



Mixing Strength With Satisfaction

FORD FIELD, DETROIT, MI

MS-D1 SHOTCRETE AND MS-D3 ACCELERATED SHOTCRETE

PROJECT:	Ford Field Detroit, MI
SPECIFIER:	Smith Group, Inc. Detroit, MI
CONTRACTOR:	Western Waterproofing Co. Livonia, MI
PRODUCT:	MS-D1 Shotcrete MS-D3 Accelerated Shotcrete
QUANTITY:	275 m ³ (9700 ft ³)
COMPLETION:	Winter 2001

The new home of the Detroit Lions broke ground in November 1999. The design incorporated downtown Detroit's historic seven-storey Hudson's warehouse (a structure originally built in 1920) to include most of the stadium's luxury seats, pressbox, restaurants and even the Detroit Lion's locker room. The new Ford Field, together with its 65000 seats and giant glass wall have been awarded Super Bowl XL in February 2006.

The old warehouse required extensive restoration. The original specifications called for a "form and pump" material to be used for the repair of the existing concrete beams and columns. White/Olson LLC, the project's General Contractor together with their subcontractor Western Waterproofing Co. approached KING with the idea of using shotcrete as a repair alternative. The major challenge faced by the contractors was to overcome problems related to the cold weather conditions while meeting the project's tight production schedule. To overcome the cold temperature concerns, KING recommended the use of MS-D3 Accelerated Shotcrete. This product, which had been used successfully in sub zero temperatures at Falconbridge's Raglan Mine in the Canadian Arctic, was submitted by Western Waterproofing to Smith Group, Inc and approved.

To ensure a successful repair, Western Waterproofing heated both materials and water prior to shotcrete application and monitored both ambient and material temperatures. They also allowed for minimum hydration thresholds to be met in order to avoid any potential breakdown of the repair's microstructure due to frost action.

Included in the design of the stadium's roof were two large troughs (approximately 150 m x 1.5 m (540 ft x 5 ft)), through which an elaborate heating system prevented the formation of snow and ice. The original specification called for a 100 mm (4 inches) layer of lightweight concrete to be pumped approximately

30 m (100 ft) above ground level to line the troughs. Western Waterproofing proposed the use of KING's MS-D1 Shotcrete as an alternate to the lightweight concrete.

Western Waterproofing responded with a unique approach to overcome the many challenges on this project and once again, shotcrete proved to be the solution.

