

Design/Build HVAC Contractor Innovates New AirFlow Ideas For Huge Indoor Soccer Field.

LAVAL, QUEBEC—The most impressive feature of the 75,000-square-foot indoor soccer field at suburban Montreal's new Complexe Multi-Sports is the towering wooden beam ceiling that rises to an impressive 70 feet high without the use of obstructive columns.

Architect, Guillermo Farregut, principal, Giasson Farregut Architects, Laval, Quebec, and accomplished Owner, Pierre Marchand's, president of OSBL Complexe Multi-sports de Laval inc., goal of designing a regulation-sized (200 x 300-feet) soccer field with an aesthetic ceiling that far outstretches the range of even the loftiest of misguided

soccer balls. While the soaring architecture of this half barrel-shaped field

house in Laval is stunning, the

height also presented an HVAC challenge for design-build mechanical contractor, Ventilabec, Laval. Mechanical Designer, Eric Leclair and Engineer Stephane DeCubellis, ing., were concerned with long air throws, temperature gradient differentials,



Complexe Multi-Sports, Laval, Quebec

and the safety issues of hanging heavy, cumbersome metal duct 70 feet high.

The lighter solution was blue TuffTex™ fabric duct by DuctSox, Dubuque, Iowa. Ventilabec and its manufacturer's representative, Solutions Energetiques Enerconcept Inc., Magog, Quebec, specified the premium-grade fabric duct with an air throw assuring that the field participants 70 feet below receive the same indoor air comfort as the spectators on the perimeter where the ductwork is only 15 to 25 feet above the ground.

To achieve this diversity of reaching the players but not creating drafts on spectators, **DuctSox factory-engineered diffusion holes on both ends of the five runs of fabric duct that project over the spectator seats surrounding the field.** As the duct—with the help of fabric elbows—climbs in parallel with the curved wooden beams, the diffusion holes become larger to create longer throws down to the field. “DuctSox guaranteed from the start that the diffuser holes and the CFM versus the air pressure would provide the exact air speed needed to reach the players on the field,” said Leclair.

Like metal duct, the fabric duct runs have interior AFD's (adjustable flow device) to regulate flow from the five heating/cooling package units that total 45,000-CFM. CO₂ sensors installed throughout the facility activate an air handler with its own duct run that's center-positioned to introduce outside air to the facility.

The only air balancing needed, was calibrating each HVAC unit to provide the predetermined CFM and air pressure to the duct runs. The attention to static pressure and air throw is as sophisticated as any metal duct installation, according to Christian Vachon, ing., sales representative, Solutions

Energetiques Enerconcept, who worked as a liaison between DuctSox and Ventilabec. “A lot



of people think fabric duct air balancing is limited,” said Vachon. “However, as engineers become more familiar and comfortable specifying fabric duct, they’re realizing the unlimited design capabilities with air throws, suspension systems, and aesthetics associated with the larger fabric duct manufacturers that have custom engineering departments such as DuctSox.”

Besides air distribution, DeCubellis and Leclair, also had installation safety concerns with metal duct. Leclair noted “with Ventilabec performing both the design and the installation, we know our installers and their families and were concerned for their safety.” Fabric duct required only two men in individual high-lifts.

Specifying fabric versus metal duct also helped reduce the fast-track six-month project's complete air distribution installation time by nearly 40 percent, which amounted to a significant savings passed onto the owner.

Subliminally, the players and spectators don't notice the superior air comfort the Complexe Multi-Sports provides, but the success of the project is evident since the facility has quickly become a favorite among Laval's soccer enthusiasts. ■

DUCTSOX[®]
Fabric Duct Ventilation Products

4343 Chavenelle Road ■ Dubuque, IA 52002
Ph: 866-382-8769 ■ Fax: 563-589-2754

www.ductsox.com

