



FRONTIER MOSAKAHIKEN SCHOOL

MOOSE LAKE, MANITOBA

(Reprinted with permission from ArcelorMittal Dofasco Steel Design, Spring 2012)

DESIGN AND CONSTRUCTION TEAM

ARCHITECTURE:
Stantec Architecture Ltd.

CONTRACTOR:
Penn-Co Construction

ROOFING CONTRACTOR:
Flynn Canada Ltd.

ROOF CLADDING:
Roof cladding is Flynn Accusteel site rolled from UnaClad supplied coil

6,698m² (72,100 sq. ft.) unpainted .76mm (.0299") Galvalum AZM180

WALL CLADDING:
.76mm (.0299") unpainted Galvalum AZM180 site rolled

Flynn Accusteel (1.5" x 16") panels

VICWEST AD300R panels with stiffening rib

Flynn Accumet 2000 clear anodic

INSULATION VALUES:
Walls: R-19.5; Roof: R40



Attractive, durable unpainted Galvalume excels in remote north



Constructing a new school for the Mosakahiken Cree Nation posed a number of design challenges for Manitoba's Stantec Architecture Ltd. The new school building had to unite the entire community's education program, which was scattered after the previous school burnt down. It had to be a meeting place as well as a school and reflect the community's culture and future. The building also had to withstand Manitoba's northern climate and the challenges of a remote location.

"Mosakahiken Cree Nation is a very progressive community and they wanted the school to reflect that progressiveness. They didn't want to see a building that was a literal translation of a tipi, turtle or eagle form. They wanted to see a modern school," remembers Art Martin, principal architect for Stantec Architecture Ltd. "Chief Phillip Buck really challenged the design team to look at the contemporary integration of cultural elements and symbols. He was inspiring that way."

The three-year project resulted in a 5,110m² (55,000 sq. ft.) school for K to 12 students and a 40 unit teacher's residence. It included playing fields, maintenance buildings, a hockey rink, a play area for kindergarten students, and a large parking lot.

Martin knew that steel was the right material for the school. Sheet steel cladding was used for both the roof and walls, while steel studs and light steel framing were used liberally inside the school because of their durable, non-combustible qualities.

"Steel has a lot of flexibility, which provides you with plenty of design freedom. It's a robust material, fairly light-weight but durable,

attractive, and maintenance free," he says. "We tend to put steel at the three meter mark and higher to avoid the normal wear-and-tear that happens along building faces exposed to human activities and contact. Regarding ongoing maintenance, buildings in northern, remote locations are a particular challenge therefore the use of durable, the use of durable, pre-finished and corrosion resistant steel is important."

With respect to the palette of the building exterior, Stantec was inspired by the traditional birch bark canoe to use different brick colours and textures for the masonry, and they echoed this design in the steel and composite aluminum panels. The school's wings flank the kindergarten play area, symbolizing the community embracing its future leaders. A medicine wheel was incorporated into the design of the school's floor, and Martin designed an Elder's Wall, which has images of the community's Elders dating back to the 1920s.

"At the grand opening ceremony, I was tickled pink when I heard the community say, 'look at our school.' When I heard that, I knew I'd done my job. The community definitely took ownership of it."