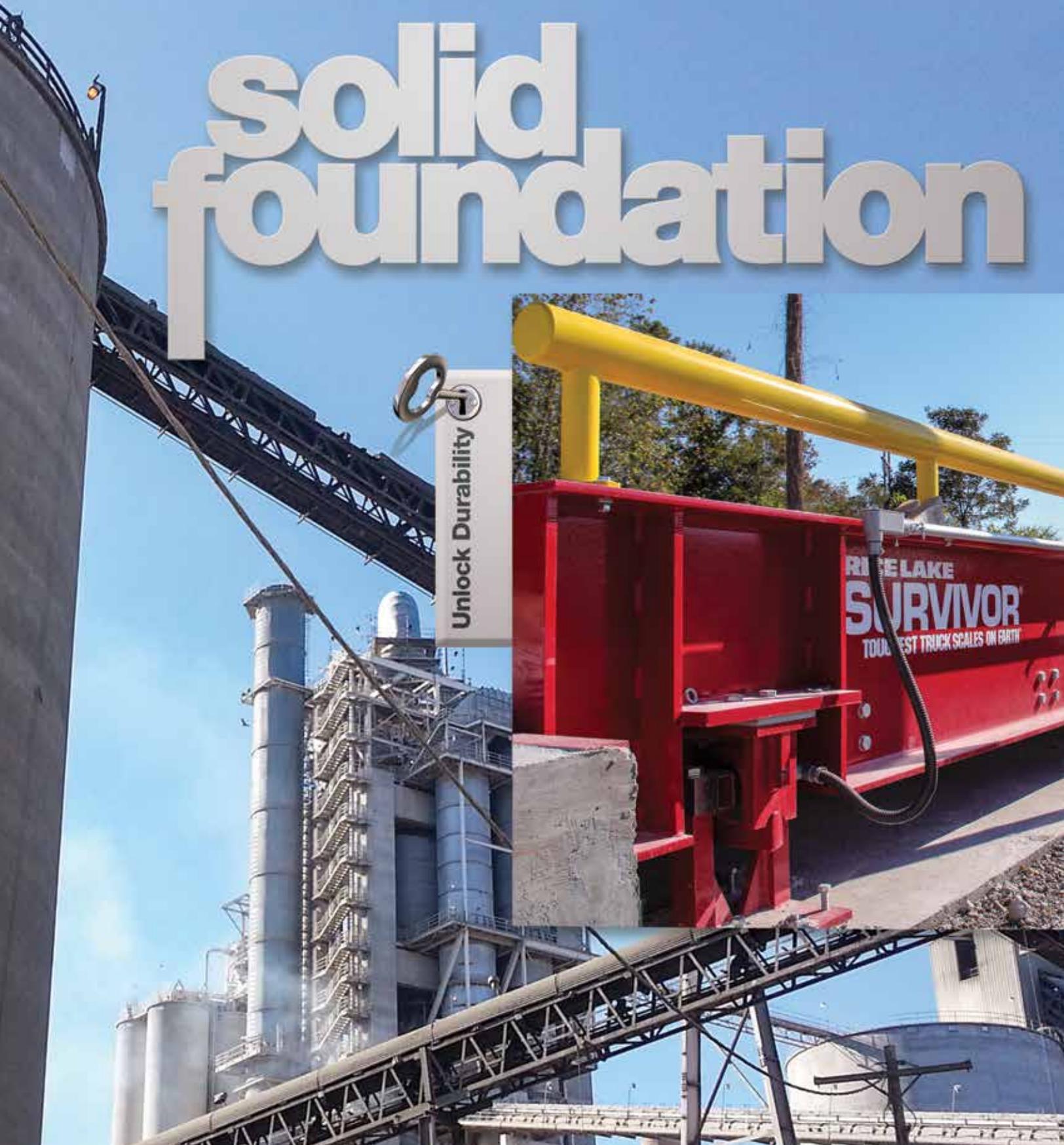


solid foundation

Unlock Durability

RISE LAKE
SURVIVOR
TOUGHEST TRUCK SCALES ON EARTH





Rice Lake's SURVIVOR® SR truck scale and custom-designed rail scale withstand a cement factory's high production.



Carolina Scales installed the SURVIVOR SR with special considerations for the cement factory's needs.

PRODUCING OVER ONE MILLION TONS OF PRODUCT PER YEAR IS AN IMPRESSIVE FEAT FOR ANY INDUSTRY. AT GIANT CEMENT IN HARLEVILLE, S.C., this annual quantity reflects the effective strategies implemented throughout their lean manufacturing process. Producing and transporting this amount of cement requires a devoted workforce and equipment that never stops. The 24/7 demands can take its toll on equipment and installing durable scales is integral to keep product moving. Giant Cement requires the most durable truck and rail scales to handle its high volume of trucks per day and constant stream of rail cars. They turned to Rice Lake's SR truck scale and a custom-designed railroad scale to meet their needs.

An existing competitor's truck scale still resides on its original installation site, inhabiting low ground on the lot and providing a reminder that proper installation is an essential ingredient for optimal weighments. Because of its location, every rainfall washed any nearby debris beneath the scale and would often create pools of standing water. "That scale was a maintenance nightmare," explains Brad Locker, Industrial Controls Engineer for Giant Cement. "It seemed like we were always calling someone out here to make adjustments or clean the foundation."

They contacted Nate Keisler, sales manager of Carolina Scales, who recommended

a concrete deck SURVIVOR® SR truck scale and a different installation strategy. "Nate really knows his stuff," remembers Brad. "Because he is a former installer, he gives us a great perspective on our needs for the entire project—not just the scale selection but also what we need for the right installation."

"Any equipment in this area is going to be put to the test because of the sheer quantity of product they produce," explains Nate. "I knew they needed the toughest scale possible so I recommended the SURVIVOR SR because of its added strength." The SR provides increased rigidity and reinforced, easy-access load cell pockets for uncompromising performance and quick maintenance.

Utilizing their experience and knowledge of the site, Carolina Scales installed the SR in an optimal location. The new scale towers above a nearby small drainage pit. This ensures any rainfall is diverted past the truck scale and any debris is carried away in the flow.

Todd Keisler, head of construction for Carolina Scales, is a maestro truck scale installer. He takes every precaution to ensure the scale will last as long as possible. The optimal installation site was a solid foundation for this goal, but Todd went one step further. He ran all conduit along the top of the scale's prominent siderails, guiding the system's electronics away

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from the perils that led to the demise of the competitor's truck scale.

Carolina Scales' expertise and the SR's rugged durability are the perfect combination for the factory's demanding truck scale needs. One solution was in place, but a more challenging problem resided in the rail car loading area. Here, two 50-year-old rail scales were buried beneath an offset in the track. Once fully mechanical, the scales received an electronic conversion in the 1980s, but the pits were originally built to accommodate the original cantilever system. This required the rails to be slightly off-center and would necessitate a tailor-made scale to match the unusual design.

Carolina Scales worked with Rice Lake to custom-design a massive rail scale that would fit the pit and its existing rail, but installation would not be easy. Once the old rail scale was removed, a half-century's worth of rail-car residue was revealed. It would need to be removed before installation of the new rail scale could commence. "The pit required a lot of cleanup," Brad remembers. "There was an incredible amount of buildup after fifty years of rail cars passing over the scale. In places, it was so tough to clean that even a jackhammer got stuck. It took a while, but we were finally able to clear out the pit remarkably well."

Once the pit was clean, the colossal rail scale was ready for installation. Its extraordinary weight required a gigantic 200-ton crane, but there was little room for navigation and no room for error. The scale pits were in the middle of the rail car loading station and the crane could not fit inside. An expert crane operator was required to skillfully maneuver the modules into position and gently lower them into the pit. "It was nerve-racking," Brad says. "The scale had to be exactly the right size to fit the pit and the crane operator had to get them into just the right position. He just went really slowly and once the scales were down, everyone breathed a sigh of relief. They fit perfectly."

A perfect fit was accomplished, but the rail scales had to meet performance expectations as well. Avoiding downtime is critical for the cement plant. "On the old scales, we would have load cells go bad from time to time," Brad explains. "It was a huge issue because the scale would typically be down for three or four hours for maintenance. That's a big reason why we decided to replace them with Rice Lake. One of the best features is iQUBE2[®] because it can emulate a good load cell if one has gone bad, and keep going just like all the load cells were still good. That's incredible. We believe the scale will pay for itself just because of that!"

The rail scales are controlled by 920i[®] indicators, which interface with the factory's sophisticated PLC equipment.

Once a rail car is ready for loading, the delivery chute slowly lowers and self-corrects its position with onboard video cameras. The cameras identify the opening in the rail car and coordinate the chute's automated guidance system. Once it has successfully created a seal with the rail car, cement powder is released for a few minutes to reach capacity. The next rail car is moved into position and the process is repeated.

Giant Cement is always looking for ways to streamline their operation. Reducing downtime and avoiding maintenance costs have captured additional revenue and increased efficiency. Because the new rail scales are more responsive, loading time has been reduced by an average of 5-10 minutes. That increases the factory's throughput and allows them to process more cement each day.

The increased durability supplied by Rice Lake's SURVIVOR SR truck scale and custom rail scales provides a solid foundation for the cement factory's daily operations, and they expect the scales to endure the test of time. "The old rail scales lasted for over 50 years," Brad concludes. "After seeing the construction of the Rice Lake scales, I'm confident they will last even longer."

Unlocking durability is the secret to long-lasting scale performance and return on investment—and Rice Lake is the keymaster. ■



Photos by Brad Locker.

After a thorough cleaning of the 50-year-old pit, Rice Lake's custom rail scale was expertly lowered into position and installed.