

2003 Tilt-Up Achievement Awards

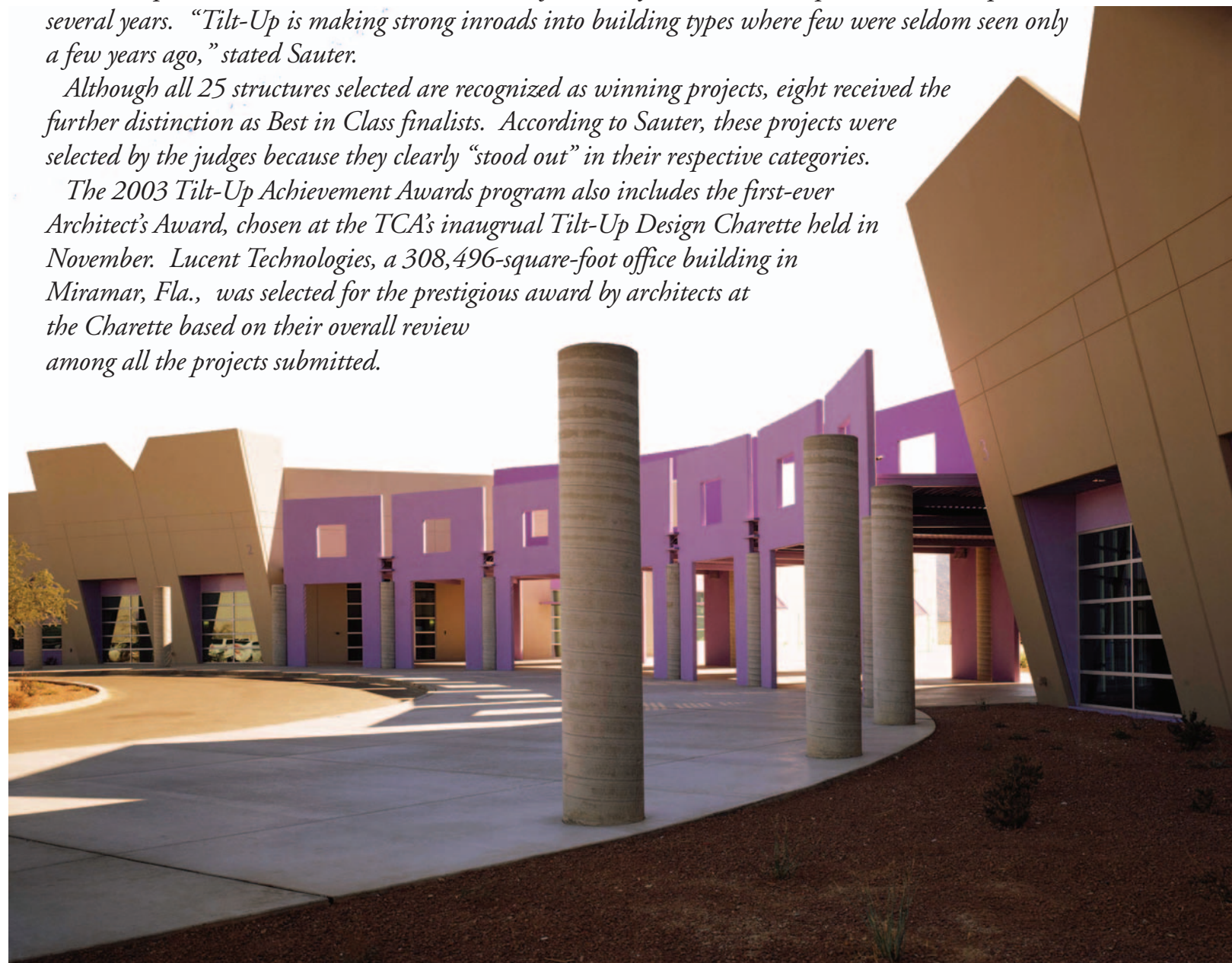
Reflect New Architectural Treatments and End-Use Markets

The Tilt-Up Concrete Association (TCA) has announced the winners of its tenth annual Achievement Awards Program, established to honor projects that use site cast Tilt-Up concrete to introduce new building types, advance industry technology or provide a unique solution to a building problem. Twenty-five awards were presented in the categories of Retail, Office, Distribution, Manufacturing, Special, Housing, Religious and Education. Submittals were judged on aesthetic expression, schedule, size, innovation, finishes and special conditions.

According to Ed Sauter, Executive Director of the TCA, the judges expressed amazement with the progress site cast Tilt-Up construction has made in the areas of creativity and aesthetic expression over the past several years. "Tilt-Up is making strong inroads into building types where few were seldom seen only a few years ago," stated Sauter.

Although all 25 structures selected are recognized as winning projects, eight received the further distinction as Best in Class finalists. According to Sauter, these projects were selected by the judges because they clearly "stood out" in their respective categories.

The 2003 Tilt-Up Achievement Awards program also includes the first-ever Architect's Award, chosen at the TCA's inaugural Tilt-Up Design Charette held in November. Lucent Technologies, a 308,496-square-foot office building in Miramar, Fla., was selected for the prestigious award by architects at the Charette based on their overall review among all the projects submitted.



Best of Class Award Winners

Stapleton Business Center Building E1

Denver, Colo.

Distribution/Warehouse

The 314,978-square-foot Stapleton Business Center Building E1 in Denver, Colo. was selected as the Best in Class winner in the Distribution/Warehouse category. The overall complexity of this project was driven by the challenge of producing an aesthetically superior building façade to accommodate the demands of a high-profile building visible from the freeway, within the confines of a tight budget and an accelerated schedule. Familiar with the freedom and delivery site cast Tilt-Up construction offers, the tenant – Ford Motor Company – selected the construction method to meet their needs.

In order to create visual interest, accent panels were included providing relief on the building. These elements provided the opportunity to create shadow lines, supplied an opportunity for variation of color, and added distinctive recognizable architectural shapes. Three separate paint colors were used to create variation on the long building façade. Reveals, recesses, accent panels, changes in facade plane, and glass elements were all incorporated into the building design to create an innovative, state-of-the-art structure.



Guittard Chocolate

Fairfield, Calif.

Industrial/Manufacturing

An expired lease and the pending delivery of 10 million pounds of chocolate necessitated a fast-track schedule for the 286,000-square-foot Guittard Chocolate facility in Fairfield, Calif., the Best in Class Industrial/Manufacturing winner in the 2003 Tilt-Up Achievement Awards. Tilt-Up allowed not only for the fast-track 330 day construction schedule, but also for construction to begin before the design was complete.

Beyond speed of construction, Tilt-Up allowed for a unique architectural theme. The arcade panels and earth tone color schemes were incorporated into the building façade with the intent of making reference to Guittard's original building in downtown San Francisco in the late 1800s. The façade is created with large arched panels, extensive concrete patios and stand-alone panels, as well as a 22,000-square-foot arcade/garden area that creates the formal entrance. A 5,000-square-foot penthouse with barrel-vaulted roof also is unique project feature. Exterior insulated finish system (EIFS) or foam was used to create a formal look and break up the linear qualities of a large concrete building.



Mission College Learning Resource Center (LRC)
Santa Clara, Calif.
Education

Tilt-Up allowed for the creation of the 38,500-square-foot Mission College Learning Resource Center (LRC) in Santa Clara, Calif. in only 420 days.

The *Best in Class* winner in the *Education* category, it was important that the LRC – a digital-era information bank and an important point of campus interaction – complement the existing cast-in-place structures on campus. Flexibility and visibility required a large, uninterrupted floor area, well-suited to Tilt-Up construction. Architecturally, the design team chose to embrace the Tilt-Up wall panel system as a genuinely interesting and environmentally-sound material. Such a unique design approach resulted in the empowerment of interlocked joints (particularly the “log cabin” corner condition), interrupted profiles (at 25-feet, panel sizes are about the width of an urban lot, emphasizing the dimension by openings at the parapet, as well as joints introduced at appropriate scale and proportion without artifice), and illuminated connections (frosted glass panels are installed at panel joints). A formliner was used to provide a strong graphic rhythm, while integral colored concrete matches the existing poured-in-place concrete structures on campus. Further, metal sunscreens and canopies provide daylight control and passive cooling.



ROWhomes on F
San Diego, Calif.
Housing

The 31,824-square-foot ROWhomes on F project in San Diego, Calif.– a Best in Class winner in the Housing category -- was designed as a prototypical urban residential project that addresses both "Smart Growth's" desire for higher density (42 homes/acre) and the homeowner's desire for comfort, energy efficiency, and a visually unique architecture. Site cast Tilt-Up concrete was selected for a variety of reasons. First, since the 17 single-family homes were merely separated by only a 3-inch airspace, mitigating any form of water intrusion was paramount and concrete provides strong moisture defense.

Second, concrete was chosen because of its sound attenuation properties – important in reducing street and adjacent unit noise in this urban setting. Finally, the high mass qualities of concrete offered significant improvements in the energy conservation performance of the homes.

Conceived and designed with conservation in mind – from open space to energy – the dynamic and visually exciting urban architecture resulted from the adaptation of the "traditional" East Coast ROWhome to Southern California's temperate year-round climate. Constrained by an incredibly tight urban site with no staging area, the 175 panels, most of which were 37-feet tall and five-inches thick, were cast off-site. Constructed in only 260 days, the project was designed for an urban housing niche, so the homes have an industrial/loft aesthetic. Features include exposed concrete interior walls, 14-foot tall bay windows (clear aluminum anodized finish), maple hardwood floors, sandblasted glass balustrades, stainless steel accents on cabinetry and stair risers, as well as electrical cover plates. The natural concrete was enhanced with the use of saturated colors – such as red, purple, olive, and ochre.

Gateway Theatre of Shopping
Umhlunga Rocks, Kwa Zulu Natal, South Africa
Retail

Skeptics who claim that site cast Tilt-Up construction is merely a method for box warehouses on the West Coast of the United States should visit the Gateway Theatre of Shopping in Umhlunga Rocks, Kwa Zulu Natal, South Africa. Constructed in 2.5 years, the shopping center was selected as Best in Class winner in the Retail category, but the list of accolades also includes largest Tilt-Up facility at 3,420,000-square-feet, as well as the distinction of being one of the first large scale Tilt-Up malls.

Although the owner was not familiar with the Tilt-Up method prior to the project, the promise of quality, speed, flexibility and economy made the construction method the ideal solution in the creation of a cutting-edge shopping center. Tilt-Up allowed the design and construction team to achieve architectural relief features simply, economically and with an accuracy and quality not available with any other construction method. Used only as a cladding material and not as a structural element, Tilt-Up still offered a more economical and durable solution than competing building methods.

Any schedule savings recognized are significant with a project this size. The speed of erection inherent with the Tilt-Up method allowed the team to weatherproof the building six months ahead of schedule, thus allowing additional time for the complex finishes required on internal mall areas. Beyond sheer size, a fast-track schedule and economy, the mall boasts great architectural appeal. With a beige/cream base color, a darker beige was used in the recessed panel areas and bright ceramic tile inlays were used to create highlights on the façade.

Precast simulated stone cladding elements were fixed to the bottom of the panels to add architectural interest to the façade and a repeated Centre logo was cast and tilted with the panels for branding identity. The use of recessed 900mm wide "columns" that stepped out to 1522mm wide near the top of the panels accommodated a brightly tiled inlay. Instead of straight vertical joints, panel edges were stepped to tie-in with these recessed "columns" – hiding panel joints in most cases with a shadow line. The architect used special corner panels constructed to close-off external corners and prevent sight of panel edges because of to the massive scale of the building

The architect introduced a pattern of 150mm diameter circles with 22mm deep recesses to create a dimpled effect on one of the two large radius curved walls. This was done to break from the standard aesthetic of the project and create a focal point from one of the curved walls. Approximately 170 recesses per panel were constructed using a template to exactly position the circular design elements that were then secured with a single screw.

The design and construction team met their share of challenges. For example, the size and shape of the panels, combined with their relative thinness of 175mm and horizontal recesses 30mm in depth, resulted in horizontal shrinkage cracks at certain places prior to panel erection. At these locations, a 1200mm wide additional layer of reinforcing was introduced to ensure a safe lift. Because the basement parking area created



a suspended slab for the ground floor, crane access was, for the most part, restricted to outside the building envelope resulting in lifts called "blind picks" which are lifts where the crane operator cannot maintain visual contact with the lifting inserts.

Selecting the Tilt-Up method as a time and money-saving measure late in the design process also presented a few challenges in the field. Since the design allowed for brickwork to run past the edge of the ground floor slab, there was no support for the panels at this location. Large steel brackets were designed and bolted onto the edge of the slab on which the panel was temporarily supported. After connecting the panel by means of in-situ beams to each of the floor slabs, the temporary brackets were removed and the panels in effect hung on the outside of the building like large precast cladding elements.



*Ventana Medical Systems, Inc. Corporate Headquarters
Oro Valley, Ariz.
Industrial/Manufacturing*

With the shell completed in only 90 days, the 182,400-square-foot Ventana Medical Systems, Inc. Corporate Headquarters in Oro Valley, Ariz., is a Best in Class winner in the Industrial/Manufacturing category. Quick and economical construction, balanced with the necessity for a cutting-edge image, were the key elements to project success. Tilt-Up was chosen for ease and speed of construction, economy, durability, as well as the method's ability to create a clean, modern look with high fire resistance.

This project involved constructing a facility to house manufacturing and warehouse space, R&D labs, as well as administration functions for the rapidly-growing biotech company Ventana Medical Systems -- a developer and manufacturer of a range of automated diagnostic instruments and instrument/reagent systems for use in histology and anatomic pathology laboratories.

The main design features are concrete panels that are four-feet taller than the adjacent panels and tilt out 15 degrees in every other 40-foot structural bay. The result is a wall that steps up and down and in and out without adding area to the building, breaking up the massive look of a large box, and complying with a local building code requirement to break up the wall every 50 feet.

Although the architectural character of the local community is dominated by stucco walls with protruding wood vigas poles and red mission tile roofs, the design team decided that this motif was not appropriate for a large building in an industrial park, and instead chose colors to tie the design to the local site. As such, the concrete panels were painted three shades of desert tan with purple accents on entry panels, canopies and perforated metal window canopies. The main entry is marked by a curving arcade of Tilt-Up panels on 75 and 100 radii that mimic the rotating glass staining slide carousel at the heart of the product line. The metal deck of the main entry arcade connecting Building 2 and 3 is vented roof deck with the vertical flutes perforated. This deck is left exposed, providing shelter for the severely-bright desert sun but allowing some to filter through.





Jade Stadium Redevelopment
Christchurch, New Zealand
Special Projects

The owner of this 275,000-square-foot stadium sought an economic and practical solution for the construction of an additional 14,000 seats and associated facilities at Jade Stadium. Overall height of the stands is 35 meters, dictated by the required seismic performance. Tilt-Up walls were the most cost-effective solution for the additional seating.

The majority of the architectural finishes are the as-cast concrete surfaces. Shaped radial walls, seating buttresses and supporting walls were the primary structural components provided by the Tilt-Up construction.

“When it comes to thinking outside the box,” says TCA Technical Director Jim Baty, “this project certainly embodies the engineering creativity of Tilt-Up.” “Enclosing space is the most typical use for Tilt-Up construction and certainly signs for building parks and privacy screens have been explored. However, providing the structural components for such a technically challenging project is a fantastic approach to applying Tilt-Up and capitalizing on several of its key features.”



Sunset Christian Center
Rocklin, Calif.
Religious

The design of every place of worship must reflect the culture and purpose of the congregation and its ministry. Sunset Christian Center, the 83,000-square-foot Best in Class winner in the Religious category in Rocklin, Calif., is a solid example of how Tilt-Up construction can be combined with other construction materials to creatively construct a highly-visible facility that reflects its congregation.

Complicated by the varied end-uses of the facility – from a 2,000 seat religious sanctuary to administrative and educational areas and a gymnasium – as well as a limited construction budget, Tilt-Up offered durability, speed and economy. Constructed in only 270 days, it was essential that the facility stand-out from the surrounding retail and commercial buildings.

In keeping with a contemporary theme, the use of primitive geometrics coupled with intersecting straight lines, serve to reinforce the culture of the church and its intended target market. The back wall of the worship center is a curved wall with a large radius. The radius was achieved economically by using segmented flat Tilt-Up concrete panels. These panels also provided acoustical separation from the surrounding meeting and office spaces. At the gymnasium, a metal deck barrel roof was expressed by using steel “bowstring” profile trusses with curved topped Tilt-Up panels.

The central dramatic feature of the church is a cross tower formed from three rectangular enclosures, the highest of which is 52-feet above grade. The tower supports a 27-foot tall steel cross weighing over 5,000 pounds. The tower was constructed using Tilt-Up panels varying in size between 4-feet and 12-feet wide, allowing the tower to be erected in one smooth operation and finished using a boom lift.

Tilt-Up Achievement Award Winners

In addition to the eight Best in Class finalists, the following 17 structures were selected for Tilt-Up Achievement Awards:

1. All Sanits Chapel at the Episcopal School of Dallas: 8,000-square-foot religious facility in Dallas, Texas. Submitted by Datum Engineers, Inc. of Dallas, Texas.
2. Centro Internacional de Negocios (CIN): 37,070-square-foot special project submittal in Ciudad, Juarez, Chihuahua, Mexico. Submitted by Eiffel Inmobiliaria of C. Juarez, Chihuahua, Mexico.
3. Myrtle Park: 22,244-square-foot office in Bluffton, S.C. Submitted by Citadel Contractors, Inc. of Apex, N.C.
4. 3301-3307 Hillview Avenue Office: 294,000-square-foot office in Palo Alto, Calif. Submitted by MBT Architecture of San Francisco, Calif.
5. Evangelical Christian Credit Union: 127,748-square-foot office in Brea, Calif. Submitted by Prizio Construction, Inc. of Santa Ana, Calif.
6. Wells Fargo Home Mortgage Service Center: 177,800-square-foot office in Fort Mill, S.C. Submitted by Walker Engineering, PA of Charlotte, N.C.
7. Professional Center at Kew Gardens: 27,000-square-foot office in Palm Beach Gardens, Fla. Submitted by Woodland Construction Co. of Jupiter, Fla.
8. Falls Pointe Shopping Center: 62,600-square-foot retail facility in Raleigh, N.C. Submitted by Citadel Contractors, Inc. of Apex, N.C.
9. CityPlace Retail Center Expansion: 50,667-square-foot retail center in St. Louis, Mo. Submitted by Clayco Construction Company of St. Louis, Mo.
10. Shannex Long Term Care Facility: 157,600-square-foot housing facility in Halifax, Nova Scotia, Canada. Submitted by J.W. Lindsay Enterprises Limited of Dartmouth, Nova Scotia, Canada.
11. Lorenzo de Zavala Middle School: 144,500-square-foot educational facility in Irving, Texas. Submitted by Datum Engineers, Inc. of Dallas, Texas.
12. Gymnasium at Central Davis Jr. High: 35,000-square-foot educational facility in Layton, Utah. Submitted by Herm Hughes & Sons, Inc. of North Salt Lake, Utah.
13. Mechanical Engineering Research Laboratory: 48,000-square-foot educational facility in Stanford, Calif. Submitted by MBT Architecture of San Francisco, Calif.
14. Dole Fresh Cut Flowers: 325,723-square-foot distribution/warehouse facility in Miami, Fla. Submitted by Tilt-Con Corporation of Altamonte Springs, Fla.
15. Las Colinas I: 56,016-square-foot distribution/warehouse in Silao, Guanajuato, Mexico. Submitted by Constructora Lintel of Cd. Juárez, Chihuahua, Mexico.
16. Valmark Industries: 73,232-square-foot industrial/manufacturing facility in Livermore, Calif. Submitted by Balch Enterprises, Inc. of Hayward, Calif.

Best in Class Winners

1. Stapleton Business Center Building E1: 314,978-square-foot distribution/warehouse in Denver, Colo. Submitted by Catellus Development Corporation of Lakewood, Colo.
2. Guittard Chocolate: 286,000-square-foot industrial/manufacturing facility in Fairfield, Calif. Submitted by Panattoni Construction, Inc. of Sacramento, Calif.
3. Mission College Learning Resource Center (LRC): 38,500-square-foot educational facility in Santa Clara, Calif. Submitted by MBT Architecture of San Francisco, Calif.
4. ROWhomes on F: 31,824-square-foot housing project in San Diego, Calif. Submitted by White Cap of Costa Mesa, Calif.
5. Gateway Theatre of Shopping: 3,420,000-square-foot retail mall in Umhlanga Rocks, Kwa Zulu Natal, South Africa. Submitted by Tilt Up Systems CC of Kloof, Kwa Zulu Natal, South Africa.
6. Ventana Medical Systems, Inc. Corporate Headquarters: 182,400-square-foot manufacturing/warehouse in Oro Valley, Ariz. Submitted by HDR Architecture of Tucson, Ariz.
7. Jade Stadium Redevelopment: 275,000-square-foot special project in Christchurch, New Zealand. Submitted by Alan Reay Consultants Ltd. of Christchurch, S.I., New Zealand.
8. Sunset Christian: 83,000-square-foot religious facility in Rocklin, Calif. Submitted by DCI Engineers of Bellevue, Wash.

Architect's Award Recipient

1. Lucent Technologies: 308,496-square-foot office in Miramar, Fla. Submitted by Woodland Construction Co. of Jupiter, Fla.