Notable Concrete in Greater Detroit

Recent high-profile construction projects in the vicinity

C.S. Mott Children’s Hospital
The Eli and Edythe Broad Art Museum
Library Lane Parking Structure
Multipurpose Indoor Facility
Ross School of Business
FCA Windsor Assembly Plant

Map

Thanks to Michael Paul of ACI Committee 124, Concrete Aesthetics for compiling this information.
This large, complex project included a new 348-bed hospital in 775,000 ft² (72,000 m²) and 11 levels and 225,000 ft² (20,900 m²) of outpatient and office space in 10 levels. A freeze-resistant mixture was used to place concrete in extremely inclement weather, including temperatures as low as 15°F (-9°C).

Project credits: HKS, Architect; Barton Malow, Construction Manager; Spence Brothers and Walbridge Concrete Constructors, Concrete Contractors; and Doan Companies, Concrete Producer.

Submitted by Dave Olson, Manager, National Business Development Great Lakes Region, The Euclid Chemical Company, Cleveland, OH, +1.248.892.9922, dolson@euclidchemical.com.
The Eli and Edythe Broad Art Museum
Michigan State University, 556 East Circle Drive, East Lansing, MI 48824

Designed by Pritzker Prize-winning architect Zaha Hadid, more than 70% of the 46,000 ft² (4270 m²) facility is dedicated to exhibition space. Self-consolidating concrete was a critical part of the structure.

Project credits: Integrated Design Solutions, Associate Architect; SDI Associates, Engineer of Record; Barton Malow, Construction Manager; Granger Corporation, Concrete Contractor; and Consumer’s Concrete, Concrete Producer.

Submitted by Dave Olson, Manager, National Business Development Great Lakes Region, The Euclid Chemical Company, Cleveland, OH, +1.248.892.9922, dolson@euclidchemical.com.
Designed for a 100-year service life, this project used more than 50,000 yd³ (38,230 m³) of high-performance, low-shrinkage, post-tensioned concrete. One of the most significant placements required 5600 yd³ (4280 m³) placed over 36 hours. (See Concrete International, October 2012, for a full description.)

Project credits: Luckenbach/Ziegelman Architects, Architect; Carl Walker, Engineer of Record; The Christman Company, Construction Manager; Christman Constructors, Concrete Contractor; and Doan Companies, Concrete Producer.

Submitted by Dave Olson, Manager, National Business Development Great Lakes Region, The Euclid Chemical Company, Cleveland, OH, +1.248.892.9922, dolson@euclidchemical.com.
To minimize the number of joints in the concrete slab for four tennis courts in a 30,000 ft² (2800 m²) field house, the concrete included a shrinkage-reducing and -compensating admixture and the slab was reinforced with polypropylene-polyethylene macrofibers in addition to welded wire reinforcement. Twenty-eight-day shrinkage values were 0.0160%, and only one saw-cut joint was placed down the length of the tennis court nets. The inspector found no random cracks in the entire slab during the playing surface pre-installation inspection.

Project credits: NTH Consultants, Engineer; Turner Construction and Amalio, Contractors; and Superior Materials, Concrete Producer.

Submitted by Dave Olson, Manager, National Business Development Great Lakes Region, The Euclid Chemical Company, Cleveland, OH, +1.248.892.9922, dolson@euclidchemical.com.
This included a comprehensive renovation of the Kresge Business Administration Library, demolition of the Computer and Executive Education Building, construction of a new academic building, and the addition of exterior building finishes to Sam Wyly Hall, the Business Administration Executive Dormitory, and the Hill Street Parking Structure to create a unified look for the entire complex. The project’s 2100 yd$^3$ (1600 m$^3$) of cast-in-place concrete included synthetic macrofibers.

Project credits: Kohn Pedersen Fox Associates, Architect; Thornton Tomasetti, Structural Engineer; Walbridge Aldinger, General Contractor; Spence Brothers, Concrete Contractor; and Doan Companies, Concrete Producer.

Submitted by Dave Olson, Manager, National Business Development Great Lakes Region, The Euclid Chemical Company, Cleveland, OH, +1.248.892.9922, dolson@euclidchemical.com.
During production shutdowns beginning with Christmas 2014 and continuing through the 14-week new model launch from mid-February to the end of May 2015, a major project at the Fiat Chrysler Automobiles Group assembly plant was the pit construction; underground utility rerouting; and column extensions for new caster, camber, and toe-in alignment stations. Originally built for the 1982 minivan models, the alignment stations needed to be expanded from three to five within four 20 x 40 ft (6 x 12 m) bays. The ambitious schedule involved around-the-clock execution, with demolition in February, construction in March, and equipment installation in April.

To fast track concrete operations, high-early-strength concrete was used, allowing the work to proceed per cylinder test results at critical stages. Base slabs and walls were reinforced with polypropylene-polyethylene synthetic macrofibers in addition to steel reinforcing bars. Because of high wheel loads, floor slabs were reinforced with steel fibers.

Project credits: FCA USA Corporate Building Group and FCA Canada WAP Facilities, Owner; SNP Technical Services, Inc., Architect-Engineer; Alberici Global Automotive, Construction Manager; and Elmara Construction, General Contractor.

Submitted by Tito R. Marzotto, SNP Technical Services, Inc., Troy, MI, +1.248.284.4123, tmarzotto@snp-tech.com.
Map
Click on the map below to view the Google map.