ArcelorMittal

Steel Design

SPRING 2008 | VOLUME 40 | NO.1

Perspectra Series: Enhanced Paint System

Remington addresses Sustainability Issues in its Design & Construction

GalvalumePlus LEEDing the Way

Prepainted Steel and LSF: Design Flexibility and Durability

Steel roofing adds to beauty of recreational village

Prepainted Galvalume offers Economics and Aesthetics for Moncton Hospital Atrium

Spring 2008 | VOLUME 40 | NO.1

Steel Design

PROJECT SUBMISSIONS

Do you have a project using sheet steel that you would like to see in *Steel Design*? The editor welcomes submissions of completed buildings–commercial, institutional, industrial, recreational, and residential–using components made from steel, including cladding, steel decking, light steel framing, steel roofing, steel doors, steel ceiling systems and steel building systems.

The Editor, Steel Design
1039 South Bay Road
Kilworthy, Ontario P0E 1G0
E-mail: markdir@sympatico.ca

CHANGE OF ADDRESS AND NEW SUBSCRIPTIONS

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Marketing Directions
1039 South Bay Road
Kilworthy, Ontario P0E 1G0
E-mail: markdir@sympatico.ca
Fax: 1-443-347-1472

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COVER PHOTO: SAGKEENG FIRST NATION COMMUNITY SCHOOL: GERRY KOPELOW

ArcelorMittal

transforming tomorrow

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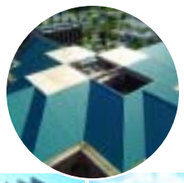

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Galvalume Plus LEEDing the Way

Galvalume and Galvalume Plus steel offer exceptional heat reflectivity, resulting in lower energy load and improved comfort.

The Bathurst District Office is a new 585 sq.m. office building owned and operated by the Department of Natural Resources (DNR), Province of New Brunswick. It was the first building in Atlantic Canada to achieve LEED certification with CaGBC and received Canada Silver in August, 2006.

For the Department of Supply and Services, an overall goal of the project was to design a facility which would acknowledge the DNR's commitment to the environment and which would endorse the Government of New Brunswick's goal to invest in 'green' infrastructure. As Allan Johnston, Project Architect, states, "this was a pilot project using the LEED rating system to inform the Department of Supply and Services of what is involved with designing, construction and having a project certified with CaGBC".

The overall form of the building was determined by three factors: the site, the desire to minimize site disruption and to maximize daylight and views. Integral to these factors were the objectives of balancing energy efficiency with thermal comfort and occupant control over their environment. The dominate roof form consists of Vicwest's Marquis roof panels, manufactured from ArcelorMittal Dofasco's unpainted .61mm (.0239") AZM180 Galvalume Plus steel cladding, over Tongue & Groove O.S.B. roof sheathing.

The office wing was positioned so that the occupied areas would face north and south with clerestory lighting into a shared corridor to bring natural light into the recesses of the offices. The south facing elevation was designed with overhangs and was oriented relative to the path of the sun to reduce cooling loads in the summer months.

In centre: The 380m² roof of the office wing has a roof slope of 3:12, and the 317m² service wing has a slope of 3.5:12. Both roofs utilize unpainted (.0239") AZM180 Galvalume Plus steel roof cladding.

NOTE: For more detailed and extensive information regarding Galvalume and Galvalume Plus steel, write to or call Ken de Souza at ArcelorMittal Dofasco.
e-mail: ken.desouza@arcelormittal.com
Tel: 1-800-363-2726

Design and Construction Team

OWNER: Province of New Brunswick

ARCHITECTURAL, MECHANICAL, ELECTRICAL AND CONTRACT ADMINISTRATION:
Design and Construction Division Staff, New Brunswick Department of Supply and Services 506-453-6125

STRUCTURAL:
Miramichi Engineering Ltd. 506-627-0305

GENERAL CONTRACTOR:
Gloucester Construction Limited. 506-393-1030

GALVALUME ROOF CLADDING SUPPLIER:
Vicwest 506-857-0057

ROOF INSTALLER:
Losier Aluminum (2004) Ltee. 506-395-3097

Galvalume Plus steel roofing was selected for its long life and recycled content and that it can be recycled post-use.

STANFORD INN AND CHALETS, FERNIE, B.C.

Steel Roofing adds to the *beauty* of Recreational Village

Improved aesthetics, application-specific paint systems, field-proven performance and a wide choice of colours, make prepainted steels the ideal choice for a broad range of construction applications.

Mechanically seamed, .61mm (0.0239") prepainted galvanized roofing coloured Dark Red QC8250 was used for the condominiums of Phase I.

Aside from its low maintenance and durability, prepainted steel standing seam roofing provides a broad spectrum of design opportunities for dormers, valleys, high and low slopes, mansards and complex roof profiles.

The majestic Canadian Rocky Mountains surround the small, but growing, community of Fernie, nestled in the beautiful Elk River Valley in the southeast corner of British Columbia. Fernie's largest vacation resort is the Stanford Inn and Chalets offering visitors a large variety of amenities, including a wide variety of dwellings ranging from riverfront chalets to single family homes.

The village, on Riverside Way in the heart of ski country, consists of a 3,700m² (40,000 sq. ft). hotel with over 200 rooms and several luxury chalets, up to 330m² (3,554 sq. ft.) with five bedrooms. Brightly coloured steel roofing adds to the beauty and gives the village a unique charm.

Steeples Construction was the developer for Phase One of the project. The first three buildings built have mechanically seamed, .61 mm (0.0239") prepainted galvanized roofing coloured Dark Red QC8250, supplied by Mercury Metals and installed by Ostash Exteriors Building Products. "Steel is becoming increasingly popular for residential roofing. Aesthetically it is very appealing and many people are using it because of its long life expectancy," says Wayne Ostash, mentioning that steel roofing is also in style for commercial applications.

New Dawn Developments was the General Contractor for the condominiums and hotel built in the Second Phase of this scenic village. These buildings feature .61mm (.0239") prepainted galvanized steel roofing coloured Melcher's Green QC8307 supplied by Agway Metals. Flynn Canada's Calgary Branch installed the Accusteel roof cladding which has 508mm (20") wide pans and 38.1mm (1.5") high standing seams applied over membrane and plywood deck. The walls for these buildings are wood framed with fiberglass insulation, dry-wall interior and conventional stucco exterior.

Steel roofing is durable and contains the highest amount of recycled content. Building products made of ArcelorMittal Dofasco steel can be credited with the maximum number of points for the materials credit aspect of the LEED™ rating system Sections 4.1 and 4.2.

Prepainted galvanized or Galvalume steel standing seam roofing can be installed in any weather condition, reduces maintenance and provides a long-lasting finish.

Residential and commercial steel roofing offers numerous benefits for everyone associated with the construction industry. It offers architects a broad spectrum of design opportunities for high and low slopes, dormers, valleys,mansards, and complex roof profiles; comes in a wide variety of colours, shapes and textures; is fire resistant; and has the lowest life-cycle cost of most roofing products. It also gives them the opportunity to build both quality, value and enhanced appearance into homes and the steel roofing industry provides excellent technical support.

Builders also appreciate the advantages of using steel roofing. It allows for installation in all kinds of weather; comes in a wide selection of designs, colours, sheet thickness and finishes with a full compliment of matching trims, flashing and formed accessories and can be used for steep or low slope roofs. Most importantly, it is competitively priced in a stable market.

From an environmental perspective, steel roofing offers a number of benefits: it is made of 100% recyclable materials; it conserves valuable landfill area in re-roofing projects by eliminating the requirement for the disposal of the existing roof; its coil coating process is efficiently and ecologically managed and it is an excellent product for sustainable construction.

It's no wonder that many homeowners are choosing steel roofing for their homes. There are many aesthetically pleasing roof designs and colours and steel is long lasting, durable, non-combustible, energy efficient, low maintenance, resistant to decay, discolouration and mildew. It also offers excellent qualities in resistance to wind and water, is snow and ice shedding, and is environmentally caring. A steel roof upgrades a home's appearance and contributes to a better resale value.

For more information on ArcelorMittal Dofasco prepainted steels and paint Systems contact: Ken de Souza at 1-800-363-2726 or ken.desouza@arcelormittal.com

Design and Construction Team

ARCHITECT:
Singleton Architect 403-244-6009

CONSULTING ENGINEER:
Harbinson Development Services 403-276-9194

PHASE I

GENERAL CONTRACTOR:
Steeples Construction (2005) Ltd. 250-489-1617

STEEL ROOFING INSTALLER:
Ostash Exteriors Building Products Ltd 250-426-7146

STEEL ROOF CLADDING SUPPLIER:
Mercury Metals 1-800-661-4898

PHASE II

GENERAL CONTRACTOR:
New Dawn Developments (250-489-1519

STEEL ROOFING INSTALLER:
Agway Metals 1-800-268-2083

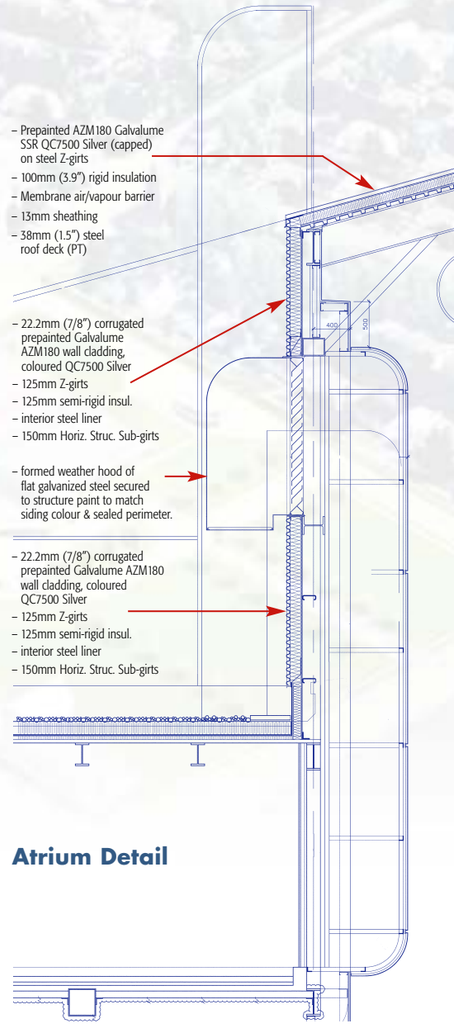
STEEL ROOF CLADDING SUPPLIER:
Flynn Canada 403-720-8155

Prepainted Galvalume offers Economies and Aesthetics for Moncton Hospital Atrium

Rendering of finished Atrium Interior.

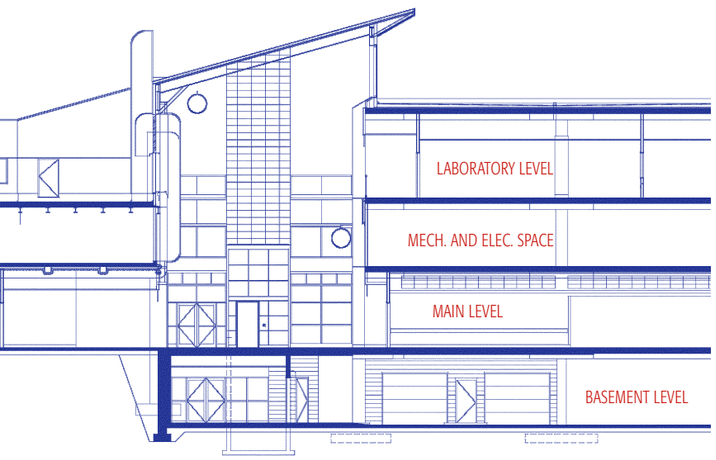
The exterior cladding is prepainted Galvalume steel with a polyurethane paint system, colour QC7500 Silver (specified to match the colour of adjacent wall panels), and covers the north wall (roof level) and portions of the east and west end walls.

Prepainted Galvalume steel cladding proved to be aesthetically effective and an economic building material for the new atrium that is part of the Moncton Hospital Redevelopment project.



Atrium Detail

Atrium Cross Section



The $47 million project, which began in September 2005, included an under ground parking level, a main floor ambulatory care facility, an interstitial level and upper floor to house laboratories. The new atrium, which serves as a physical construction buffer and transition area between the new and existing facilities, was started in April 2007. "It provides a naturally lit, healing environment to serve staff and patients," emphasizes Raven Spanier, Design Workshop Ltd. – one of the project architects involved in the planning, design and execution of the renovation and integration with the existing hospital buildings.

Steel cladding and roofing on the new atrium was chosen to colour match the material on the existing building. Light steel framing was also used to frame around existing and new ductwork to fasten the wall finish in the interface structure. "With limited space for interfacing, steel was the material of choice because it is easier to manipulate in these conditions," says Spanier. Maritime Canopies Ltd. installed 743m² (8,000 sq. ft.) of steel cladding, consisting of linear panels, Z-bars, and insulation. Spanier comments that the steel cladding was selected for the Atrium because it is economical, aesthetically pleasing and is a neutral colour. "Silver offers a richer look and matches other metal components," he says. The paint system provides excellent colour and gloss retention, as well as excellent flexibility.

James Teichman of Maritime Canopies, the cladding installer, prefers steel to other materials. "Steel is much easier to work with because everything is more true," he emphasizes. There is 743m² (8,000 sq. ft.) of standing seam metal roofing consisting of ZF075 galvanneal steel deck, gypsum board, vapour barrier, Z-bars and semi-rigid insulation. The Roll Form Group supplied all the exterior cladding material, .76mm (.0299") prepainted batten clad roofing and 22.2mm (7/8") corrugated wall panels, coloured QC7500 Silver and maufactured from ArcelorMittal Dofasco AZM150 Galvalume.

The entire project is expected to be complete in May 2008.

Design and Construction Team

OWNER: Government of New Brunswick

GENERAL CONTRACTOR: Maxim 2000 Inc. 506-652-9292

ARCHITECTURAL: Design Workshop Ltd. 506-858-9119
Guy LeBlanc, Project Architect
Raven Spanier, Design Architect
Ian MacLaughlan, Contract Administration
Fernand Daigle, Architect

STRUCTURAL: Valron Engineers Inc. 506-856-9601

MECHANICAL: John MacLean Management Ltd. 506-858-0313

ELECTRICAL: R.E. LeBlanc Consultants Inc. 506-858-0950

ARCHITECTURAL CONSULTANT: Prodel Design Inc. 506-863-1122

ATRIUM INSTALLATION: Maritime Canopies Ltd. 506-847-2750

ATRIUM WALL AND ROOF CLADDING SUPPLIER:
Roll Form Group 1-800-233-6228

STEEL DECK SUPPLIER: Canam Steel 506-857-3164

STRUCTURAL STEEL INSTALLER: Titan Steel Group 506-525-2416

REMINGTON HOMES – VAUGHAN, ONTARIO

Remington advocates the use of Light Steel Systems

The three-storey townhouses feature preassembled light steel framing panelized wall assemblies, the Genesis i-SPAN floor joist system, and engineered and pre-assembled lightweight steel roof truss framing system.

Remington Homes is at the forefront of innovative building construction in premiere communities across the GTA. In one of their projects currently under construction – Bath-Von Townhomes located on Bathurst Street in Vaughan – Remington's high standards of craftsmanship are further enhanced with the use of steel. The three-storey townhouses feature light steel framing panelized wall assemblies, the Genesis i-SPAN steel floor joist system, and engineered and pre-assembled lightweight steel roof truss framing system, all supplied by KML Building Solutions, an affiliated Genesis[TP] Inc. partner.

"The trend in the industry is to build as green as possible. That can be a challenge, but we've discovered it's easy using steel," emphasizes Walter Zanutel, Remington's Vice President Construction – Low Rise, explaining that the project addresses sustainability issues in its design and construction. "Steel is more environmentally friendly than other products and because each component of the Genesis systems is manufactured to exact lengths, it eliminates waste and scrap in the superstructure. In using it, we're saving trees and energy, and minimizing waste being sent to landfills."

In addition to contributing to the preservation of our natural resources, steel is 100% recyclable, making Genesis a sustainable building method that uses environmentally responsible steel framing products.

Eli Newman of Joseph Bogdan Associates Inc., architects on the project, agrees. "Steel is efficient to use, is sustainable and responds well to most design goals and objectives," he says mentioning that this was the first residential steel construction project his firm has been involved with." Eli adds, "that the speed of erection and construction efficiencies with steel makes it an increasingly popular material for future residential projects."

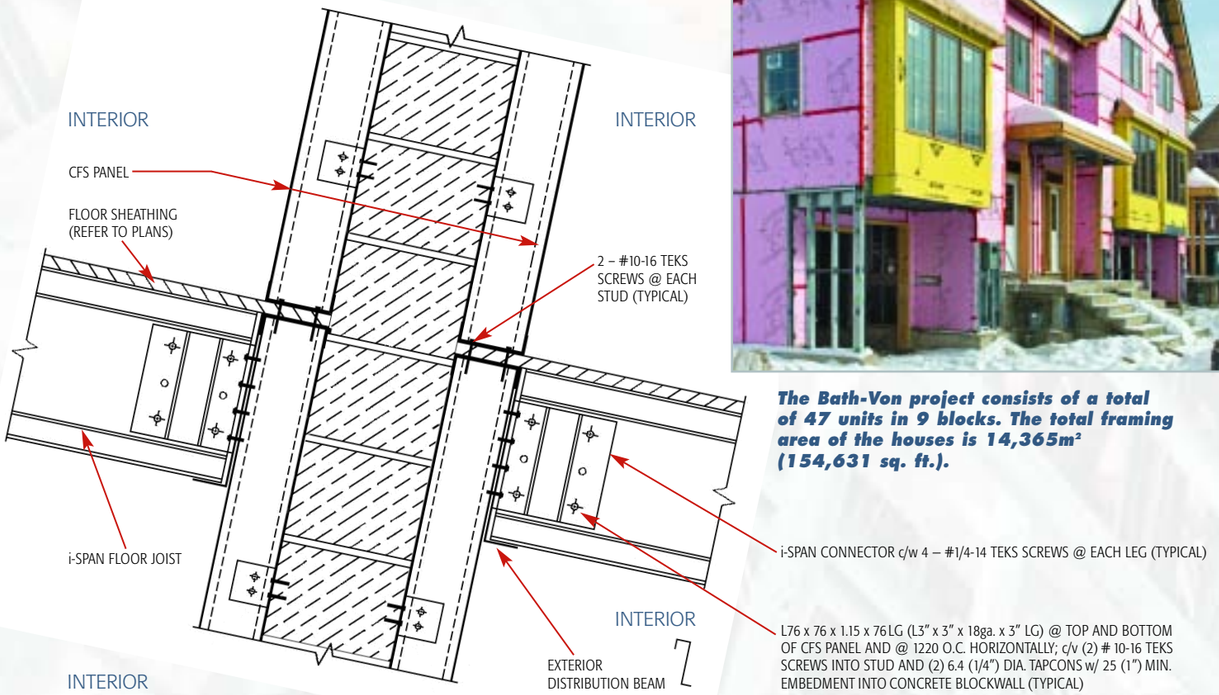
This is not the first time Remington Homes has used the factory-produced panelized wall assemblies and roof truss system. However, it is the first time they have used the i-SPAN joists. "KML did a good job for Remington Homes – using the Genesis system, which incorporates Galvalume™ and galvanized steel components – on a similar residential project two years ago," comments Martin Fabek, KML's Director of Corporate Accounts, emphasizing that the reason behind their repeat project performance is a simple formula: speed + quality + simplicity = savings.

> "It's been a good experience for us. The design technology and 3D modeling programs for light steel framing are really quite something to work with. We were very pleased with the ability to do just about anything with it."
>
> Eli Newman, Joseph Bogdan Associates

KML's engineered and pre-assembled LSF roof truss framing also meets the formula for savings and success. The quality system is installed with great speed and simplicity. These roof truss solutions accommodate a variety of roof styles or geometry and provide added benefits that are inherent of steel frame construction.

i-SPAN floor joist with OSB subfloor and pre-assembled light steel framing wall assemblies at the ceiling.

Wall Section



The Bath-Von project consists of a total of 47 units in 9 blocks. The total framing area of the houses is 14,365m² (154,631 sq. ft.).

KML is supplying and installing 254mm (10") Z275 galvanized engineered i-SPAN floor joist system, joists at 16" on center, complete with site installed 5/8" T&G OSB floor sheathing.

The i-SPAN floor joist system reduces labour by significantly reducing the number of parts and fasteners required to be installed. Symmetrical shape along with separate chord and web thicknesses provides superior strength, stiffness and efficiency.

There are numerous benefits to using each of the LSF systems on the Bath-Von townhouses. Advantages of the wall assemblies being used for all exterior load bearing walls and interior partitions are:

- pre-punched holes for electrical and mechanical services
- insulated structural lintels
- precise window, door and mechanical rough openings
- built-in insulated structural posts
- high strength cross bracing
- factory installed uplift anchors
- top of wall load distribution system
- interior non-load bearing partitions, drop ceilings, mechanical boxing are manually framed on-site with light gauge steel studs.

"This process increases the efficiencies, reduces costs and allows for last minute on-site changes to be made more easily," says Martin.

Remington recognizes the optimized strength, superior performance, practical features and simplicity of the i-SPAN floor joist system. Less labour is required to install the i-SPAN because the number of parts and fasteners used is significantly less than in other systems. Its symmetric shape, along with separate chord and web thickness, provides superior strength, stiffness and efficiency. Large utility holes allow for servicing within the floor depth. Martin highlights another unique advantage to the system: "This is the first light-steel floor system with a wooden sub floor to achieve an UL/ULC one-hour fire rating with only one layer of gypsum board."

"The trend in the industry is to build as green as possible. That can be a challenge, but we've discovered it's easy using steel."

Walter Zanutel, Remington's Vice President Construction – Low Rise

"KML has shown a strong commitment to this project and it's coming along very well," emphasizes Walter Zanutel acknowledging that the future is bright for using light steel framing in residential construction. Speaking on behalf of the team that worked with the Genesis system, Walter mentions that at first, some contractors were uneasy about the use of steel mainly because of the cost implications. "The up front costs may be more, but once all the logistical costs are factored in, it works. We are avoiding service callbacks because of floor squeaks, nail pops, corner cracks, that type of thing. Contractors have adapted well to using it, so the additional costs aren't there any more. Our main objective is to continue to make it cost effective and when we do, we will be using it more and more and recommending it in the future."

Design and Construction Team

DEVELOPER & GENERAL CONTRACTOR:
Remington Homes 905-761-8200

ARCHITECT:
Joseph Bogdan Associates Inc. 416-531-7717

LIGHT STEEL FRAMING PANELIZED WALL ASSEMBLIES, LIGHTWEIGHT STEEL ROOF TRUSS FRAMING & i-SPAN FLOOR JOISTS:
KML Building Solutions 905-832-9286

LIGHT STEEL FRAMING SUPPLIER (LSF):
Bailey Metal Products 1-800-668-2154

PHOTOGRAPHY: Vytas Beniusis

Project Specifications

Fire Rating for Floor and Wall assemblies:
Only Party wall (demising wall) fire rated (1 hour)
ULC design No. W449

Acoustic Rating for Walls:
See party wall construction

Acoustic Rating for Floors:
Not applicable

Floor Span:
6.45m (21'-2")

Total Floor Depth (iSPAN joist and deck):
298.5mm (11 3/4") typical floor and
355.6mm (1'-2") i-SPAN roof

Floor Joist Span:
6.45m (21'-2")

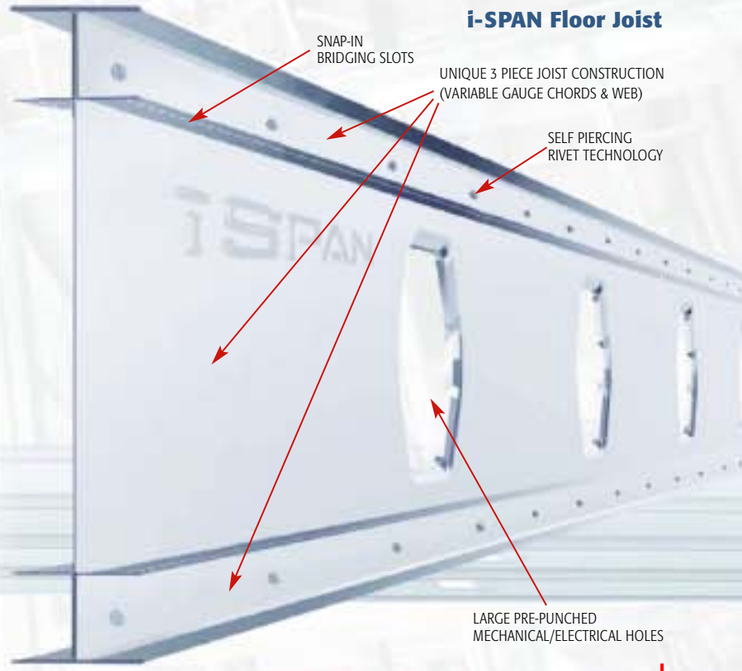
Floor Joist Depth:
254mm (10")

Joist Spacing:
406.4mm (16") on centre

Static Load Deflection Criteria:
KML designs to a min. of L/480, the actual design for the Bath-Von project was good for L/600.

Wall assembly size(s):
Exterior Wall 92mm (3.6") Studs (Brick) 244.5mm (9 5/8")
Exterior Wall 152mm (5.98") Studs (Brick) 254mm (1'-0")
Exterior Wall (Stucco) 177.8mm (7")
Party Wall (Demising Wall) 241.3mm (9 1/2")

Roof truss assembly sizes:
4.87m & 13.7m (16'-0" & 45'-0" Spans)



SAGKEENG FIRST NATION COMMUNITY SCHOOL, MANITOBA

Prepainted Steel and Light Steel Framing (LSF) for *Design Flexibility* and *Durability*


A


B

A: Interior view of the central Gathering Place/Lobby. The paralam beams lend support to the upper post painted galvanized steel roof that articulates the upper section of the Lobby. The perimeter wall was designed to facilitate artwork and murals by local artists that depict the story of the Sagkeeng people.


C

B: The north-east corner of the gymnasium clearly shows the various prepainted galvanized standing seam roof surfaces, as well as the rotunda in QC8259 Red and the wall cladding coloured QC815 Tan.

C: Prepainted galvanized steel is used for all trim items, with unpainted Z275 (G90) galvanized corrugated panels for the walkway canopy.

The Sagkeeng First Nation Community School in Fort Alexander, Manitoba, impressively demonstrates how attractive, versatile and resilient steel can be in commercial construction. The striking, one-storey building features steel as the structural system in the framing, as well as part of the exterior finish of the wall system.

The 4,155m² (44,725 sq. ft.) building is very unique. Stantec Architecture Ltd. and AGB Architecture Inc. of Winnipeg collaborated on the design and the overall layout of the school was developed through community-based, integrated design workshops that involved the First Nation Chief and Council representatives, teachers, community members and the construction project team. The goal was to create separate, but connected, smaller school communities within the building to house the early and middle year students, to have efficient and clear sightlines for control, and a central gathering place for the Sagkeeng community. "The symbolism of the plan refers to the shape of an eagle with wings outstretched and culminating at the heart of the school – the rotunda or central gathering place. The exterior roof design of the rotunda is intended to reflect the soaring interior space that includes a complex paralam wood structure that supports the roof. The roof shape alludes to the iconic First Nation symbol of the tepee," explains Art Martin, Principal, Stantec Architecture, the 13 trusses signify the thirteen tepee tent poles. Dave Thusberg, Bird Construction, the General Contractors on the project, comments, "It was an interesting way to frame a part of the building. It allowed the owners to express themselves in a way that they could feel good about." Noting the aesthetic value of the steel roofing, Dave says, "A lot of people like the look of a steel roof. It's very colourful and lasts a long time."


View down the west Middle Years wing, showing the brightly post painted galvanized steel deck.

A steel structural system was selected to provide flexibility to the design team in shaping the internal spaces. The prepainted galvanized steel cladding for the building exterior was chosen as a durable, long-term solution that integrated well with the masonry veneer for the base of the building. The exterior walls were in filled using steel studs. The envelope components included a face brick exterior on the lower walls, air space, 76.2mm (3") rigid board insulation, air barrier, 12.7mm (1/3") OSB sheathing, 92mm (3-5/8") steel studs, and 15.9mm (5/8") type X gypsum board required for fire rating of construction assemblies. Flynn Canada installed the .76mm (.0299") prepainted galvanized steel P300R wall panels, in a combination of QC8259 Tile Red and QC815 Tan colours. They also supplied the Flynn Accu Steel standing seam roof .76mm (.0299") prepainted galvanized coloured QC8259 Tile Red, in the 8000 Series paint system.

The roof assembly is comprised of metal standing seam roof panels, thermal spacer, sheathing paper, 152.4mm (6") deep sub girts, two layers of 76.2mm (3") rigid board insulation with a total thickness of 152.4mm (6"), air barrier, 12.7mm (1/3") exterior GB sheathing, steel roof deck, OWSJ and ceiling finish. Prepainted galvanized steel was chosen for the roof to provide a durable, low maintenance, long-term roofing solution, as well as provide the design team flexibility in the shape of the roof form.

"We enjoy working with steel. It's very predictable from a scheduling standpoint and a good product overall," emphasizes Thusberg.

For more information on ArcelorMittal Dofasco prepainted steels and paint Systems contact: Ken de Souza at 1-800-363-2726 Ext: 3997 or ken.desouza@arcelormittal.com

The south face of the Sagkeeng First Nation Community School in Fort Alexander, Manitoba, impressively demonstrates how attractive, versatile and resilient steel can be in commercial construction.

Design and Construction Team

ARCHITECTURE: A collaboration of
Stantec Architecture 204-489-5900
(previously GBR Architecture) and
AGB Architecture Inc. 204-940-3800

STRUCTURAL, MECHANICAL & ELECTRICAL ENGINEERING:
KGS Group 204-896-1209

CIVIL ENGINEERING:
J.R. Cousin Consultants 204-489-0474

LANDSCAPE ARCHITECTURE:
K. Rech Landscape Architecturel: 204-489-6616

INTERIOR DESIGN:
AGB Architecture Inc. 204-940-3800

GENERAL CONTRACTOR:
Bird Construction 204-775-7141

WALL CLADDING AND ROOFING:
Flynn Canada 204-786-6951

STEEL ROOF DECK:
Tri-Clad Design 204-878-3480

STEEL ROOF DECK SUPPLIER:
Vicwest 1-800-387-7135

LIGHT STEEL FRAMING SUPPLIER:
Bailey Metal Products 1-800-668-2154

PHOTOGRAPHY: Gerry Kopelow

METALCON International

Dates: Wednesday, October 1 12:00 to 5:00
Thursday, October 2 12:00 to 5:00
Friday, October 3 10:00 to 3:00

Location: Baltimore Convention Center
One West Pratt Street, Baltimore, Maryland

Audience: More than 8,000 professionals from 42 different countries travel here to participate in this annual event. Architects, engineers, contractors (roofing, residential and metal building), developers and building owners attend the show.

For Seminar Schedule, Speakers and Topics Contact:
Metal Construction Association
Mark Engle, Executive Vice President
4700 West Lake Avenue, Glenview, IL 60025
Tel: 847-375-4705 Fax: 877-655-2234
www.metalconstruction.org

Marge O'Connor
Chicago
Tel: 630-539-1347, Fax: 866-814-2861
Email: tmcresources@sbcglobal.net ■

McLeod Health, Florence, S.C.

Prepainted Steel SSR tops Vertical Expansion

The 30-month project included increasing the five-story Pavilion Tower up to 12 floors in order to house 140 general acute care beds and 16 operating suites.

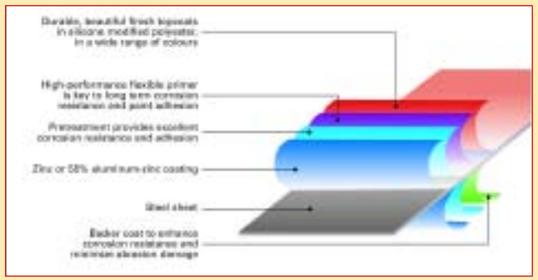
McLeod Health provides health care to 12 counties in the northeast portions of South Carolina through a network of four hospitals. ■

Enhanced Paint System – PERSPECTRA SERIES™ now available from ArcelorMittal Dofasco

Available now for the construction industry is a new and improved prepaint system called Perspectra Series from ArcelorMittal Dofasco.

Perspectra replaces the popular 8000 Series with updated technology providing outstanding film integrity, leading edge colour retention and superior chalk resistance in prefinished sheet steel. The specifications offer 40 years' film integrity, e.g. no peeling or cracking, and 30 years' chalk and colour fade values for cladding and roofing. Forty standard colours comprise nine shades of white, 16 pastel, 13 earth tones and two exotics. Ceramic and inorganic pigments provide superior resistance to UV exposure. Custom colours, gloss, and textures such as embossing can be developed to provide projects with high levels of creativity, versatility, durability and individuality.

On a more technical note, Perspectra Series™ is a Silicone-Modified-Polyester (SMP) film over either a hot dipped galvanized or 55% aluminum-zinc coated steel. The system utilizes either a zinc phosphate pretreatment on hot dipped galvanized, or a metal oxide conversion coating on 55% aluminum-zinc coated steel.



A Galvalume substrate is ideal for applications in coastal and light-to-moderate industrial areas and where superior atmospheric corrosion resistance is required. For aggressive atmospheric corrosion a Barrier Series paint system should be used rather than Perspectra Series.

As well, where 'cool roofing' is specified to minimize total solar reflectance (TSR) and emissivity, Perspectra Series™ has been designed to provides the desired properties with TSR values of at least 0.25 and up to 0.65 or 0.70 with reflective whites if required. A listing of Total Solar Reflectance (TSR) and Emissivity values is available from your Technical Representative, as are colour cards and repainting instructions. Perspectra Series is available at no additional cost.

Our website contains guidelines on transitioning from 8000 Series: **www.dofasco.ca – Products and Markets – Products – Pre-painted Products – Perspectra Series**.

For further information contact Ken de Souza at 1-800-363-2726 Ext. 3997 ken.desouza@arcelormittal.com ■

Chula School – a First Nation School in the Tsuu T'ina Nation

2,852m² (30,700 sq. ft.) of unpainted AZ150 Galvalume Plus, was used to re-roof the school. The unpainted Galvalume Plus was supplied by the Roll Form Group and installed by Flynn Canada. ■

Light Steel Framed Roof Crowns Hotel Roof

Both the upper and lower roof of the new Hilton Homewood Suites in Markham are framed with light steel framing (LSF). Light steel framing is also used for the wind bearing walls.

The low roof consists of light weight steel trusses 216mm (8/12 pitch) at 812.8mm (32") o.c. supported on a structural steel frame. Steel roof decking is .76mm (.0299") ZF075 galvanneal with a 38.1mm (1-1/2") deep profile, plus 12.7mm (1/2") plywood sheeting.

The high roof consists of light weight steel trusses 216mm (8/12 pitch) at 812.8mm (32") o.c. supported on light weight steel stud 1.09mm (.043") at 406.4mm (16") o.c. ■

Near-Zero Energy Home, Paterson, N.J.

boasts a high performance building envelope (LEED-H Platinum)

Manufactured from recycled material (and 100 percent recyclable at the end of its service life), the metal construction of the roof provides structural stability, high wind uplift resistance and a long life cycle with little maintenance. The coating (from BASF) on the 'cool roof' provides reflectivity – even for dark coloured roofs – to reflect solar heat away from the home, reducing the need to cool the air near the roof, for improved energy efficiency, as well as reducing "urban heat island effect" and smog. At the same time, the roof's life expectancy is increased due to reduced expansion and contraction. ■

BASF Corporation

The Caithness Residence, Perth, Australia

This beach side residence has an exemplary sculptural elegance, yet creates a snap, crackle and pop in a somewhat everyday neighbourhood. The sweeping embrace of Colorbond® (BlueScope Steel's prepainted steel) curved wall come roof creates a distinctive shell with minimal interference of mass or structure.

BlueScope Steel (Aust) www.livingsteel.org
Architect: Odden Rodrigues Architects ■

Stewart Residence, Boudreau Ouest, Cap Brule, N.B.

Overlooking the ocean the striking red steel roof chosen for the 1,625m² (17,501 sq. ft.) Stewart residence sets this cottage apart from the rest. The cottage is clearly visible off shore due to the striking roof. The roof is VicWest's 'super Vic' profile and is manufactured from ArcelorMittal Dofasco's prepainted Galvalume coloured QC8386 Bright Red. The articulated barn roof forms refer to the original cottage, now demolished, which had a red asphalt shingled barn shape roof.

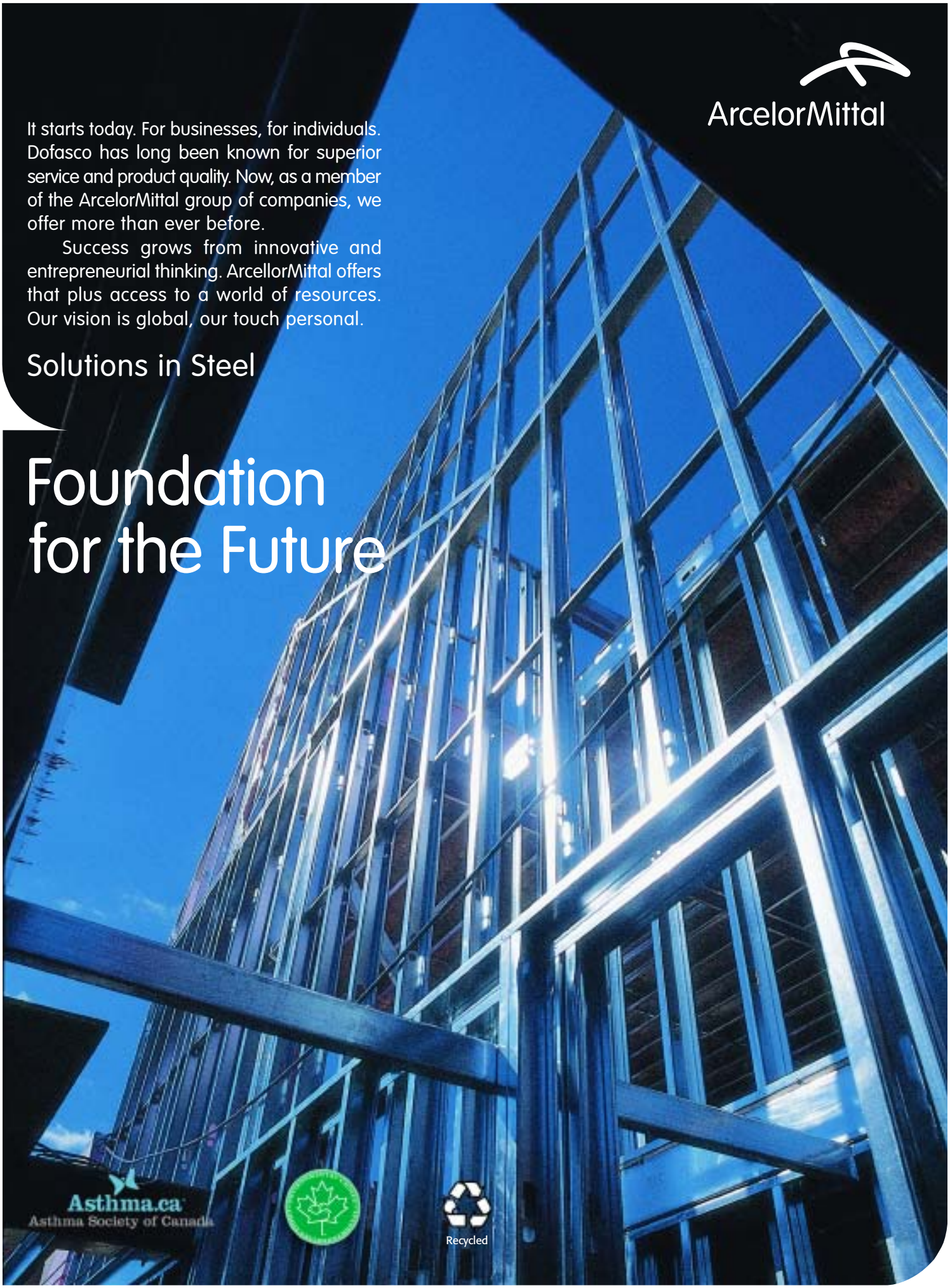
Architect: Architecture 2000 Inc. ■

EDITORIAL INQUIRIES

We would like to hear from you!

If you have comments about this issue or a project you would like to see in an upcoming issue of *Steel Design*, please send a description of the project, include photographs, to:

The Editor, Steel Design
1039 South Bay Road
Kilworthy, ON P0E 1G0
Or email:
markdir@sympatico.ca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