CASE STUDY

Project Îlot Rosemont

Montreal, Canada

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BUILDING SOLUTIONS

The Home of Insulation

SPRAY FOAM INSULATION HELPS A COMPLEX BUILD IN QUEBEC ACHIEVE THE ULTIMATE BUILDING ENVELOPE

Huntsman Building Solutions (HBS) Spray Foam Insulation for Montreal Social Housing Îlot Rosemont is a social housing project led by the Office municipal d'habitation de Montreal (OMHM) with the support of GRT 'Bâtir son quartier'. It is one of the largest building projects in Quebec and will provide 193 housing units for low-income seniors in addition to an administrative centre with nearly 300 employees. The building's design is in the shape of a square, open to Boulevard Rosemont and the Marc-Favreau library with a forecourt creating an inviting public space which showcases the new library. The building is also divided into two wings, one to the west with 10 floors, and the other to the south side, with 8 floors.

The project was born in 2011, and in 2015 received a commitment from the AccèsLogis Québec program. This social and community housing program aims to pool resources to create affordable housing for low- and moderate-income households.

The team working on Îlot Rosemont were faced with several challenges when it came to designing the most effective building envelope. The climate of Quebec necessitated insulation with a high thermal resistance, the building site was in an incredibly busy location, and the project was behind schedule.

"We wanted to create a living environment that was not only comfortable for the people living here, but also aesthetically pleasing and welcoming to the community at large. Spray foam insulation allowed us to achieve architectural ambitions that traditional insulation methods could not, and we're thrilled that residents will enjoy lower energy costs without sacrificing building beauty and home comfort," says Vincent Brouillette and Martin Côté, owners of Isolation Multi-Services Inc (IMS).

CHALLENGE	SOLUTION	RESULTS
Îlot Rosemont was falling behind schedule. In addition, the local climate meant insulation with high thermal resistance was essential. Finally, the incredibly unique architecture of the project, with its suspended levels, posed many logistical challenges for installing anything but spray foam insulation.	HBS worked closely with a business partner, Isolation Multi-Services Inc. (IMS), to effectively address the complex requirements of the project. The project specified Heatlok Soya HFO, which represents HBS' best performing product that provides an air and vapour barrier, high R-value, and weather resistance in one high-quality product. SPF insulation resists water and high winds during construction leading to time saved and less waste. An extra team of spray foam installers was also deployed.	When IMS commenced work on the project, it was one year behind schedule. Their teams of seasoned professionals work exceptionally well under pressure and were able to bring the project up to speed due to their expertise and the speed at which Heatlok Soya HFO can be installed and inspected. Residents of Îlot Rosemont enjoy now lower energy bills, and more comfortable homes.

The unique architecture of the structure necessitated thin walls which still needed to be effectively insulated. Spray foam insulation was the only way to achieve a high-quality final project that wouldn't compromise the architect's vision.

Products/Solution

For this project, HBS closed-cell spray foam 'Heatlok Soya HFO' was the only choice. It provides numerous advantages when incorporated into any building envelope, with its greatest assets for this project being its versatility, installation speed, and multi-functional properties. If an insulation product can be more than just insulation, and provide an air and vapour barrier, as well as weather resistance, that means less products are needed for the construction process. This translates to an incredibly accelerated building progress, as well as lowered environmental impact.

Spray foam insulation allows architects to design and implement increasingly complex structures within their projects, as certain design choices can only be achieved with the use of spray foam. It also creates a more comfortable living environment, which was especially important for this project as it was to house senior citizens. Heatlok Soya HFO contributes to less air leakage, lower condensation, and decreased mould issues.

Heatlok Soya HFO installation also protects residents from Radon build-up. Radon is an odourless, tasteless, colourless gas which kills over 3,000 Canadians per year. HFO based closed-cell spray foam functions as an air barrier which prevents Radon from seeping into buildings and accumulating to deadly concentrations.

Just as important as the product is the team behind its application. Isolation Multi-Services Inc. deployed teams of seasoned industry experts to ensure that work was completed quickly and masterfully. With their decades of experience, complex installation requirements could be met with no issue and the timeline of the entire project could be accelerated.

Process

Pomerleau Inc., the contractor, brought in Isolation Multi-Services Inc. (IMS) to conduct the spray foam installation. Founded in 2005, IMS have been a close business partner of Huntsman Building Solutions for several years, and are revered for their professionalism, as well as their openness to discussion and suggestions.

The project was one year behind, so the pressure was on for IMS to try and save time. Due to the complexity of the architecture and its unique design, including suspended levels, the project was a welcome challenge. The crew from IMS applied HBS Heatlok Soya HFO on all exterior facades of the building, sprayed on concrete, a membrane, and some panels.

Many logistical challenges arose from the structure of the building itself. Some of these features included: two divided wings, a 10-story wing on the west side, an 8-story wing on the south side, a V-shaped support column two-storeys high supporting the building with connecting beams and many beams on level 3, including five for which have post-tensioning work. Another feature of this project is the slab on a steel deck over a large area of level two, and a concrete structural slab on level three over the entire surface of the building. The thermal resistance also needed to be high for Quebec's climate, and SPF would help meet the building envelope requirements.

"When spray foam insulation is chosen over more traditional insulation materials, we know that we'll be able to work quickly and tackle complicated architectural designs. The team can also rest easy between workdays, knowing that the insulation we've sprayed that day will resist any rain or high winds. There's no panic regarding how well our efforts will hold up against the elements," says Brouillette and Côté.

Results

Successful project completion was due to Heatlok Soya HFO functioning as three different products, and the unparalleled ability of IMS in residential and commercial insulation, membrane installation, soundproofing and leading-edge services. Since the envelope was isolated with spray foam, both Huntsman Building Solutions and Isolation Multi-Services Inc. worked closely together. There were numerous team meetings, evaluations, and inspections during the construction time to assure the project would be delivered as expected.

"The insulation installed at Îlot Rosemont will require zero maintenance and remain durable for the lifetime of the building. 20 years from now, exterior, and interior finishes may look different and require touch-ups, but the insulation will be in prime condition," says Geneviève Savary, sales manager specialty products with Huntsman Building Solutions.

Additionally, the long-term environmental impact of this project will be greatly reduced due to the decision to use Heatlok Soya HFO. When compared to fiberglass insulation, Heatlok Soya HFO could save as much as 110,000kg of CO_2 over a service life of 75 years. It is also the first and only spray foam insulation solution with a product-specific Type III Environmental Product Declaration (EPD).

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