

STRUX® 90/40

Synthetic Macro Fiber Reinforcement

The straight scoop on a new composting floor



The Cedar Grove Composting Facility
Everett, Washington

As a provider of compost for agricultural purposes, Cedar Grove Composting is in the business of helping things grow. And with an increasing demand for compost, the company needed to help itself grow by building a new composting facility in Everett, Washington.

A critical component of the facility was the ability of the eight-inch thick slab-on-grade floor to provide the high performance needed

for a busy composting operation. That's because during the composting process, the compost sits directly on the slab, generating heat that can cause cracking. In addition, the slabs needed to withstand the stress of constant scraping and scooping from front-end loaders, along with the stress of the heavy machinery's weight.

Fortunately, Mateo Ocejo, the project's structural engineer from Earth Tech, already had a solution. Before a previous expansion of one of Cedar Grove's existing plants, Ocejo had evaluated different fiber reinforcement options and found the hard data and performance results made Grace's STRUX® 90/40 synthetic macro fiber reinforcement his choice. And the success of Cedar Grove's first expansion project with STRUX confirmed his decision.

"Schedule advances and labor savings made it easier to stay on track with STRUX 90/40 versus having to install conventional steel reinforcement."

Jeff Toles
Bayley Construction

As a result, the slabs could be confidently designed with STRUX to meet the loading and durability requirements – while still providing the equivalent residual flexural strength to steel. This was vital since the rising cost of steel, issues over its availability, and the added time required to place secondary reinforcement bars, would put the job’s schedule and budget in jeopardy. STRUX provided a high performance solution that enabled the job to be completed on time and on budget. In addition, Grace’s Eclipse® Plus Shrinkage Reducing Admixture was added to the mix to reduce cracking from drying shrinkage and to minimize curling.

“The use of STRUX 90/40 and Eclipse Plus for our slab-on-grade applications allowed us to maintain adequate integrity, toughness and crack control while optimizing our installation schedule,” said Ocejo. “These products were cost competitive when compared to a traditional reinforcing bar installation.”

“I am very impressed with how well STRUX dispersed itself into our concrete mix. We did not see any balling of fibers.”

Jerry Simmons
Concrete Nor’West

Because STRUX is dispersed throughout the concrete mix, it provides uniform performance and strength, without the clumping and balling associated with steel fibers. A total of 4,000 cubic yards of concrete were treated to produce a high performance slab-on-grade floor — with STRUX 90/40 added at 6 lbs. per cubic yard.

The completed high performance slabs revealed no drying shrinkage cracks and are expected to deliver years of service under hard use. The owner, contractor and structural engineer are all very pleased with



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With no steel to trip over, the vibrating screed speeds the placement operation while STRUX helps provide high strength and tight crack control.

the completed slabs. In fact, they’re already looking at future projects to incorporate STRUX 90/40 technology.

PROJECT CREDITS:

Owner: Emerald Services, Inc., Seattle, WA

General Contractor:
Bayley Construction, Mercer Island, WA

Engineer: Earth Tech, Vancouver, BC

Concrete Producer:
Concrete Nor’West, Burlington, WA

Concrete Contractor:
Olympic Concrete Finishing, Inc., Auburn, WA

Admixtures/fibers Supplier:
Grace Construction Products

www.graceconstruction.com

North America Customer Service: 1-877-4AD-MIX1 (1-877-423-6491)

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