

## New “Green” Floor System for Industrial Buildings

By Adam Marshall, CCIM, NAI Hiffman Industrial Services Group

There is a new concrete floor system being poured in Chicago area distribution and manufacturing facilities known as Ductilcrete. This patented floor system is a technologically advanced concrete material that permits the 3- to 4- fold extension of control joint spacing while delivering superior random cracking and curling performance. For the industrial building user, this means an extremely dense and permanently flat floor with joints only on the column lines, reducing the total joint length by more than 70%. This allows for greater flexibility in installation and placement of manufacturing or racking equipment and much lower long term floor maintenance costs.

Ductilcrete Slab Systems was conceived by Scurto Cement Construction and Allen Face & Associates over five years ago. It is based on sustainable building design and construction or “Green Building.” The Ductilcrete concrete mixture substantially reduces the amount of cement, sand, stone, fuel, saw blades, steel welded wire fabric (for reinforced floors), joint filler and chemical cures used in traditional floor systems. In addition, the interior floor slabs provide greater light reflectivity potentially requiring less lighting output.

Allen Face, co-designer of Ductilcrete, is known for inventing the FF/FL floor profile numbering system adopted by the American Concrete Institute as the national standard for specifying finished floor flatness and levelness tolerances used in the construction of industrial floors. According to Mr. Face, “the highly desirable features of Ductilcrete can now be obtained at unit costs that are often equal to or even lower

than those being charged for conventional slab designs.” A Ductilcrete floor can provide a live load capacity equal or superior to an 8-inch reinforced floor for roughly the cost of a conventional slab. Not only economical in its upfront costs, it also reduces



an estimated 70% of maintenance costs for both material handling equipment and concrete joint repairs over time. Another unique quality is its superior abrasion and stain resistance.

Ductilcrete has been in use for over five years in projects around Chicago totaling some 6-million square feet. Examples include the freezer/cooler floor area of approximately 430,000 SF in the 934,000 SF Central Grocers facility built in 2009 in Joliet, approximately 175,000 SF in the 1,000,743 SF Grainger facility built in 2009 in Minooka, the entire 460,000 SF Nippon Sharyo Manufacturing facility built this

year in Rochelle, and the entire 604,970 SF Wirtz Beverage facility built this year in Cicero. For retail use, it has been placed in Costco stores in Bolingbrook and the South Loop. Based on the success of these projects, Costco has now decided

to install the system throughout the United States.

TA Associates Realty and PanCor Construction chose to install Ductilcrete floors in their new 165,970 square foot speculative industrial building at 1385 Madeline Drive in Elgin. This will be the first speculative building in Chicago to feature this flooring system. According to Pete Nelson of PanCor Construction, “after reviewing the product specifications and confirming performance in existing facilities, we concluded that a Ductilcrete floor is definitely superior to standard floors found in most speculative buildings. Including Ductilcrete



Adam Marshall, CCIM is Vice President of the Industrial Services Group at NAI Hiffman specializing in real estate solutions for distribution, warehouse and manufacturing clients globally. He can be reached at 630-691-0603 or amarshall@hiffman.com

Reprinted from *Illinois Real Estate Journal*, July 2012

in our project is a way to provide additional value to our customers without significantly affecting the costs.” Ductilcrete was slightly more expensive, however it integrates their proprietary floor sealer in the flooring system which is an additional expense in a conventional floor. It also reduces expenses to fill joints in comparison to a conventional floor due to the substantial reduction in joints. Mr. Nelson goes on to say, “in effect, you get a better product for the same cost as a conventional floor.” Ductilcrete also provides a 5-year warranty which exceeds the typical conventional construction floor warranty of 1 to 2 years.

Although limited in the amount of industrial buildings that feature Ductilcrete floors, this new flooring system should gain momentum as construction activity picks up. It will be important to monitor the performance of existing Ductilcrete floors to ensure they live up to the design specifications. So far, there are no known defects or complaints according to Ductilcrete Slab Systems. When determining which floor to install for industrial use, there is a compelling case for the cost efficiency, density and sustainability that this floor system provides.