

## Structural Engineering & DESIGN

### New MLB ballpark uses unbonded post-tensioning method

For the first time since 1961, the Minnesota Twins have their own outdoor baseball field. Target Field hosted the team's first home game on April 12, 2010. Construction, however, began on the ballpark in the summer of 2007.



Before Target Field was constructed, the Minnesota Twins shared their previous home, the enclosed Metrodome, with the Minnesota Vikings professional football team.

The \$425 million open-air stadium was built over portions of the I-394 highway as well as a BNSF main railroad track, making the project constraints more difficult than usual. More than 3,500 workers helped construct the marquee, LEED-certified structure that has 55,000 cubic yards of concrete. During the design phase, unbonded post-tensioning was chosen as the preferred method to reinforce the concrete beams and girders because it permitted longer clear spans under heavy loading. Post-tensioning also contributed to the stadium's LEED Silver certification by reducing concrete volume, and gave Target Field long spans and a column-free layout, which helped to reduce the cost. M.A. Mortenson Company hired AMSYSCO Inc. as the project's post-tensioning manufacturer.

Overall, AMSYSCO Inc. supplied 142 miles of half-inch encapsulated unbonded post-tensioning tendons that reinforced the concrete girders in the upper levels and the main promenade. This figure translates into 230 tons of post-tensioning installed by ironworkers. Additionally, the mezzanine entrance walkway had a two-way post-tensioned system that used banded and uniform tendons. [Read the full article.](#)

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