

Maisons des
Aînés et Maisons
Alternatives:
A Major
Transformation
Project in Quebec





LANDMARK GOVERNMENT REVITALIZATION PROJECT BROUGHT TO LIFE BY SPRAY FOAM INSULATION

Across Québec, a government-backed project is ongoing to provide seniors and adults living with disabilities rejuvenated living spaces, and an opportunity to vastly improve their quality of life. Starting in 2019, the project planned to build or redevelop over 3,468 spaces for seniors and adults with specific needs. The government invested \$2.4 billion across 46 projects to achieve their goals. With the Société Québécoise des Infrastructures (SQI) acting as project manager, and several general contractors and architects working to make this project a reality, the highest quality products were spec'd to ensure maximum comfort was granted to residents and LEED v4 certification was achieved.

Of high importance for this project was the ability to create a living environment that was more than just comfortable and energy efficient, but also aesthetically pleasing and welcoming to the people who would be living there. The aim of the project was to revolutionize how this type of housing

functioned for residents, and to provide them with an environment which could help them live their lives to the fullest, no matter their age or needs. A product that could achieve the comfort and LEED v4 certification without compromising on the architectural vision and intended community-fostering design was essential.

“We knew that to achieve the government’s vision for this new conception of Maison Des Aînés/ Maisons Alternatives, Heatlok Soya HFO closed-cell spray foam insulation had to be spec'd. We understood the importance of beautiful, engaging, comfortable spaces that would allow residents to live the life they deserve, and knew that we needed a flexible, high-performance product to deliver on that vision. As always, we worked together to deliver something fantastic, and we were ready to go above and beyond with site visits and technical support. We are a team, and this approach is the reason we have a lasting

partnership,” says, Mickel Maalouf, LEED Green Associate and Sustainable Building Science Manager with Huntsman Building Solutions (HBS).

Problem

This was a project that was centered on producing a living environment that allowed people to really feel “at home”. There are certain negative connotations associated with old-age homes, and the Quebec government wanted to combat those with the work they did on this project. This was achieved through a more user-friendly layout of interior and exterior spaces which can be adapted to best suit the needs of residents, as well as strict adherence to the mission of creating high-quality, safe, and warm living environments.

Architects needed to design creatively without compromising structural integrity or the environment. This meant that, for complex, aesthetically pleasing buildings to become a reality,



CHALLENGE	SOLUTION	RESULTS
<p>Multiple projects were underway at the same time, with many parties involved and strict deadlines in place due to the highly collaborative nature of the project. Quebec's harsh winter climate also complicated things, with rain or snow potentially slowing down progress. They also needed to create a comfortable living environment for their residents and meet LEED v4 certifications.</p>	<p>HBS worked closely with several architects and general contractors, as well as their chosen installers who all had longstanding partnerships with HBS. Heatlok Soya HFO spray foam product was spec'd to ensure a high-performance energy efficient building envelope was achieved and high R-values were reached throughout the construction.</p>	<p>HBS' extensive network of partnered installers and their unparalleled collaborative ability, combined with the performance and flexibility of Heatlok Soya HFO, meant that LEED v4 certification goals were easily met, and the installation of insulation was a breeze. The harsh climate was mitigated by the speed and ease of installation afforded by Heatlok Soya HFO, and residents will enjoy comfortable dwellings for decades to come.</p>

spray foam was the only true choice for insulation. Architectural ambitions could be achieved thanks to the flexibility and high-performance nature of Heatlok Soya HFO, and strict LEED v4 certification requirements were easily met.

Heatlok Soya HFO brings multiple benefits to any project it becomes involved in, as it possesses the capabilities of many products in one. It serves as an excellent insulator, with water and mold resistance, and has air and vapour barrier properties. This makes the spec'ing process incredibly simple, as for this project the architects had very specific performance requirements for the insulation needed for the project. General contractors then chose spray foam applicators who, based on the performance requirements of the project, knew Heatlok Soya HFO was the only choice.

Analysis of Alternatives

For this project, HFO-blown spray foam outperformed all traditional insulation products, such as fibreglass or mineral wool insulation, due to its comparatively higher R-value per inch and its much lower Global Warming Potential (GWP). With

Canada aiming to reach net zero emissions by 2050, making intelligent decisions now is essential. Heatlok Soya HFO offers a product specific Type III Environmental Product Declaration (EPD), a rare sight seeing as most products are backed by industry average EPDs. Through this EPD, Heatlok Soya HFO is shown to possess a GWP 39% lower than the industry average for HFO spray foam, up to 96% lower than HFO extruded polystyrene, and 77% lower than high density mineral wool. Designing and spec'ing buildings for the future is not just about reducing carbon emissions during construction, but also for the lifetime of the building, and in its actual day-to-day use. For this project, this translates to significantly lowered energy usage by residents, as they enjoy more efficiently insulated dwellings, leading to reduced operational carbon emissions for decades to come.

"While we needed a spray foam provider that could meet our strict requirements and keep the residents of these MDAs comfortable for years to come, we also wanted a partner who would be with us every step of the way and do whatever they could to make our jobs easier. Huntsman

Building Solutions are committed to excellence, in terms of service and in terms of lowering their ecological impact. They knew the importance of meeting LEED v4 certification and helped us make this forward-thinking project a reality,” says, Metrotec.

Solution

Heatlok Soya HFO was installed by a variety of SPF applicators on these different MDA projects, and its unparalleled performance meant LEED v4 certification was achieved and residents will enjoy comfortable, secure, and durable living conditions for many years to come. The flexibility of Heatlok Soya HFO means it can be easily applied to all aspects of the building envelope, offering a perfectly protected and sealed environment which will be more energy efficient than alternatively insulated buildings. No matter the complexity of the project design, Heatlok Soya HFO provides continuous thermal insulation and an air and moisture barrier that persists across material junctions and transitions, as well as balconies and other architectural features.

Since this project's priority, beyond LEED v4 certification, was creating living environments that departed from an institutional feeling and were more reminiscent of nuclear family homes, it was essential that there were zero design compromises. Heatlok Soya HFO could handle different architectural shapes and connections, all while meeting building envelope requirements.

Implementation

The decision to use Heatlok Soya HFO for this project resulted in an uncompromised architectural vision, unparalleled comfort, and decades-long durability. Achieving LEED v4 certification was a

breeze with the high-performance nature of HBS' products, and the installation process itself was made simpler through HBS' long-lasting and close-knit partnerships with professional installers within Québec.

Residents will enjoy lower energy bills, and the overall long-term environmental impact of this project will be greatly reduced when compared to buildings which use other types of insulation. When compared to fiberglass insulation, for example, Heatlok Soya HFO could save as much as 110,000kg of CO2 over a service life of 75 years. The fact that Heatlok Soya HFO also has its own product-specific Type III Environmental Product Declaration, also meant that the spec'ing process was greatly simplified as building designers needed to hit very specific performance requirements.

“For a project as important as this, one that will positively impact so many people in our communities, the client wanted them to have the best of the best. Forgetting the fact that working with Huntsman is easy for us, we were so glad to be able to deliver a comfortable and durable building envelope that will allow people in need to live a more fulfilling life with their family and friends,” says, Metrotec.

