



Case Study – École du Zénith – Lab École Shefford, Québec, Canada

ColorGard® | S-5-N™ Clamp



At-A-Glance

Project Name

École du Zénith – Lab École

Location

Shefford, Québec

Architect

Pelletier de Fontenay and Leclerc
Architectes

General Contractor

Binet Construction

Roofing Contractor

Toitures Vaillancourt

Roof Profile

Série 1-Ancestral 11.25 +- 1900

Industry

Education

The Situation

Safety was the priority for this school in search of a penetration-free, aesthetically pleasing snow retention solution that would both last the life of the roofs and maintain the roof warranties for its five new standing seam metal roofs.

The Result

ColorGard was custom-designed and engineered for this project to mitigate potential rooftop avalanches, dramatically reducing the risk of sudden and unexpected release of snow slides, which could pose a serious threat to students, teachers, administrators and property below.

Project Stats

Number of Roofs: 5

Roof Measurements:

34,000 sq. ft.

Roof Pitch: 3:12; 4:12; 5:12

S-5! Products Supplied:

- ColorGard® (232)
- S-5-N™ clamps (1951)
- VersaClip™ (1951)
- SnoClip II™ (1364)



The Project

Located on the outskirts of Montreal, in Shefford, École du Zénith is striking representation of contemporary educational architecture that blends seamlessly with its natural surroundings. Developed as part of the Lab-École initiative – a non-profit program dedicated to reimagining educational spaces in the province – the school features a series of interconnected “pavilions” around a central courtyard with expansive views of Mount Shefford.

Each building is tailored to a specific age group, and the design emphasizes a fluid transition between indoor and outdoor spaces through large windows, overhanging roofs and multiple entry points that encourage exploration and engagement with nature.

Inside, the classrooms are defined by sloped roofs that create generous ceiling heights and allow ample natural light. The design includes shared collaboration zones and essential communal areas featuring a spacious double-height interior and mezzanines accessible via bleacher stairs, all of which foster an interactive learning experience.

Sustainability is a central pillar of the school’s design, incorporating features like natural ventilation, overhanging roofs to minimize solar gain and triangular chimneys that enhance natural lighting while facilitating the efficient evacuation of warm air. This holistic approach under the Lab-École initiative sets a new standard for the harmonious integration of architecture, educational innovation and environmental responsibility in Quebec’s schools.

Each of the five pavilions feature a standing seam metal roof equipped with S-5!’s **ColorGard®** snow retention system to reduce the risk of snow sliding off the roofs.

The Challenge

The École du Zénith School Board was concerned about the risk of sudden snow slides from the metal roofs and prioritized a solution that would safeguard the roofs, its students, teachers and administrators, and any surrounding property.

They sought a snow retention system designed to allow the snow to evacuate gradually and in a controlled manner—a critical feature to maintain the system's effectiveness, prevent safety hazards for pedestrians and property below, and protect the roofs from potential damage.

Additionally, they required a system that preserved the integrity of the roofing material by avoiding any penetrations, thereby ensuring that all roofing manufacturer warranties remained intact. They were particularly concerned about water infiltration and recognized that a non-penetrating snow guard system would effectively eliminate this risk.

The Solution

École du Zénith utilized the complete S-5! ColorGard system, including the innovative S-5-N clamps. The fully tested and engineered snow retention system ensured maximum safety for students, teachers and administrators against potential snow slides.

Manufactured from 100% non-corrosive materials and rigorously tested for load-to-failure results, ColorGard dramatically reduces the risks of rooftop avalanches by effectively controlling roof snow migration. Its non-penetrating design preserves the integrity of the roofs, which eliminated any concerns about water infiltration and voiding roof manufacturer warranties.

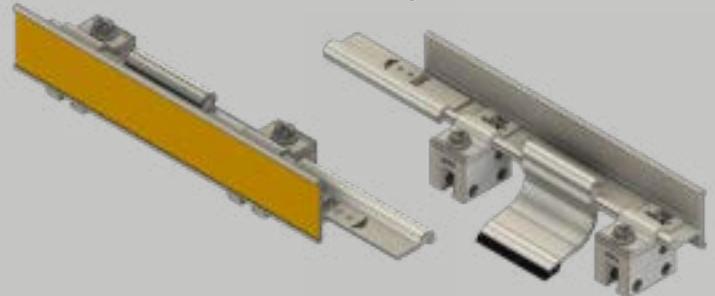
In addition to its robust performance, ColorGard delivers an aesthetically pleasing solution with perfect color and finish matching, all designed and warranted to last the life of the roof.



How Did ColorGard Help?

- Provided safety measures to students, teachers and administrators entering and leaving the school
- Reduced the amount of product and cost required due to S-5! engineered system capacity
- Eliminated the risk of a voided roof manufacturer warranty—no holes/no damage
- Provided an aesthetic solution that blends seamlessly and complements the roof

ColorGard® by S-5!



Long-Term Outlook

The school board achieved the quality look it desired with a snow retention system that mitigates the risk of rooftop avalanches, preserves roof integrity, eliminates concerns about water infiltration and complements the roofs' overall appearance.

“We are very happy with the performance of the ColorGard snow retention system. It provides reliable protection for the children as they play during the winter months and ensures the skylights remain clear of snow as it melts off the metal roof.”

— Céline Bourget, Centre de Service Scolaire Val des Cerfs



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