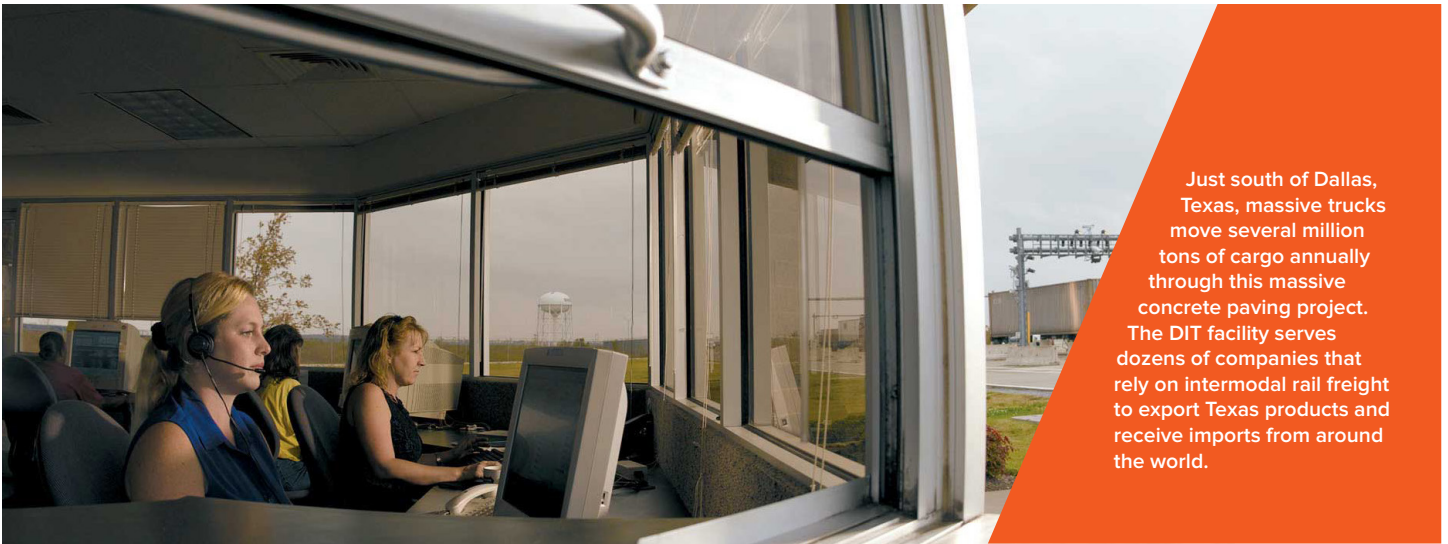




Just south of Dallas, Texas, massive trucks move several million tons of cargo annually through this massive concrete paving project. The DIT facility serves dozens of companies that rely on intermodal rail freight to export Texas products and receive imports from around the world.

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

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.

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.

"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 Arcosa 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."

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.

