

LEED WHITE PAPER

Molin Concrete Products Co

Market demand for a cleaner way of doing things have led to the mass appreciation of the LEED standard set forth by the USGBC. This demand has forged new and innovative ways to achieve LEED points for building projects. Having a building LEED certified undoubtedly helps owners and builders give their building an extra edge that sets it above other structures. People are starting to realize that precast concrete has always taken the LEAD in providing a “green” product that is structurally sound, but also a recycled (and recyclable) product! This whitepaper intends to outline some of the popular ways precast helps owners/builders achieve LEED points: Regionally Produced, Produced from Recycled Materials, and reducing on-site disturbance.

One common way that LEED points are achieved is by having a structure that is built with materials that were produced regionally. The intent of this requirement is to promote regional production, but also to reduce transportation costs as well as the effects of transportation. The LEED guidelines states that 20% of the materials of a structure must be produced within 500 miles. With many precast concrete plants across the country, precast is almost always available within these guidelines¹. Molin Concrete goes a step further by getting its fine and course aggregates from local suppliers.

Using recycled materials also garners owners/builders LEED points. The entire process of producing precast concrete utilizes efficiency, and reusable/recycled goods. The steel forms that are used in our facility are reused every day- reducing waste from forms. The steel strand that is used in our prestressed concrete is manufactured typically using 80% recycled materials.² The cement used within our plank is manufactured by Lehigh Cement and contains about 5% recycled materials³. The concrete mix for our Flexicore and precast operations utilizes a 25% replacement of the cementitious materials

¹ See www.pci.org to find a local producer

² Insteel Wire Products, Tennessee

³ In addition to the recycled materials, a large amount of waste products as well as coal are burned to generate the heat required in the heat making process. This material is manufactured in Mason City, IA.

with fly ash; our extruded hollow core operation utilizes a 40% replacement of the cementitious materials with a combination of flyash/slag⁴.

Waste reduction on the jobsite is a key aspect of LEED's requirements. One of the many advantages to using precast concrete is that the structural members are cast off-site and then delivered to the jobsite. In addition to allowing efficiency/minimal site disturbance on the jobsite, precast concrete is manufactured under tight plant conditions giving way to tight mix designs and very little waste produced.

Case Study:

Molin Concrete recently installed product on Willow Ridge, a multi-family structure being built by Weis Construction in Vadnais Heights, MN. This LEED certified project is filling the increasing market demand for "green" building. Molin was able to work hand in hand with Project Manager Aaron Kovan to support the necessary LEED documentation (Regional Materials and Recycled Content) to certify this LEED project.

⁴ Fly ash is a by-product of burning coal and slag is a by-product of the steel producing process. When these two products are used in concrete mixes it increases the strength and durability of the concrete as well as reduces the cost.