



## Falcon High School, Falcon, Colorado

Falcon High School consists of 318 specially-engineered commercial-grade light sandblast insulated wall panels. A structural mix of gray cement with added pigment was used in place of a traditional architectural mix. At a cost of 30% to 35% less than traditional architectural sandblast wall panels, this was an ideal solution given the project's financial constraints. A cost-benefit analysis concluded that a precast concrete insulated wall panel system offered the best solution for cost savings and accelerated schedule, and provided for a durable, maintenance-free building envelope. Employing state-of-the-art design techniques and materials with the goal of achieving LEED® (Leadership in Energy and Environmental Design) certification, the project showcases these innovative wall panels.

Following LEED® guidelines, the school is a model of sustainable architecture. The high-performance panels lower energy consumption by 40%, reduce heating and cooling costs, and eliminate the need for additional insulation. These durable, attractive insulated wall panels require no maintenance, painting, or expensive upkeep, and will continue to provide energy and cost-saving benefits throughout the life of the school.

### Project Facts:

**Market Segment:** Education  
**Building Type:** High School  
**Products Used:** Structural precast  
**Finishes Used:** Structural Plus commercial grade sandblast



### Project Design Team:

**Owner:** Falcon School District 49, Falcon, CO  
**General Contractor:** GE Johnson Construction, Colorado Springs, CO  
**Architect of Record:** LKA Partners, Colorado Springs, CO  
**Engineer of Record:** HCDA Engineering, Inc., Colorado Springs, CO



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Approximately 91,000 square feet of prestressed wall panel area was erected in less than five weeks. Fabrication of the panels on a permanent long line facility allowed eight to ten panels to be cast simultaneously, resulting in decreased labor costs and an accelerated project schedule. By prestressing the panels, inherent structural advantages were realized.



Insulated wall panels were used in the gymnasium and auditorium to reduce energy expenditure. The dual-purpose truss wall functioned as both an architectural skin and a structural load-bearing element. In addition, it provided the benefit of a high R-value. Panel interiors were given a hard trowel finish, forgoing the need for and expense of additional surface treatments.



The architect designed an interesting reveal pattern to create an aesthetically pleasing facade. Light sandblasting minimized the potential color inconsistencies of an unfinished colored concrete and produced the appearance of a natural stone texture. Treated with an acid wash, horizontal bands contrast with the sandblast finish to further enhance the exterior.



The creative application of color and shape helped establish an engaging learning environment. Masonry detailing, carried from the facade to the window area, lends warmth to the space and unifies the interior and exterior of the structure. Colored deep window fenestrations provide visual interest and continue the rectilinear theme throughout the interior space.

