



PRECISION WATER SYSTEM

NEBCO

NEBCO provides various concrete and construction-related products throughout Nebraska and surrounding states through its various companies, including 23 ready mix concrete plant.

The Challenge

NEBCO was experiencing a constant battle with moisture, but it seemed as though nothing that they tried would solve this problem. Everyone from the field to the plant to management felt defeated. They needed a system that would help them to deliver more consistent loads, better yield management, lower costs, and enhanced customer service.

The Solution

NEBCO chose the Precision Water System (PWS) to address their moisture problem. The Precision Water System is a fully integrated water management system which provides a new set of tools that simplify and automate the management of moisture compensation with the ability to calibrate and simultaneously measure up to 12 probes up to 1" coarse aggregates. Plant Watcher for COMMANDbatch provides continuous monitoring of production operations, providing real time alerts of production issues while providing detailed post production reports that can be used to improve operations and cut costs. Another unexpected benefit

of the Precision Water System is the ability to rely on the system to alert the producer to other aspects of the material quality process. Material issues (dust content, grading changes) can be flagged up much earlier, and if the grading of materials goes out of specification, the water demand can change and the batcher can trim the total water requirement. Bryan Peterson, Business Systems Analyst at NEBCO states, "we have seen that the solution works and



LOCATION
Nebraska



INDUSTRY
Ready Mix



RESULTS
Stronger Mixes

are completely confident in how well it performs.” The solution brings peace of mind across their entire operation. “Everyone’s confidence in our product has increased and communication between departments has improved a thousand-fold,” continues Peterson. To monitor the moisture content in their aggregates and ensure they are delivering a quality product, NEBCO uses the PWS probes in all of their different materials at each plant and is realizing consistent control of the concrete per specification.

The Result

The implementation of the system has proven to help the company achieve the desired slump of their products. NEBCO is typically plus or minus as little as a tenth, consistently getting the requested slump and ensuring accurate results. When customers request a certain slump, they get that slump. If they want a six-inch slump, they order a six-inch slump where previously they might have ordered a four-inch slump and added water to it to get to the right slump – leading to another powerful realization of the tool – time savings.

When the concrete arrives meeting the specifications that the customer requested, the contractors at the job site are pleased. They don’t have to do anything to the mix, which saves them a tremendous amount of time and allows them to begin unloading immediately upon arrival. There is less time spent on the job waiting for the right mix. NEBCO too, benefits from this: it has experienced a decrease of 7-10 minutes per truck on job times.

Today, NEBCO is redoing their mix designs through a performance-based design instead of a sack mix and are finding they can achieve great strengths with a lot less cement. In the past they over-yielded, which was an unnecessary use of materials. Water/cement ratio’s could become egregious, and NEBCO had difficulties controlling the water. They added safety buffers to make sure they had the right strength, but adding an extra bag of cement or other materials was extremely costly. With Command Alkon’s PWS, NEBCO has the confidence that using less cement will result in making strengths with

complete certainty. The solution was adopted by NEBCO and endorsed by the General Manager of the plants where it was piloted. Since the company-wide implementation, everybody from the plants up through management have seen that the solution is working and improving product quality and efficiencies. Everyone is on the same page and it’s made production a lot smoother by requiring increased communication between the plant, QC, dispatch, and management.

To start the change management process, NEBCO implemented the solution at one plant with the understanding that the PWS system would not change the entire operation overnight.

Trials and tribulations were expected. NEBCO had a core group that was dedicated to the process and they stayed committed and collected the data needed to prove the new solution was working. The company went plant by plant and group by group to train people on the new solution and how it would change processes and procedures. Taking baby steps, the entire turnover to the new solution took about 18 months. The company implemented the probes into all of the fine aggregates before focusing on coarse aggregates at the plants.

Employees have been conditioned to capture data each and every day. The plants perform bake outs every day, sometimes multiple times a day depending on the project. Bake outs are done on gravel, sand and coarse aggregates. The company has learned that performing PWS testing every day and capturing the data results in eliminating any time previously spent fixing loads.



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