



Building Better Blocks

Concrete block producers can reduce material costs while producing a better product by using a new proprietary blend of hydraulic and pozzolanic materials. The blends, which are offered by Lafarge North America Inc. in the Great Lakes region, are customer-specific to account for the local materials and processes being used in each location.

The starting point is Blockset, a blend of two materials—one hydraulic and one pozzolanic—recycled from the industrial

cement requirements by 20% to 30%. Including Blockset products also enhances performance of the block in several ways.

each customer is to match the qualities of local aggregates. Lafarge technical personnel work with block producers to optimize the mix design. That includes testing for strength and performance and matching the void-filling characteristics of the blended cement to the locally available aggregate.

Blends are customized to specific regions.

byproduct stream. Operating under a licensing agreement, Lafarge has been producing this material since 2001 in a facility it built near its cement production plant in Paulding, Ohio, just east of Fort Wayne, Ind. Lafarge acquired the patents for this and two other blends last year from Pozzolan Cement Corporation, New Philadelphia, Ohio.

Additionally, Blockset is a blend of portland cement, typically using about 1/3 Blockset and 2/3 either Type I or Type III portland cement; it can go to the 50/50 range. The resulting products, Pozz I and Pozz III, are shipped to block producers. All the blending is done at the mill, helping block producers using a single silo for material storage.

Depending on the particular blend, using this material can reduce portland

Several benefits

First, there is a denser swipe and improved surface texture of the finished block. Shrinkage of the cured block is also reduced. And because including pozzolans typically makes the concrete denser, the porosity of the block surface is also reduced. Not only does this help resist the effects of rain and snow, it also means less paint is required when painting walls.

The concrete's initial strength is also increased by the Blockset, translating into fewer broken fins and corners and more robust edges. Blocks made with Blockset are usually lighter in color than standard concrete blocks, but not as light as those using significant amounts of slag. Including the blend also accelerates set times.

One reason for adjusting blends for

What's next

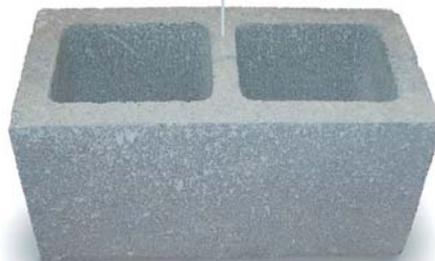
The other two patents Lafarge acquired from Pozzolan Cement Corp. are for other blended products using materials such as silica fume and slag, which the company says are in the commercial development phase. Additional uses for these materials are also under development, including such potential applications as architectural materials and concrete pavers.

Because these blends are being produced in Northwest Ohio and are tied to specific material sources, they are initially being offered on a regional basis. Primary markets currently include the Detroit, Chicago, Indianapolis, Cincinnati and Cleveland areas.

— TOM KLEMENS

Using a proprietary blend of hydraulic and pozzolanic materials to make concrete blocks yields cost efficiency and a better product.

Improved appearance and texture | Reduced edge chipping
 Improved void filling | Reduced porosity | Denser swipe



LAFARGE NORTH AMERICA INC.

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