Denver Christian High School, Lakewood, Colorado

Two exterior stair cores were designed to accommodate a Denver Christian High School office building retrofit. The core project consists of 43 precast concrete pieces designed to attach to the existing high school structure, and allow the office building to access the school. Precast was selected for the project because of the ability to meet the allocated schedule, for the long term durability it provides, and for the ability to match to the exiting school structure. The stair cores were erected over a five day period.

Prefabrication over nine days allowed all pieces to be cast in a controlled environment, and shipped to and erected on site with considerable time savings. Forming included all window and door openings, brick detailing, and connections to be cast into each piece. The pieces are stacked vertically, and then precast stairs and landing are inserted into the core shaft.

Structural gray concrete was cast into a utility size brick form liner to provide a brick pattern matching the existing structure. Multi-color brick staining was then applied on the structural precast to achieve a consistent color match to the existing building. The staining process is a multistep process to achieve a random pattern of color to blend into the existing structure. The stain material has a 20 year warranty against fade and color loss.

Project Facts:

Market Segment:	Education
Building Type:	High School
Products Used:	Precast stair core towers, insulated Thermomass wall panels, architectural columns
Finishes Used:	Multi-color brick staining

Project Design Team:

Owner:	Denver Christian Schools, Lakewood, CO
General Contractor:	Fransen Pittman, Englewood, CO
Architect of Record:	Slaterpaull Architects, Denver, CO
Structural Engineer:	Jirsa Hedrick & Associates, Denver, CO

Company Information:

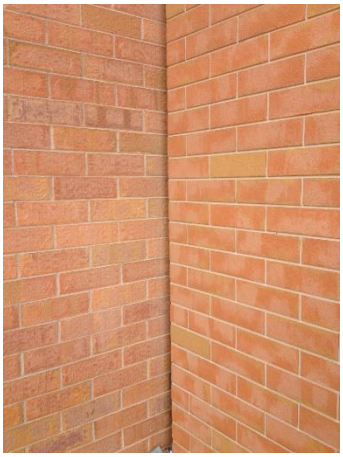
Stresscon Corporation
3210 Astrozon Boulevard
Colorado Springs, CO 80910
719.390.5041
www.Stresscon.com
Sales@Stresscon.com

Precast stairs and landings are inserted into the shaft after the panels are erected. The exterior cores attach to the existing high school structure and allow access from the existing offices into the school.

Precast stairs and landings were utilized for construction speed and access, and providing long term durability. The exterior stair cores are designed to accommodate the retrofit of an existing office building into the high school and allow access from one building to another.

Stresscon designed the panels using a utility size brick form liner. Brick in the limited quantity and exact color replica needed for this project was difficult to find. The decision to use the form liner and then use multi-color brick stain was an effective method to accommodate the school's timeline.

Existing building



New stain

Multi-color brick staining on the structural precast achieved a near match to the existing building. This color stain technology is specifically designed for precast concrete to help achieve consistent color in new construction and additions. Nawkaw provided the precast stain that was custom blended for Denver Christian High School.