Case History Spotlight #734:
Best PT Mix Ever!

The Mercantile development in Omaha, Nebraska, included a four-story post-tension (PT) parking garage with a 100-year service life design. The use of deicing salts in the region is heavy during the winter, and freeze-thaw action allows chlorides to penetrate the concrete more quickly, so a corrosion inhibitor was needed. After a recent bad experience placing a concrete mix with calcium nitrite corrosion inhibitor (CNI) that caused the concrete to set too quickly, the contractor settled on MCI®-2005 NS.

The first concrete pour took place during the middle of a July heat wave and the contractor wondered if they should wait until the evening to do the job when it was cooler and less likely to accelerate set time. Their MCI® regional sales manager encouraged them to go ahead and just treat the MCI® mix as they would a regular mix on a 100 °F (38 °C) day. They did, and the crew soon noticed how much easier it was to place and consolidate the MCI® mix than the one with CNI. They had many favorable results, including more bleed water than ever experienced with CNI.

At the end of the job, the general superintendent said it had been the best PT mix he had ever put down and he never wanted to use CNI again. He predicted that all the ready-mix suppliers in the area would want to switch to MCI® and, sure enough, every ready-mix provider included MCI®-2005 NS in their bids for a parking garage the next week.

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Keywords: Case History Spotlight, MCI, calcium nitrite, corrosion inhibitor, concrete admixtures, ready-mix suppliers, troubleshooting concrete mix in heat wave, tips for consolidating concrete mix on hot day, Cortec, MCI