

Vancouver 2010 Winter Games



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For the world at large, the Olympic Games leave a legacy of memorable sporting moments. For residents of Vancouver, Host City for the 2010 Olympic and Paralympic Winter Games, the sporting venues themselves may leave the biggest legacy of all. From the very earliest stages of planning, the Vancouver Organizing Committee for the 2010 Olympic and Paralympic Winter Games (VANOC) set a goal of building "green" and making sure that each and every venue constructed for the 2010 Winter Games would leave the smallest environmental footprint possible and serve the community for many years to come.



Dow Chemical Canada ULC, the Official Supplier of Insulation Materials to the 2010 Winter Games, rose to the occasion by providing the insulation required for peak building enclosure performance. Products including STYROFOAM™ Brand Insulation also help ensure peak ice performance for the athletes. The Vancouver 2010 Organizing Committee recently awarded [Dow Canada](#) a VANOC "Sustainability Star" for its role in constructing sustainable, energy-efficient venues for the 2010 Winter Games.



A six-acre roof on the [Vancouver Convention and Exhibition Centre](#) is now the largest green roof in Canada.

Green roofs absorb carbon, reduce greenhouse gas emissions and mitigate urban heat island effect. No two surfaces of this roof are the same size or shape, resulting in one of the most high profile buildings in the city. To accommodate the unique roof layout, the architect chose STYROFOAM™ ROOFMATE™ Insulation in a protected membrane roof (PMR) assembly, which provided the compressive strength and moisture-resistance required for the intensive roof design. The convention center is now home to

dozens of plant and grass species and was designed with the goal of LEED (Leadership in Energy and Environmental Design) Gold certification from the Canada Green Building Council (CaGBC).



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Every Olympic Host City has its icon and for Vancouver, it will likely be the [Richmond Olympic Oval](#). From the salvaged pine used in the unique “wood wave” roof to the energy saving STYROFOAM™ Brand Insulation beneath the ice, the Richmond Olympic Oval is sustainable from top to bottom.



The six inches of 60 psi, R-5 STYROFOAM™ Brand Extruded Polystyrene Foam Insulation installed beneath the 2nd floor ice rink will help maintain ideal ice performance and prevent condensation from dripping into the conditioned spaces below. During construction of the Oval, 75% of construction waste was recycled and nearly 95% of waste was averted from landfills. The \$178M speed skating venue is targeting LEED Silver certification and was awarded a Sustainability Star by VANOC.

In the beginning, they set their sights on earning the Silver, but planners of the [Olympic Village Vancouver](#) are now going for the Gold. Each of the 16 building sites will certify for LEED Gold, except for the community centre, which will certify for Platinum. The village is also serving as a pilot project to test CaGBC's new LEED for Neighborhood Development Rating System. A model for sustainable urban development, the Olympic Village Vancouver is attracting the attention of municipal planners and developers from all over the world. The mixed-use, community-focused, eco-efficient development is



home to Canada's first large-scale net-zero building. A Village-wide mandate for continuous insulation, including STYROFOAM™ Brand CAVITYMATE™ Insulation over all block walls, reduces the amount of energy needed to heat and cool buildings, as does a mandate for green roofs on at least 50% of the total building footprint. These and other passive design measures improve energy efficiency and enable the use of district energy generated from waste to heat and cool the entire Village.



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The world's most accomplished athletes earn Olympic medals, and the world's most energy efficient buildings are built according to LEED standards. Built to be equivalent to LEED Silver certification, the [UBC Thunderbird Arena](#) optimized energy efficiency by using STYROFOAM™ Brand HIGHLOAD™ Insulation and STYROFOAM Brand SM Insulation. Placed under the ice assembly, the insulation materials will also help maintain uniform ice temperature and prevent frost damage to the foundation, ensuring that the arena remains a high performance sporting facility in the greater Vancouver community.



Targeting LEED Gold certification, the [Vancouver Olympic and Paralympic Centre](#) is capturing waste heat from refrigeration and reusing it in other parts of the buildings, saving energy costs and reducing carbon emissions. STYROFOAM™ Brand HIGHLOAD 60 Insulation installed beneath the ice slab and STYROFOAM™ Brand SM Insulation on the exterior of foundation walls helps reduce energy loads, thus allowing the heat recovery system to operate more efficiently. .

One-third of all Olympic events will be held in the 1km² [Whistler Olympic Park](#), home to a cross-country skiing track, biathlon course and ski jumping course. Helping to reduce the site's energy usage is the STYROFOAM™ Brand Insulation installed beneath the ski jumps. It helps keep the ice a uniform temperature, so the ice is "fast" for athletes, while requiring less refrigeration. After the Games, these venues will continue to host international competitions and Nordic sporting events.





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The Whistler Sliding Centre will host the bobsleigh, luge and skeleton competitions. To help create a comfortable viewing environment for spectators, the building enclosure was enhanced with STYROFOAM™ Brand Insulation, ENERFOAM™ Professional Foam Sealant and FROTH-PAK™ Foam Sealant, which help prevent air infiltration and heating energy loss. STYROFOAM™ Brand Spray Polyurethane Foam (SPF) Insulation (RS series) was also installed on the sliding track's exterior. This helps maintain uniform track temperature and reduces demand on the refrigeration system. Waste heat from the refrigeration system is captured and reused to heat other buildings on site.

Insulation doesn't just help keep energy costs down and energy efficiency up—at the **Killarney Ice Rink**, it helps to maintain the very cold, hard ice consistency needed for speed skaters to attain their high speeds. Serving as a training facility for all short track speed skating, the rink used STYROFOAM™ Brand SM Insulation to help maintain uniform ice temperature and prevent frost damage to the building's foundation. The foam's high water resistance and compressive strength make it ideal for the damp environment and for withstanding the weight of Zambonis and heavy maintenance equipment.



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ENERFOAM™ Professional Foam Sealant contains isocyanate, hydrofluorocarbon blowing agent and polyol. Read the instructions and Material Safety Data Sheets carefully before use. Wear protective clothing, gloves, goggles or safety glasses, and proper respiratory protection. Supplied air or an approved air-purifying respirator equipped with an organic vapor sorbent and a particle filter may be required to maintain exposure levels below ACGIH, OSHA, WEEL or other applicable limits. Provide adequate ventilation. Contents under pressure.

STYROFOAM™ Brand Spray Polyurethane Foam contains isocyanate, hydrofluorocarbon blowing agent and polyol. Read the instructions and Material Safety Data Sheets carefully before use. Wear protective clothing, gloves, goggles and proper respiratory protection. Supplied air or an approved air-purifying equipped with an organic vapor sorbent and a particle filter is required to maintain exposure levels below ACGIH, OSHA, WEEL or other applicable limits. Provides adequate ventilation. Contents under pressure. STYROFOAM™ Brand SPF should be installed by a trained SPF applicator.

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About Dow

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