



AggreBind®

IPRO 306: Not Just Another Brick in the Wall

Sustainable

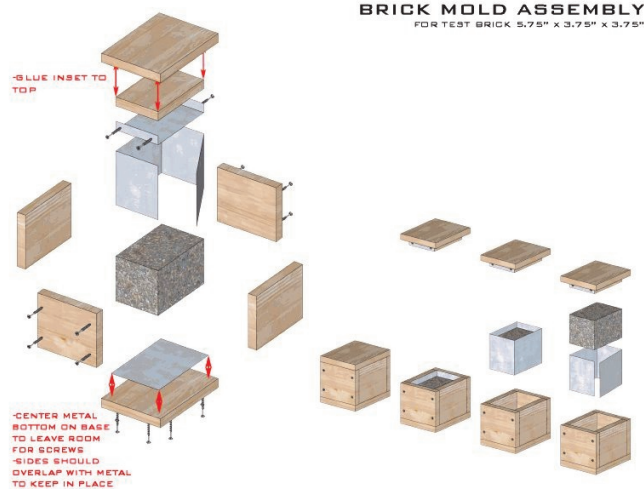
AggreBind is a water-based geo-polymer and is completely bio-degradable and

Modular

AggreBind is incredibly easy to mix and produce, and is compatible with a multitude of soil types in a wide variety of climates.

Effective

The AggreBind Masonry Unit complies fully with ASTM Masonry standards, and is benchmarked against industry leaders.



Problem

The problem our team is attempting to solve is how to build, perform, and test Aggrebind bricks during an eight week summer course.

Though the time constraints limited what we were able to accomplish, significant progress was achieved:

We have created a large number of experimental bricks using a combination of various aggregate materials, and have tested them against ASTM standards.

Though we are targeting the Mid-western market; Aggrebind's applications are truly global in size and scope.

Organization of the Team

There are three major tasks that need to be addressed in order to reach our goals: Research – Documentation – and Fabrication How have others built and produced building blocks?

What methods and processes work best and in which climates, specifically the Midwest? Since our project has three main areas of tasks to be completed in order to reach our goal we have divided ourselves into three such groups.

Research: Matthews, Melody, Teresita, Yangge

Documentation: Christina, Kevin, Ryan

Fabrication: Cesar, Davyd, Eric, Ethan, Jin, Sean, Shafaq

Solution

Our solution was to create several prototypes and determine what combination yielded the greatest fracture strength.

The possible impact on our target market would ideally redefine modern masonry by creating a less expensive building block that is more environmentally friendly and sustainable than current masonry units.

Aggrebind relies on local materials

Fewer materials needed for importing

CO2 emissions are significantly decreased

Transportation costs are reduced