

The Stack

Vancouver, British Columbia





THE STACK: ARCHITECTURAL BRILLIANCE RECOGNIZED FOR ZERO CARBON BUILDING DESIGN STANDARDS

WORLD-CLASS SOPHISTICATION DEMONSTRATES A DEDICATION TO ENVIRONMENTAL RESPONSIBILITY IN ITS PURSUIT OF THE HIGHEST SUSTAINABILITY STANDARDS

In an era where climate change concerns dominate global conversations, architectural brilliance takes center stage with the advent of zero carbon building design standards. Among the pioneers in this movement is The Stack, a groundbreaking architectural marvel that has set new benchmarks in sustainable construction.

Nestled in the vibrant core of Vancouver, "The Stack" stands as a monumental testament to modern architecture and innovative design. This iconic project has dramatically transformed the city's skyline, introducing a new era of office spaces that are not only state-of-the-art but also exude a sense of world-class sophistication.

The Stack, with its ascending and intricate twists, doesn't merely adhere to the conventional standards of architectural brilliance. Instead, it pioneers a new benchmark, emphasizing a deep commitment to sustainability. This commitment is evident as The Stack proudly holds the distinction of being Canada's inaugural commercial high-rise office tower to receive the prestigious CAGBC's Zero Carbon Building – Design Standard certification. Furthermore, its pursuit of the LEED v4 Core & Shell Platinum certification showcases its dedication to environmental responsibility.

The underlying vision that fueled the creation of The Stack was multifaceted. Beyond providing a workspace that championed energy efficiency and comfort, there was a passionate drive to craft a structure that was a visual masterpiece, seamlessly blending with Vancouver's dynamic urban tapestry. The city's landscape, with its unique blend of natural beauty and urban sophistication,

demanded an architectural gem that would complement its surroundings. To realize this ambitious vision and to ensure that the building met the rigorous LEED v4 certification, it was imperative to select construction materials and products that upheld these high standards without diluting the original architectural intent. Every choice, every design nuance, was a step towards creating an edifice that would stand as a beacon of sustainable architectural excellence in Vancouver.

"We recognized early on that for The Stack to truly stand out and meet our sustainability goals, Heatlok Soya HFO was the product to spec. Working with Huntsman Building Solutions has always been seamless. Their commitment to excellence and readiness to provide technical support made the decision straightforward," says Marcus Hamm, President of Westcor Thermal Inc.



CHALLENGE	SOLUTION	RESULTS
The Stack's construction faced multiple challenges, including meeting the LEED v4 certifications, ensuring a high-performance energy-efficient building envelope, and dealing with Vancouver's varied climate.	HBS, with its longstanding partnerships, collaborated closely with architects and contractors for The Stack. Heatlok Soya HFO was chosen to ensure the building achieved high R-values throughout its construction.	Thanks to Heatlok Soya HFO's performance and flexibility, The Stack met its LEED v4 certification goals. The product's ease of installation ensured that the project stayed on track, and future occupants are guaranteed a comfortable environment for years to come.

Problem

The Stack aimed to redefine office spaces in Vancouver. The challenge was to design The Stack as a functional work of art, demanding a product that could meet LEED v4 certification requirements while allowing design flexibility. Architects needed to create intricate and visually appealing structures without being constrained by building envelope restrictions.

The adaptability and superior performance of Heatlok Soya HFO made it possible to fulfill these architectural aspirations while seamlessly meeting the stringent LEED v4 certification standards.

Heatlok Soya HFO stands out by offering a multitude of advantages in a single product. It not only excels as an insulator but also provides resistance against water and mould and acts as an effective air and vapor barrier. Given the specific insulation performance criteria set by the architects for this project, the decision-making process was straightforward. Recognizing these attributes, general contractors unanimously opted for spray foam applicators familiar with the unmatched capabilities of Heatlok Soya HFO.

Analysis of alternatives

In this project, HFO-blown spray foam surpassed alternatives like fibreglass and mineral wool insulation due to its superior R-value and significantly reduced Global Warming Potential (GWP). As Canada targets net-zero emissions by

2050, informed choices are crucial. Unlike many products with industry average Environmental Product Declarations (EPDs), Heatlok Soya HFO boasts a unique EPD, revealing its GWP to be 39% below the HFO spray foam industry average, 96% less than HFO extruded polystyrene, and 77% beneath high-density mineral wool. The goal isn't just to minimize emissions during construction but throughout the building's lifespan.

Solution

Throughout the construction of The Stack, Heatlok Soya HFO played a pivotal role, providing consistent thermal insulation, acting as an air and moisture barrier, and seamlessly integrating with diverse architectural elements. Its inherent flexibility ensured that the building's distinctive design remained intact, all the while adhering to the stringent building envelope standards.

Specialized SPF applicators installed Heatlok Soya HFO, ensuring LEED v4 certification and creating modern, inviting office spaces without compromising design vision. One of the standout features of Heatlok Soya HFO is its adaptability. It can be meticulously applied to every facet of the building envelope, resulting in an environment that is not only perfectly sealed but also significantly more energy-efficient than buildings insulated with alternative materials. Regardless of the intricacies in The Stack's design, Heatlok Soya HFO consistently delivers, providing unwavering thermal



insulation and maintaining its air and moisture barrier properties across various material interfaces, transitions, balconies, and other unique architectural elements.

A primary objective for this project, beyond just achieving LEED v4 certification, was to craft office spaces that felt modern and inviting, a stark departure from the sterile, institutional ambiance often associated with commercial buildings. It was imperative that the design vision remained uncompromised. Heatlok Soya HFO rose to the challenge, accommodating diverse architectural forms and junctions, all while ensuring compliance with building envelope standards.

Central to the success of The Stack's insulation and sustainability goals was the invaluable contribution of Westcor Thermal. As a trusted partner in the industry, their expertise and commitment to quality ensured that the application of Heatlok Soya HFO was executed flawlessly. Their longstanding partnership with Huntsman Building Solutions (HBS) was evident in the seamless coordination and shared vision between the two teams. Westcor Thermal's deep understanding of HBS products, combined with their meticulous workmanship, played a pivotal role in achieving the project's ambitious energy efficiency and design targets. Their dedication not only reinforced the strength of their partnership with Huntsman Building Solutions but also solidified their reputation as industry leaders in thermal solutions.

"Working alongside Westcor Thermal on The Stack project was a testament to the power of collaboration. Their dedication to excellence and attention to detail resonated with our values at

Huntsman Building Solutions. Together, we were able to seamlessly integrate our Heatlok Soya HFO product into the building's design, ensuring both sustainability and architectural brilliance. It's partnerships like these that drive innovation and set new benchmarks in the industry," says Mickel Maalouf, B.Arch., LEED Green Associate and Manager of Sustainable Building Science for Huntsman Building Solutions.

Implementation

Choosing Heatlok Soya HFO for The Stack resulted in a building that stands as a testament to architectural brilliance and sustainability. The partnership with Huntsman Building Solutions ensured a smooth installation process, contributing to a comfortable environment for occupants while minimizing environmental impact.

"For a landmark project like The Stack, we wanted nothing but the best. Working with Huntsman Building Solutions allowed us to realize our architectural vision while ensuring sustainability and comfort for the building's occupants," mentions Marcus Hamm, President of Westcor Thermal Inc.

The successful collaboration between Westcor Thermal Inc., SPF applicators, and Huntsman Building Solutions showcased the power of innovation and partnership, setting new benchmarks in the industry and driving the construction sector towards a more sustainable future.