

UNI-GROUP U.S.A.

MANUFACTURERS OF UNI PAVING STONES

Industrial Paving Applications Using UNI-Anchorlock® Concrete Pavers



In North America, interlocking concrete pavers have been used by design professionals for mostly decorative pavement applications such as patios, driveways, and pedestrian plazas.







Though we are well-known for our attractive shapes and beautiful colors, UNI® pavers also offer exceptional strength and superior stability under heavy loads.







UNI® Interlocking Concrete Pavers have been specified for residential, commercial, municipal, and industrial paving projects worldwide for more than 35 years.







Established in 1982, UNI-GROUP U.S.A. is one of North America's leading concrete paver producer organizations.



Our manufacturers have earned a reputation for quality and excellence, offering unsurpassed technical and design expertise and proven product performance.







UNI Pavers are produced to meet or exceed ASTM C936 Specifications.

- Compressive strength greater than 8000 psi
- Maximum 5% water absorption
- Meets freeze-thaw testing per section 8 of ASTM C67.



UNI-GROUP U.S.A. Manufacturers have become the leaders in industrial paver production in North America, supplying many of the large-scale projects in the nation, including:



- The Port of Tampa, FL
- The Seagirt Terminal, Baltimore, MD
- The Port of New Orleans, LA
- New Orleans Convention Center
- Port Canaveral, FL
- Pier IX Terminal, Newport News, VA
- Dallas-Ft. Worth Airport, TX



- The Port of New London, CT
- The Port of Oakland, CA
- St. Augustine Airport, FL
- Colorado Convention Center
- Cayman Islands Airport
- Crowley Marine Terminals Port of Panama and Port of St. Thomas, Virgin Islands



UNI-GROUP U.S.A. is at the forefront of new product development and technology, sponsoring research at universities such as Texas A&M and Guelph in Ontario, and at NASA in Langley, Virginia.











UNI-GROUP U.S.A. also has access to extensive international research as part of the worldwide UNI Paver organization of over 150 producers in 28 countries. We're dedicated to finding the solutions to meet your paving needs.



The patented UNI-Anchorlock® interlocking concrete paver was developed especially for heavily loaded and trafficked industrial, commercial, and municipal applications.







The "anchor-interlocking" shape offers superior resistance to twisting or tipping under heavy industrialized loads.



UNI-Anchorlock® was specifically designed for rapid mechanized installation of large-scale pavement projects, such as port cargo storage areas, rail yards, bus and truck terminals, and airport hardstand or maintenance areas.





UNI-Anchorlock® is a flexible pavement system that offers numerous advantages and benefits over traditional asphaltic and reinforced concrete pavements.



Advantages & Benefits

- Resistance to severe loads
- Low life-cycle costs
- Exceptional durability
- Ability to withstand temperature extremes
- High density and low absorption
- Resistance to deicing salts
- Easy access to underground utilities for repairs



Advantages & Benefits

- Accommodates base or subgrade settlement
- Can be trafficked immediately after compaction
- Provides superior skid-resistance
- Chamfers resist chipping and spalling, help channel water from the paver surface, and facilitate snow removal
- Colored units can be used to permanently designate parking lanes and traffic directional markings

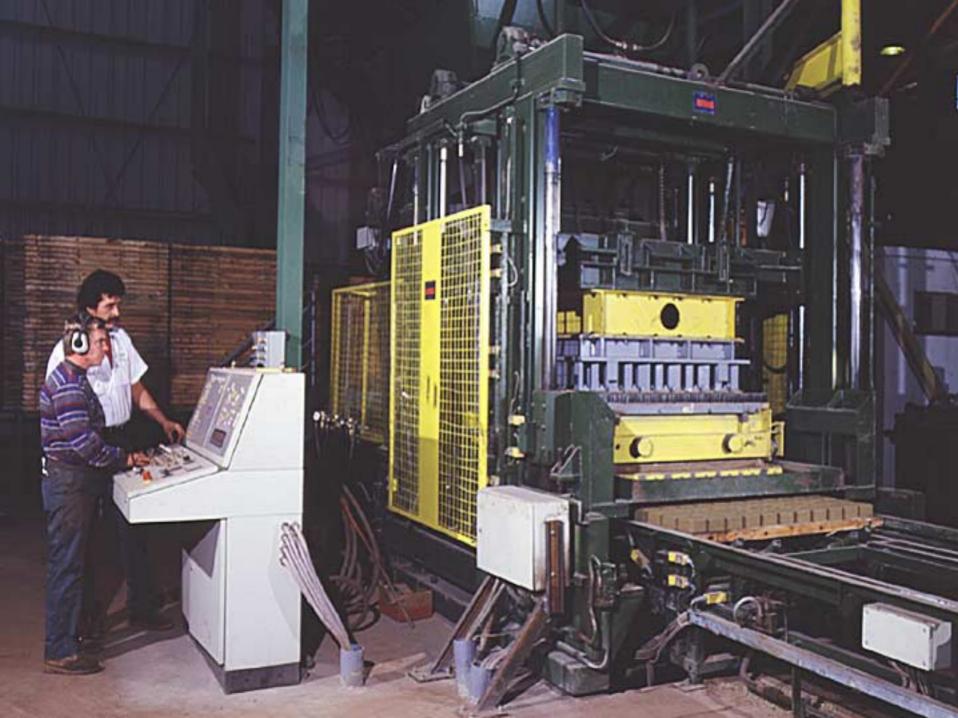


Large-scale industrial projects require extensive planning, design, coordination, and execution to ensure a smooth installation from initial excavation to final paver compaction.

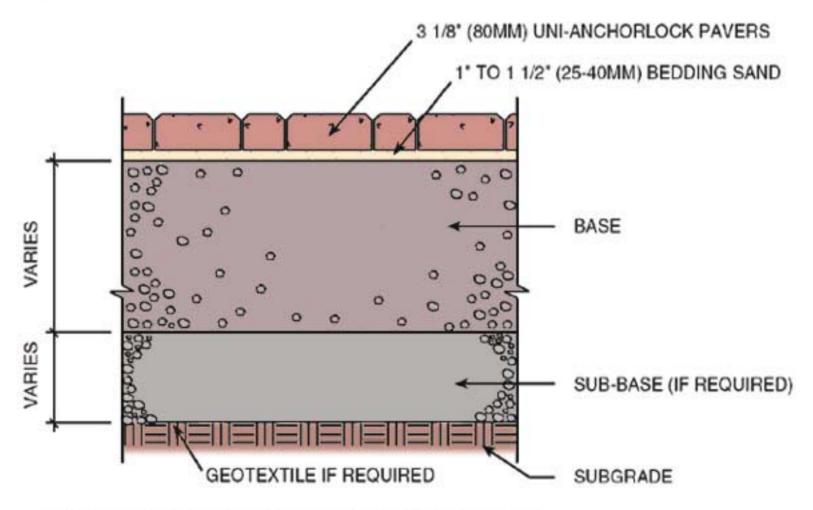




UNI-GROUP U.S.A. Manufacturers have the production capability and expertise to produce the volume of pavers required for large-scale projects and also can offer professional design and technical assistance.



Typical UNI-Anchorlock Cross Section



EDGE RESTRAINTS AND DRAINAGE PER PROJECT SPEC



After any unsuitable materials have been excavated and the subgrade has been compacted, an aggregate base course is installed and compacted to project parameters.



A sand bedding layer, screeded to a recommended 1-inch thickness is installed over the base layer. On larger projects, specialized equipment may be used that allows coverage of more area in a faster, more efficient manner.





After the sand bed has been screeded in the work area, the pavers can be installed. The UNI-Anchorlock® pavers are delivered to the site prepackaged and ready for mechanical installation.









UNI-Anchorlock's® angled sides offer advanced interlock, and the specialized production layout of each layer allows for fast positioning and placement.





Experienced paving contractors have found that UNI-Anchorlock® allows for a substantially faster rate of installation compared to other pavers.



After a sufficient area of UNI-Anchorlock® pavers has been installed, the surface is compacted with a vibrating plate compactor.





Dry joint sand is spread over the pavers and is swept into the joints manually or mechanically. The pavers are compacted again, and additional sand is swept in until the joints are full.



UNI-Anchorlock® has become the paver of choice for industrial pavements. The Tampa Port Authority selected UNI-Anchorlock® pavers for the cargo staging area at Berth 208.





Over 1 million square feet of UNI Anchorlock® interlocking concrete pavers are installed at Berth 208.



Berth 208 has mainly been used for storage of steel products imported from and exported to countries around the world.





The UNI-Anchorlock® pavers also are subjected to container handlers weighing up to 152,000 lb, which when loaded, can generate 75,000 lb per axle over a concentrated area.





An off-loading crane used at the port weighs nearly 395,000 lb and the support stabilizers transfer extreme loads onto the UNI-Anchorlock® pavement.







In addition to vertical point loads, the container handlers often make tight maneuvering turns, which create extreme horizontal stresses on the pavers.



The unique, patented shape of UNI-Anchorlock® provides resistance to these forces and any potential rutting or creeping.





Over 86,000 square feet of UNI-Anchorlock® has been installed at the Sterling Sugar Refinery in Franklin, Louisiana.





This pavement was designed for storing shipping containers and is subjected to 35,000-lb cargo containers stacked up to three high.





The container handlers utilized at Sterling Sugar weigh 100,000 lb without cargo and up to 160,000 lb when fully loaded.





In the fall of 1997, there was a water main leak under a 10 to 20-foot 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 traffic until repairs could be made during the off-season three months later.



The UNI-Anchorlock® pavers allowed easy access to the water main, and the same units were reinstated, saving on costly repairs that would have been necessary with asphalt or reinforced concrete pavements.



UNI-Anchorlock® pavers can even be uninstalled mechanically, saving more time and money.





The Port of New Orleans has also installed UNI-Anchorlock® for a 80,000 sq ft cargo storage area at their Louisiana Avenue Yard. Steel products, as well as containerized cargo, are stored at this site.







The New Orleans Convention Center has specified over 342,000 sq ft of UNI-Anchorlock® for their **Truck Marshalling Yard. Tractor**trailer trucks delivering cargo for tradeshows will off-load materials in this designated area.





The 8 cm-thick UNI-Anchorlock® pavers are undamaged by heavy construction vehicles crossing the site for continuing work on nearby access roadways.

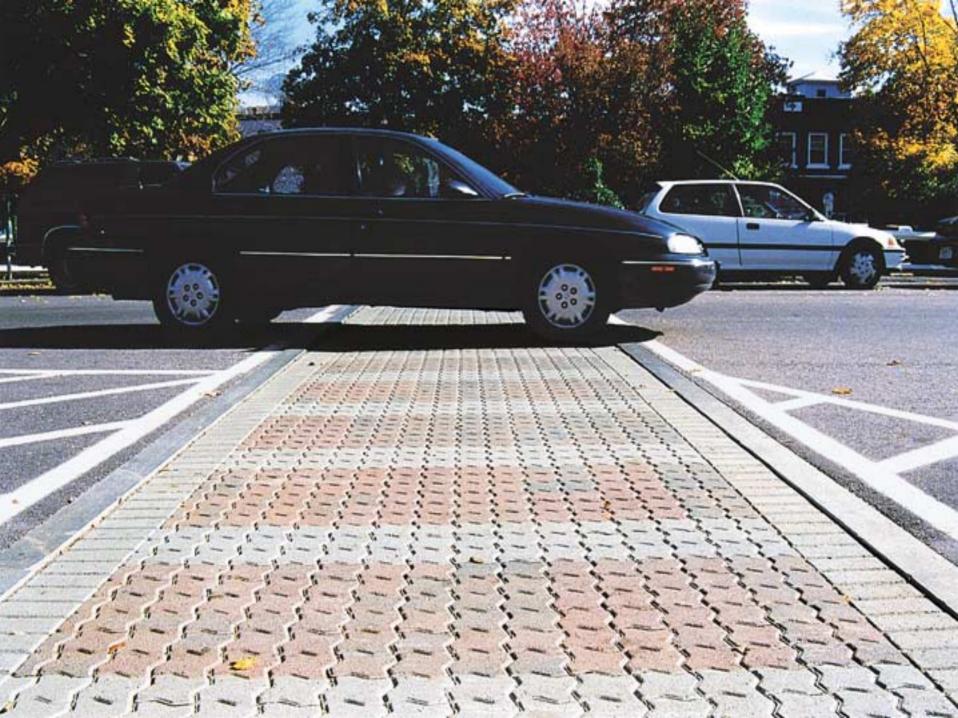




UNI-Anchorlock® interlocking concrete pavers are a durable, low maintenance pavement system that is capable of supporting heavy, industrialized loads and vehicular traffic under any environmental conditions.









They offer unmatched strength, stability, and superior resistance to twisting, tipping, creeping, and rutting under vertical and horizontal stresses.



UNI-Anchorlock® also allows ease of access to underground utilities for repairs.



Whether your next project is a parking lot, street application, rail depot, bus terminal, airport hardstand, or port storage facility, choose UNI-Anchorlock® Concrete Pavers...The Original. The Best.







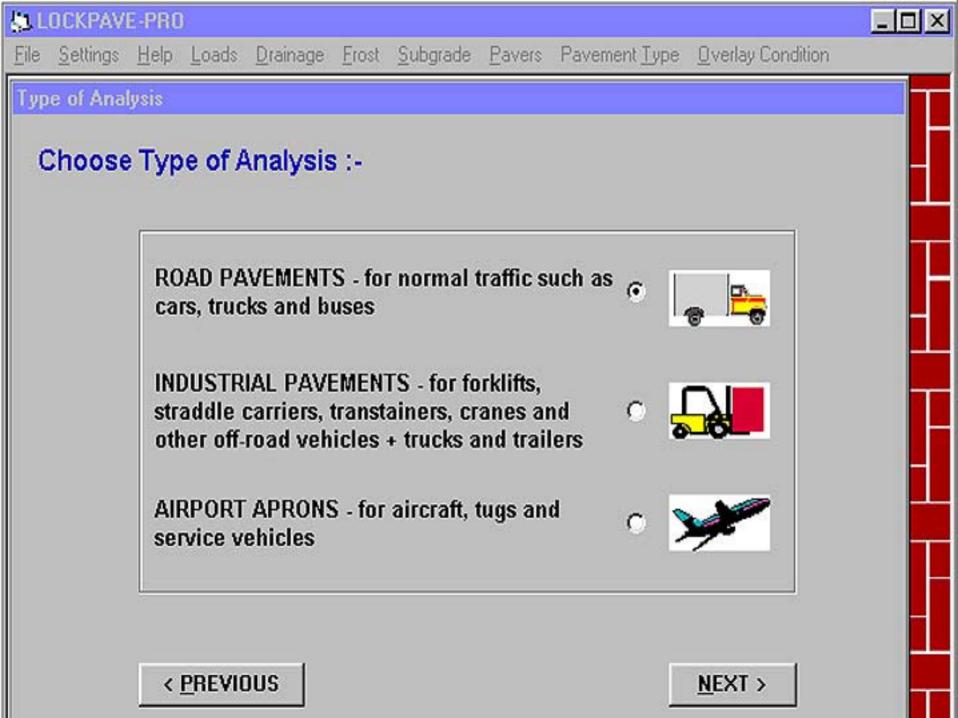


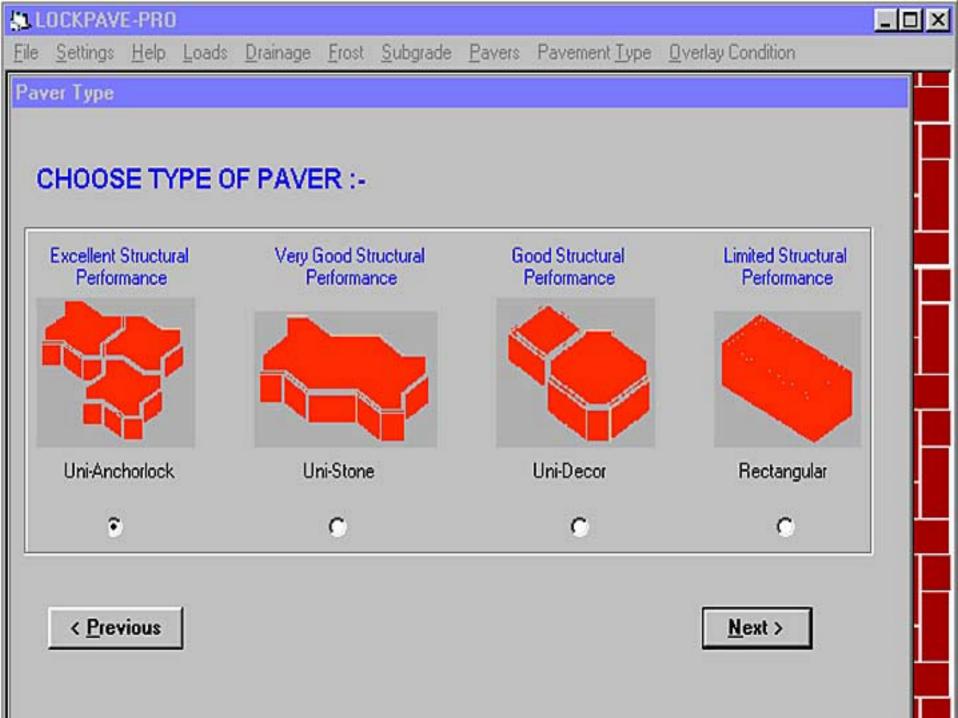


UNI-Anchorlock® is produced nationwide by a network of licensed producers. Contact your local UNI® Manufacturer for more information.



Ask your UNI Manufacturer about Lockpave Pro® Structural Engineering Design Software by Dr. Brian Shackel, a world renowned authority on interlocking concrete pavements.







Also, ask your UNI Manufacturer About the UNI Eco-Stone® Permeable Pavement System for management and control of stormwater runoff.





UNI-Anchorlock® and UNI Eco-Stone® are trademarks of F. von Langsdorff Licensing Ltd. UNI-Anchorlock - U.S. Patent No. 4,583,341 UNI Eco-Stone - U.S. Patent No. 4,834,575

©2000 UNI-GROUP U.S.A. www.uni-groupusa.org