



A LOOK BACK AT THE UNION PACIFIC DALLAS INTERMODAL TERMINAL (DIT)

QUICK FACTS:

Project:

Union Pacific Dallas Intermodal Terminal

Location:

Dallas, TX

Notes:

The construction phase of the project spanned the seasonal temperature extremes of Texas from cold and wet to hot and dry weather conditions. Through it all, the concrete mix performed well in ease of placement of the 3-inch maximum slump concrete mix, and remains virtually crack-free ten years later.



It's been a decade since one of the largest internal curing paving projects in the United States kicked off with the placement of over 250,000 cubic yards of concrete paving. Dubbed the Union Pacific Dallas Intermodal Terminal (DIT), this unique project remains an excellent testament of lightweight aggregate's ability to improve the durability, strength, and quality of concrete paving.

Located south of Dallas, Texas this massive concrete paving project is used daily by heavy trucks to move several million tons of cargo annually. The DIT facility serves dozens of companies that rely on intermodal rail freight to export Texas products and receive imports from around the world.

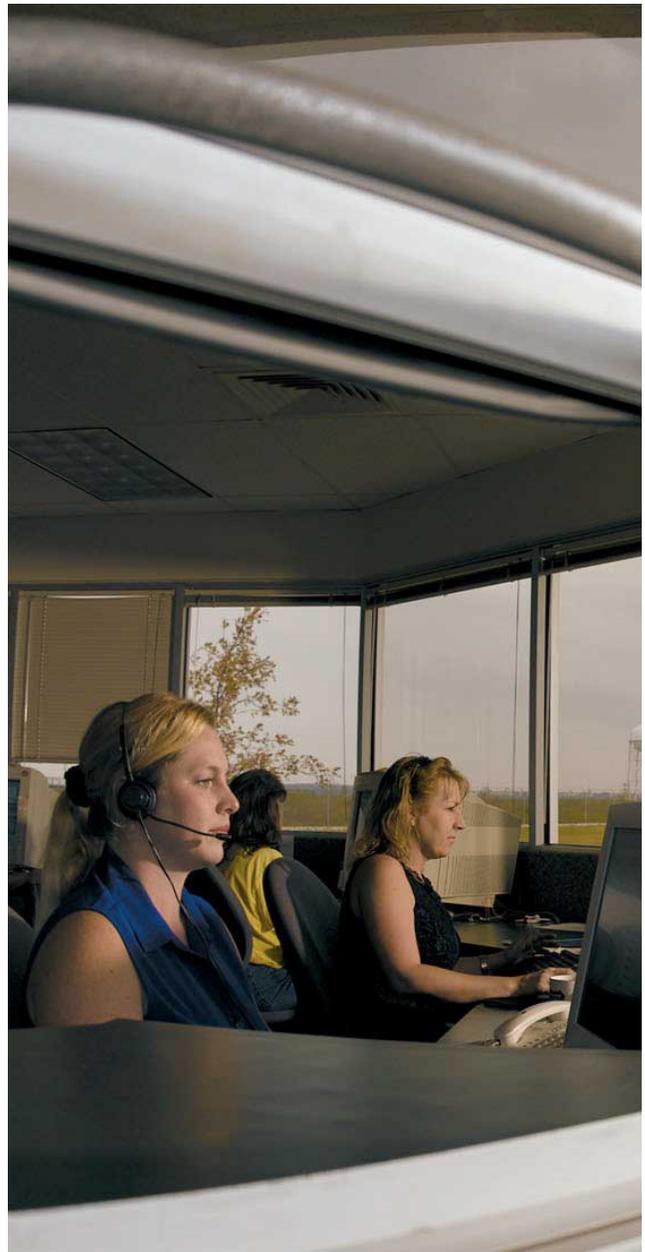
“Looking back at this project, what was unique about the concrete paving mix is that it contained a medium gradation of lightweight aggregate in conjunction with limestone aggregate and concrete sand” says Clint Chapman of Trinity Lightweight. “The reason for the addition of the lightweight aggregate was to provide internal curing water for the low slump, low water-cement ratio, high strength concrete mix.”

CONSTRUCTION

The construction phase of the project spanned the seasonal temperature extremes of Texas from cold and wet to hot and dry weather conditions. Through it all, the 3-inch max slump concrete mix proved easy to place and finish. The specified 28-day compressive strength was exceeded by an average of 1000 PSI and the specified 28-day flexural strength was easily obtained at 3 days.

The UP DIT pavement was one of the very first concrete paving projects to utilize internal curing. In 2005, internal curing was still in its infancy. Ten years later, the lightweight aggregate industry, working closely with university researchers, state, regional and federal highway agencies and the concrete industry, has made great strides in understanding the science of internal curing, and expanding the use of internal curing in pavements, bridge decks, industrial slabs and more.

The construction phase of the project spanned the seasonal temperature extremes of Texas from cold and wet to hot and dry weather conditions. Through it all, the concrete mix performed well in ease of placement of the 3-inch maximum slump concrete mix, and remains virtually crack-free ten years later.



Trinity Lightweight is the largest producer of rotary kiln expanded shale and clay lightweight aggregate in North America and is a leading supporter of research, independent testing and field studies to improve the manufacturing process and expand the beneficial uses of the product.

www.trinitylightweight.com