



UNI-GROUP U.S.A.

Sterling Sugar Refinery

PROJECT:

Sterling Sugar
Container Storage Facility
Franklin, Louisiana

PROJECT MANAGER & ENGINEERING

Sterling Sugar
Franklin, Louisiana

GENERAL CONTRACTOR:

Ray Gassiott
Bayou Sále
Franklin, Louisiana

PAVER CONTRACTOR:

Kellystone
Austin, Texas

CONCRETE PAVER MANUFACTURER:

Pavestone Company
Lacombe, Louisiana

PAVERS:

UNI-Anchorlock®
3 1/8" (80mm)
Natural Gray - 86,000 sq ft

Case Study



Sterling Sugar features 86,000 sq ft of UNI-Anchorlock® pavers in their container storage area

When planning new paving for their short-stalk sugar cane refining facility in Franklin, Louisiana, Sterling Sugar wanted a pavement that would hold up well under heavy, industrialized loads. Previous asphalt and reinforced concrete pavements had been unsatisfactory.

Ray Gassiott of Bayou Sále, general contractor for the project, suggested patented UNI-Anchorlock® concrete pavers. The unique “anchor-interlocking” shape offers superior resistance to twisting, tipping, creeping, and rutting under horizontal and vertical stresses. It was designed for fast mechanical installation of large-scale, heavy-duty projects such as port storage yards, rail depots, truck or bus terminals and airport maintenance areas and hardstands. In addition, the UNI-Anchorlock® pavers would provide a flexible pavement surface that would be capable of accommodating subgrade settlement in the poor, weak clay soils at the site.

Gassiott took Sterling managers and engineers to the Port of New Orleans to visit their Louisiana Avenue Yard, where over 80,000 sq ft of UNI-Anchorlock® pavers have been in place for several years. Port engineer, Herb Sanders, toured the facility with the group and related his positive experience with the interlocking concrete pavement performance under heavy loads.

The Port of New Orleans visit convinced Sterling management to install UNI-Anchorlock® for their new container storage yard.

The nearly 86,000 square foot UNI-Anchorlock® project was started on September 1, 1997, and Sterling was able to begin operations for the sugar cane harvesting season on October 1st.

Just two weeks into production, there was a water main leak under a 10 to 20-ft wide section of the UNI-Anchorlock® pavement that extended almost the entire length of the facility. Even with the damage to the underlying soils, the pavement was capable of supporting heavy vehicular loads until repairs could be made during the off-season - three months later.



Sterling Sugar container handlers can weigh up to 160,000 lb when fully loaded

Since the procedure for locating the leak required the process of elimination, much of the pavement above the water main had to be taken up to find the actual leak. The UNI-Anchorlock® pavers allowed easy access to the water main, and the same pavers were reinstated, saving on costly repairs that would have been necessary with asphalt or reinforced concrete pavements.

Specifications for project loads included container handlers with loaded weights up to 160,000 lb and 35,000 lb cargo containers stacked up to three high.

Manufactured by UNI-GROUP U.S.A. producer Pavestone Company of Lacombe, Louisiana, the 3 1/8" (80mm) thick UNI-Anchorlock® pavers meet or exceed ASTM C936 Specifications of a minimum compressive strength of 8,000 psi and a maximum absorption of 5%.

The paver contractor for the project was Kellystone of Austin, Texas, who also reinstated the pavers after repairs were made to the water main. The pavers were installed over a 1" bedding course of washed concrete sand conforming to the grading requirements of ASTM C33.



The Sterling Sugar Refinery processes sugar cane during a 3-4 month harvesting season

Bayou S ale installed a 16" Fluorlite base (a high-calcium by-product of Freon, supplied by a local producer) over a 4" subbase of 6/10 limestone. One foot of the existing subgrade (5' of clay over a silty clay) was compacted to 95% Standard Proctor.

Sterling Sugar was able to save \$300,000 in construction costs using the UNI-Anchorlock® interlocking concrete pavers versus the over one-foot thick reinforced concrete that would have been required to support the heavy, industrialized loads on site. Also, the UNI-Anchorlock® paver's ability to accommodate the base and subgrade settlement and damage that occurred from the water main leak and yet remain structurally viable, saved Sterling even more money. Considerable losses would have been incurred if the facility would have had to stop production only two weeks into their 1997 season.

Now entering their third season in September of 1999, Sterling Sugar management has been extremely pleased with the performance of the UNI-Anchorlock® pavement thus far. "They feel that their investment in the UNI-Anchorlock® interlocking concrete



Tractor-pulled cane trailers are used to transport raw cane to the facility

pavement is one of the best things they've ever done," said Ray Gassiott. "It is holding up better than any other pavement they've used in the past."

The project has been so successful that Gassiott invited the Louisiana DOT to visit the facility, which convinced them to set up a test site using the UNI-Anchorlock® pavers.

Note: Interlocking concrete pavement design will vary with climate, available construction materials, design methods, existing site soils, and traffic loads. A qualified engineer or other design professional should be consulted in concrete paver applications to ensure good results.

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UNI-Anchorlock® - U.S. Patent No. 4,583,341

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