

At Full Tilt Concrete Tilt-Wall Design Gains Momentum



A recent school construction project was completed using Scott Systems Thin Brick with tilt-wall construction.

After a roller coaster ride for much of the past 20 years, tilt-up construction is gaining popularity in the education market. Traditionally used in the retail and office market sectors, the educational community is beginning to select concrete tilt-wall design more frequently and recognize its many benefits.

A Hit-and-Miss Market

“Tilt-up schools have been a hit-and-miss market for more than two decades,” says James R. Baty II, Technical Director for the Tilt-Up Concrete Association (TCA). “The renewed interest and the placement success of tilt-up construction in educational projects, however, started about five years ago.”

Baty bases his findings on the growing number of tilt-up construction educational projects submitted for the association’s awards each year as a percentage of all building types. States such as Texas, Florida, Virginia, Maryland, Ohio, and Michigan all provide anecdotal evidence of being strong markets for tilt-wall use, he relates.

Overall, tilt-wall construction is growing at a rate of about 10 percent a year, according to the TCA and the Concrete Reinforcing Steel Institute (CRSI). According to TCA, at least 10,000 buildings enclosing more than 650 million square feet are constructed annually.

A Triple Competitive Threat

Tilt-Up.com estimates that the term “tilt-up” was coined in the late 1940s to describe a method for constructing concrete walls rapidly and economically without the formwork necessary for poured-in-place walls. First, slabs of concrete, which will comprise sections of wall, are cast horizontally

on the building floor slab, or separate casting slab. Then, after attaining proper strength, they are lifted (tilted) with a crane and set on prepared foundations to form the exterior walls.

While tilt-up construction provides many of the same benefits to all users, educational institutions particularly like the durability of a hard wall on the inside and outside faces of a building, Baty notes. At the same time, it provides excel-

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lent insulation. The association rates speed of construction a close second, if not equal in importance, to durability because tilt-up schools are constructed with an average timesaving of three months.

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The benefits realized by the educational community include:

- Architectural freedom that allows a distinctive image for the education facility

- Concrete walls that minimize vandalism and maintenance inside and out
- Rapid construction turnaround
- Natural fire resistance, which ensures safety and lowers insurance premiums
- Clear-span interiors and column-free walls, providing unobstructed space for gymnasiums and classrooms
- Concrete walls that absorb sound, affording a quieter environment.

Breaking the Brick Mindset

Contractors using tilt-wall designs still face the challenge of breaking through the “brick mindset” in many educational institutions, Baty says.

“Educational projects continue to have a very strong masonry precedence,” he says. “Designers all too often have pre-design packages to show school boards during the promotion and bonding phases that ultimately get locked into everyone’s minds.”

But the architectural versatility of concrete tilt-wall design, particularly using the cast-in-brick option as an accent or entire wall, gives school buildings more of a “campus” look and is growing in use throughout the United States and Canada.

“The ability to monolithically cast tilt-up panels with thin brick and/or thin block façades certainly is helping to break down these misconceptions,” Baty says. ■

For more information on tilt-wall construction, visit www.tilt-up.org.