



F.W. WEBB'S NEW CENTRAL DISTRIBUTION FACILITY

Project Type:

Industrial, Distribution Center

Application:

Floor slab

Location:

Londonderry, NH

Project Date:

2017

Project Owner:

F.W. Webb Company

Contractor:

S + S Concrete Floors

Project Size:

1,000,000 sq. ft. (92,903 m)

Product:

Komponent®

F.W. Webb Company, the Northeast's top distributor of plumbing, heating, cooling and other industrial products, opened its new, \$55M state-of-the-art central distribution center in Londonderry, NH in Fall 2017.

This new facility, celebrated as one of the largest facilities of its kind in New Hampshire, is nearly 1,000,000 sq. ft. (92,903 m) in size and is part of the company's continued growth and expansion plans throughout the Northeast. The facility includes 48,000 sq. ft. (4,459 m) of office space, and 23,000 sq. ft. (2,137 m) of finished warehouse space containing a fitness center, locker rooms, break room, shipping and receiving offices, a truck detailing bay, forklift maintenance area, Zamboni room, and Hazmat room. The warehousing space spans 724,000 sq. ft. (67,262 m).

Facility designs were developed to ensure the company's commitment to outstanding products was represented throughout the facility. Webb engineers selected Komponent® Shrinkage-Compensating Concrete (K-SCC) as its high-performance floor slab system to ensure optimum floor slab performance and facility efficiency.

The Komponent® cementitious additive used to create the shrinkage-compensating concrete slab is engineered to expand sufficiently during the concrete's plastic state to offset typical concrete drying shrinkage. The dimensional stability this advanced cement technology allows construction joints to be placed up to 150 ft (45.7 m) and saw cut control joints to be eliminated. Control joints are commonly used to provide an

PROJECT PROFILE

acceptable, aesthetically discrete place for concrete slabs to crack—below the joint. Although this works well to conceal cracking, the joint itself is where most failures occur. When a forklift hits joint edges, especially with high speed forklifts, the joints begin to break down. Over time the joints need to be repaired. Maintenance costs associated with joint repair are expensive and disruptive to daily operations.

Green Leaf Construction and their concrete floor consultant, North Starr Engineering, worked with F.W. Webb to design a high-performance floor system that minimized joints throughout the facility warehouse areas and ensured floor flatness and floor levelness would be maintained for the life of the placement.

S+S Concrete Floors was selected to install the six-inch Komponent® shrinkage-compensating concrete floor. Initiating communication with S+S early in the project allowed construction details and scheduling to be integrated efficiently, and to maximize pour sizes and placement sequencing for the project.

S+S Concrete Floors, worked with Redi-Mix Companies and CTS Cement's Komponent team, to develop a Type K shrinkage-compensating cement concrete mix design that would allow placement of 40,000 sq. ft. (3,716 m) slabs without a single control joint. The mix was designed to expand a 0.05 percent minimum, verified via laboratory testing per ASTM C878—Standard Test Method for Restrained Expansion of Shrinkage-Compensating Concrete, to offset the drying shrinkage characteristics of the portland cement and aggregates used in the mix.

Choosing Komponent's advanced cement technology, F.W. Webb achieved a floor slab design with 90% fewer joints. S+S placed, screeded, and finished the concrete efficiently by coordinating closely with the Redi-Mix Companies team. With large panel placements up to 200 ft x 200 ft (61m x 61m), delays would have presented finishing challenges that must be avoided. A commitment by the entire project team ensured effective communication and coordination, and a seamless installation.

Upon completion, floor flatness and levelness were measured at FF 63/FL 41. In areas where extra abuse was expected, Trap Rock cast-on harder was used on the surface. The engineering and construction teams achieved the design intent, and F.W. Webb now has a flat, level, durable, joint-free slab that will provide many years of durable, ultra-low maintenance performance. This notable project is only one of many F.W. Webb facilities to be constructed using a Komponent® shrinkage-compensating concrete floor slab that will contribute to maximum operational efficiency and minimize life-cycle costs.

Special thanks to North Starr Engineering, Green Leaf Construction, S+S Concrete Floors, and Redi-Mix Companies for your efforts in making this project a success. CTS Cement was proud to be a part of this momentous project and look forward to continuing to support F.W. Webb's facility expansion needs in the days ahead.



For information on how Komponent® can be used to provide a high-performance shrinkage-compensating concreting or grouting solution on your next project, contact a member of the CTS Cement Engineering Team at (800) 929-3030 or info@CTScement.com.