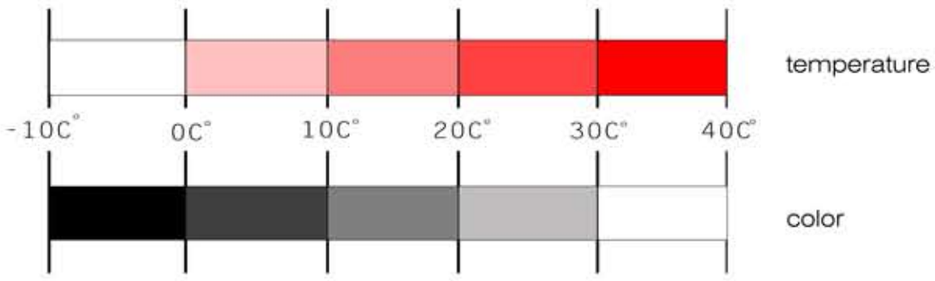
CHAMELEON
- is compatible
- have specialized cells , chromatophores, to change color
- change color to use environmental factors as benefits

CHAMCRETE
- use the energy realesed of hydration
- gain heat or cool as much as possible
- maximize energy storage
- is interactive
- have special thermochromatic material to change color
- change color to use sunlight energy efficiently



Concrete is a composite construction material composed primarily of aggregate, cement and water. Chamcrete includes polymers beside these materials. Large amount of energy which we use in producing polymer based thermochromic materials gained by hydration of cement. This hydration reaction occur every inch of concrete , thus usual concrete transform to thermochromic concrete, Chamcrete.

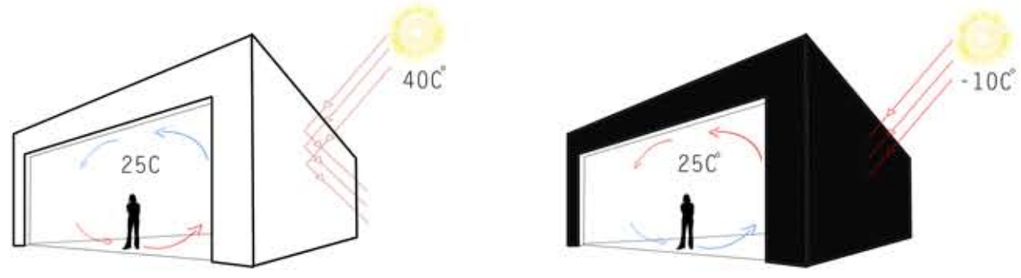
Chamcrete absorb more heat in cold and reflect more sunlight in hot conditions by thermochromic materials in it. That gives opportunity to provide thermal comfort in every condition.



Thermochromism is the property of substances to change color due to a change in temperature.

Thermochromism can appear in thermoplastics, duroplastics, gels or any kind of coatings. The polymer itself, an embedded thermochromic additive or a high ordered structure built by the interaction of the polymer with an incorporated non-thermochromic additive can be the origin of the thermochromic effect. Furthermore, from the physical point of view, the origin of the thermochromic effect can be multifarious. So it can come from changes of light reflection and absorption properties with temperature.

Chamcrete becomes whiter in hot conditions to reflect more light and cool down concrete structure. It becomes darker in cold conditions to absorb more energy to heat the structure.



By using Chamcrete , it does not matter how outside conditions changes, temprature is stable inside.

For demonstrating Chamcrete effect in different conditions shadows represent cold conditions and lighted area stand for hot conditions

A CITY | **CHAMCRETE CITY**

View without environmental effects

Without enviromental factors chamcrete is just an ordinary material for architecture

Real view of the city

The building structure in city be enlightened by sunlight

The building structure in Chamcrete city be enlightened by sunlight but all surfaces change it's color to reflect more light or absorb more energy.

Thermal view of the city

It is able to see the heat difference in city. Facades which can get light get hot and others get cold.

The Chamcrete city just get the energy needed for comfort. Reflect surplus energy or absorb more to heat up. All city use the energy efficient.