



CASE STUDY - FASTRAC 246 SCC CONCRETE

CEMENTS | CONCRETES | EPOXIES | GROUTS | MORTARS | MIXING SYSTEMS | CHOCKS



FasTrac 246 SCC Concrete Installation



RELIABILITY RESTORED: RAPID STRUCTURAL REPAIR USING FASTRAC 246 SCC

Time is money, especially when it comes to keeping critical rotating equipment online. One end user faced this challenge head-on when a centrifugal pump, long considered a 'bad actor' due to excessive vibration and repeated seal failures, was finally taken out of service. With only a narrow outage window available, the reliability contractor and **FasTrac Construction Products** team were called upon to deliver a permanent fix in under seven business days.

A root cause review revealed the real culprit: the original epoxy grout had delaminated from the concrete foundation. This hidden flaw allowed uneven anchor bolt tension, misalignment across the equipment train, and years of unnecessary downtime and maintenance expense. To correct this, the contractor removed the baseplate, chipped away the defective grout, and exposed the rebar cage of the foundation.

The repair strategy began with installing rebar pins set with **FasTrac 308 anchoring epoxy**, locking the old foundation into the new repair. With the pins in place, the foundation was rebuilt using **FasTrac 246 SCC**, a shrinkage-compensated, high early strength concrete. A **FasTrac 750 Mixer** was used to mix the material.

Delivering 5,000 psi compressive strength in just 24 hours and 7,500 psi at 28 days, FasTrac 246 SCC allowed formwork removal in only an hour, a huge advantage when working within limited outage windows. Furthermore, FasTrac 246 SCC enables epoxy grout to be installed in as little as 24 hours after placement, streamlining the path from demolition to final alignment.

Unlike conventional plain cement concrete (PCC) mix designs, FasTrac 246 SCC is self-consolidating, requiring little to no finishing. This reduces the risk of surface laitance and ensures a strong, durable bond for grout installation. FasTrac 246 SCC's low drying shrinkage ensures dimensional stability and a reliable foundation surface ready for critical equipment installation.

In less than a week, the pump was back in service on a foundation built to last. The project not only eliminated the mechanical looseness that had driven reliability issues but also demonstrated the true value of high-performance repair materials under tight schedules. FasTrac 246 SCC proved that when time is short and reliability matters most, speed and strength can work hand in hand.



246 SCC



CE308



750 MIXER

FASTRAC 246 SCC CONCRETE

SELF-CONSOLIDATING, FAST-TURNAROUND CONCRETE REPAIR



Clear indication of previous epoxy grout had delaminated from the concrete foundation and baseplate. Contractor beginning the demo process



Contractor chipped down to top mat of rebar to ensure proper placement of mechanical pins using CE308 to secure. Form boards placed and prepped for 246 SCC.



FasTrac 246 SCC was mixed on-site using the FasTrac 750 Skid Steer Mixer. The mixer includes a pair of bag-breakers on the grate for convenience.



The reversible auger and tighter tolerances between the auger and trough results in superior mixing and dispensing. The 750 Mixer features up to a 3/4-yard capacity.



246 SCC placed before new anchor bolts were core drilled and installed with CE308.



Foundation completed and ready for epoxy grout in 24 hrs. This shortened time gap reduces the exposure window where debris, laitance, or moisture could compromise the bond.



KEY ADVANTAGES OF FASTRAC 246 SCC

1) Very Low Drying Shrinkage, resulting in:

- a) Dimensional Stability - Low drying shrinkage keeps the foundation from changing shape as it cures, preventing distortion that could compromise the base.
- b) Maintaining Equipment Alignment - Stable concrete ensures shafts, couplings, and base plates remain aligned, reducing vibration and premature wear.
- c) Reduced Cracking - Minimizing shrinkage lowers internal stresses, which prevents cracking and preserves the strength of the foundation.
- d) Improved Vibration Control - An intact, crack-free foundation maintains its stiffness and mass, helping it absorb and dampen dynamic forces.
- e) Longevity and Reliability - With less cracking and misalignment, the foundation lasts longer, requires fewer repairs, and provides more consistent equipment performance.

2) Self-Consolidating, resulting in:

- a) Complete Fill Around Anchors - 246 SCC flows freely into congested reinforcement and around anchor bolts without the need for vibration, giving a more reliable bond and support.
- b) Fewer Voids and Honeycombs - Because it consolidates under its own weight, 246 SCC minimizes trapped air and honeycombing, which improves stiffness and load transfer.
- c) Minimal Finishing & Reduced Laitance - 246 SCC settles with a smooth surface finish on its own, requiring less manual finishing, while also reducing laitance (the weak, powdery surface layer) since it isn't over-worked with vibration or troweling.
- d) Improved Vibration Performance - A dense, uniform foundation with fewer surface or internal defects helps control vibration and dynamic response for rotating machinery.
- e) Enhanced Durability - By producing a homogenous, well-consolidated matrix, 246 SCC reduces permeability and cracking risk, extending the life of the foundation.

3) Epoxy Grout Installation in as Little as 24 hours

- a) Faster Equipment Commissioning - Traditional cementitious grouts often require 7-28 days of curing before machinery can be placed under load. Epoxy grout's rapid strength gain means equipment can be aligned, grouted, and put into service much sooner, minimizing downtime.
- b) Reduced Project Delays - On industrial projects, foundation and grouting are often on the critical path. Being able to grout after 24 hours allows construction teams to overlap schedules, keeping the project moving efficiently.
- c) Earlier Alignment Stability - The quicker grout placement locks anchor bolts and base plates into position sooner, reducing the risk of foundation movement or misalignment during the waiting period.
- d) Lower Risk of Contamination or Damage - The shorter time gap between concrete placement and grouting reduces the exposure window where debris, laitance, or moisture could compromise the bond.

4) Formwork Can Be Removed in as Little as 1 Hour

- a) Accelerated Construction Schedule - Early formwork removal means crews can move to the next steps of construction much faster, keeping critical-path projects like equipment foundations on schedule.
- b) Reduced Labor & Equipment Costs - Less time waiting on forms means less crane time, fewer man-hours tied up in stripping, and lower overall labor costs.
- c) Improved Workflow & Access - With forms out of the way quickly, the work area is cleared for grouting, anchor setting, or follow-up trades, reducing congestion around the foundation.
- d) Lower Risk of Formwork Damage - The sooner forms can be safely removed, the less chance they are damaged by prolonged exposure to pressure, weather, or site traffic. Fill Around Anchors - 246 SCC flows freely into congested reinforcement and around anchor bolts without the need for vibration, giving a more reliable bond and support.

COMPRESSIVE STRENGTH PERFORMANCE OF FASTRAC 246 SCC

Time	Compressive Strength
24 Hours	5,000 psi
28 Days	7,500 psi

FasTrac 246 SCC ensures reliability from the ground up—delivering rapid strength, dimensional stability, and the confidence to execute under the tightest deadlines.



ABOUT FASTRAC CONSTRUCTION PRODUCTS

With more than 30 years of experience developing and manufacturing cutting-edge construction materials, FasTrac has earned a reputation for performance, consistency, and customer-first service.

FasTrac's industrial-grade products and solutions support a wide range of markets, including food and beverage, heavy and light manufacturing, construction, liquified natural gas (LNG), oil well servicing equipment, pulp and paper, power generation, railways, wind turbines, and water treatment facilities, among many others. We continue to support these industries with an evolving portfolio of products engineered for the most demanding applications.

With corporate offices in Lee's Summit, MO, and manufacturing plants and warehouse facilities in Archie, MO, and Cleburne, TX, FasTrac is strategically positioned to serve customers in all 50 states, and in five continents around the globe.

When you work with FasTrac, you're not just buying materials — you're gaining a team of experts who understand the demands of your industry, anticipate problems before they occur, and engineer solutions that maximize uptime, extend asset life, and ensure ROI on every project.

FasTrac isn't just a supplier. We're your competitive advantage.

READY TO EXPERIENCE RELIABILITY FROM THE GROUND UP?

Start by browsing our web site at fastracproducts.com to learn more about our industrial products and solutions.



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Certifications

Our products lead the industry in meeting or exceeding the highest standards of testing and certification.