

ECLIPSE® FLOOR

Shrinkage Reducing Admixture

How a fish processing plant reeled in a durable concrete floor



The Columbia Colstor Fish Processing Plant
Woodland, Washington, USA

When the Columbia Colstor Fish Processing Plant needed to build an addition to its existing facility, they needed a floor that would make the grade—literally.

That’s because the project required slab-on-grade construction. As John Bradford, the project’s engineer explained, “the building’s geometry and use as a cold storage facility required sloping slabs, creating challenges and difficulties to joint the floor.”

The issue was that controlling cracking in slabs on grade is commonly handled through the use of control joints. But control joints can bring their own set of problems. There are initial costs from cutting and filling these joints, as well as future costs as the joints wear and require maintenance. And in a food processing facility, minimizing joints makes cleaning easier. “Less joints means a cleaner facility with lower maintenance costs,” noted Joel Sandberg, a representative for Columbia Colstor.

The original specification called for Type “K” expansive cement with extended joint spacing. But contractor Greg Whitaker and supplier Glacier Northwest had something better in mind. Whitaker had used Eclipse® technology

“Eclipse Floor allowed us to bring value to our customer.”

Kevin Wolf
Glacier Northwest

before with great success, and working together, the project team was able to put together an alternative that would save money and be readily available.

The solution was a mix that included Eclipse Floor shrinkage reducing admixture—a mix optimized to reduce drying shrinkage. With Eclipse Floor, engineer John Bradford was able to design floor bays on grade with control joints spaced up to 60 feet apart. As a result, initial expenses were lower with less jointing than would have been needed with untreated concrete. And the owner can expect lower lifecycle costs with fewer joints and cracks to repair—the biggest problems in floor maintenance.

With Eclipse Floor, the job not only went smoothly, but four days were skimmed off the schedule. For the desired spacing of control joints, the mix supplied by Glacier Northwest required only a three-day wet cure, compared to a seven-day wet cure for Type “K” cement. And to make the job go even smoother, the mix included MIRA® 70 mid-range water reducer for more workable concrete during concrete placement, and enhancing the final finish of the floor.



The plant's use as a cold storage facility required sloping floors, extended joint spacing, and an innovative solution to make it all work.



The use of Eclipse® Floor enabled extended joint spacing, saving time and maintenance costs

“The concrete mix was very workable with Eclipse Floor. There were no drying shrinkage cracks. I feel very confident in the product's performance and have no hesitation in recommending it.”

Greg Whitaker
Owner
Whitaker/Ellis

“There was no visible cracking with Eclipse Floor. I plan on using it on upcoming work.”

Gary Verthein
General Superintendent
Performance Contracting

The final result for Columbia Colstor? A durable slab-on-grade floor with no drying shrinkage cracks. A minimum of control joints. Reduced maintenance costs.

And that's no fish story.

PROJECT CREDITS:

Project: Columbia Colstor Fish Processing Plant, Woodland, WA

Engineering: Bradford Conrad Crow Engineering Co., Tigard, OR

General Contractor: Performance Contracting, Inc., Sacramento, CA

Concrete Contractor: Whitaker/Ellis, Portland, OR

Concrete Supplier: Glacier Northwest, Portland, OR

U.S. Patent Nos.: 6,569,525; 6,569,526; 6,758,897; 6,863,969

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