



TACA member companies **work hard to make life better** where they live and work. Children from Midlothian, Texas, enjoy some ready-mixed fun at TACA's Emerging Leaders community service project.

Concrete: Building the Core Strength of Texas

TACA members bring infrastructure efficiency and resiliency, as well as economic benefits to the state

The concrete, aggregate and cement industries in Texas are the backbone of the state's infrastructure and economic well-being. These industries not only help build Texas, but also generate more than \$10 billion in annual revenues and employ more than 100,000 each year. Most concrete batch plants, for example, bring an average of 20 skilled labor positions to a community, with an average annual salary of at least \$50,000. The employees these industries hire come from diverse communities and have unique skill sets.

What's the difference between concrete and cement?

Concrete and cement are often mistaken for each other. They are very different, however. Cement is a powdered substance made of calcined limestone, clay and silica that, when mixed with water, forms a paste that acts as a binder to hold fine sand and coarse aggregates, i.e. rock, in a mixture.

Concrete is a composite material chiefly made from cement, fine- and coarse-aggregates (rock and sand) and water, but may also include certain chemical admixtures that enhance or modify its properties. Cement is the glue that holds the materials of the concrete together. Ready-mix is batched or agitated concrete that is delivered directly to a job site via a specialized truck in a plastic or unhardened state. The mix of stone and sand aggregate in concrete makes it very strong, which is especially ideal for building roads, bridges driveways, sidewalks, decks, swimming pools and virtually any kind of building.

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Concrete homes are more energy efficient than wood-frame homes

Concrete's mass increases energy efficiency because concrete walls respond to changes in temperature very slowly. It may take four to eight hours for a temperature change to migrate through a concrete wall, yet only one hour through an insulated wood-frame wall. Air leaks are responsible for one third of the energy loss in a home. Because of its solid wall system, there are fewer air leaks in a concrete home.

Concrete saves lives during extreme weather conditions

Concrete is highly resilient and able to withstand the hurricane hazards of high winds, storm surges, heavy rainfall and flooding. Through its partnership with the National Ready Mix Concrete Association's Build with Strength program, TACA performed a series of high-wind impact demonstrations assessing concrete and wood-frame panel durability. The performance conclusively reinforced that concrete is a much safer and resilient material with which to build and, through this durability, contributes to the overall wellbeing of society.

Limiting the environmental impact of concrete batch plants

A standard concrete plant permit limits particulate matter (such as dust) to less than five pounds per day for the entire facility. In fact, all elements of the Texas Commission on Environmental Quality's air permitting process have been developed through modeling, sampling and monitoring to be sure that human health and the environment are protected. In addition, many facilities go above and beyond to use additional best management practices to further mitigate and manage airborne emissions, such as perimeter vegetation, modifying work practices and fencing enhancements.

Regarding water, most concrete batch plants recycle rainfall and water that is used onsite. Facilities can and often do utilize storm water and process water collected in onsite systems, repurposing that water back into the production process at the facility for aggregate cooling, dust suppression and wash-down for trucks. Every gallon that is repurposed in this manner translates to water supply savings. A concrete batch plant's municipal water usage can be cut by as much as 50 percent by taking this type of water management approach. This means that an average concrete plant consumes the same (or even less) than 10 neighboring households.

It's important to be local

Most ready-mix concrete trucks deliver their material no more than 30 miles from the plant. By locating a plant near the marketplace, there are several positive outcomes:

- Traffic and congestion are decreased, as fewer trucks travel through the community to supply the necessary concrete;
- With materials located nearby, transportation costs are reduced and community construction projects will take less time; and
- Since concrete is a time-sensitive material, lower travel distances ensure that essential product quality is maintained.

The industry is highly regulated in Texas

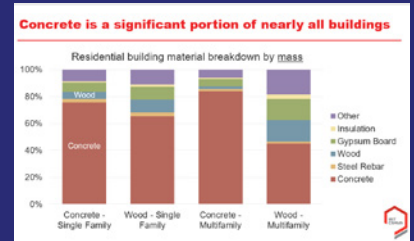
More than 15 local, state and federal regulatory agencies oversee different aspects of the aggregate, concrete, cement and other associated industries in Texas. TACA member companies work closely with these agencies to ensure regulatory compliance and to support a consistent and predictable environmental permitting process. This includes concrete batch plants, where there are processes in place that allow citizens to participate in permitting hearings.

TACA member companies are deeply involved in the community

Member companies are proud to support the communities in which they live and work. In addition to sponsoring a vast number of community youth sports teams, school programs and other charitable organizations throughout the state, TACA member companies partner with nearby schools to give students an opportunity to learn about the role member these industries play in their lives.

About the Texas Aggregates & Concrete Association

The Texas Aggregates & Concrete Association (TACA) is the main resource for the aggregate, concrete, cement and other associated industries in Texas. The association represents its member companies by providing industry information to the public, media, policymakers and regulators; advocating for industry issues; ensuring member companies commit to conducting business with integrity, respect, transparency and honest communication; and creating industry training courses and materials that help members effectively manage their businesses.



Concrete is a significant portion of nearly all buildings.*

The power of concrete



100,000+
Texans employed by concrete and cement industries

16%

Of U.S. ready-mix concrete production volume is in Texas



\$10+ billion

Annual revenue of Texas aggregate, concrete and cement industries



30 miles

The distance most ready-mix concrete trucks travel to their end user



Concrete is **THE most used building material in the world.***

*Source: MIT Concrete Sustainability Hub

