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Berner International Corp.

## **New Convention Center Uses Air Curtains to Save Energy and Help Achieve LEED Points.**

Air curtains help Chicago's new McCormick Place West save \$70,000 annually with an equipment payback of under two years. Deciding whether air curtains were cost efficient for the many huge loading dock door openings at Chicago's new \$850 million McCormick Place West convention center addition was an easy decision. When officials of the Metropolitan Pier and Exposition Authority (MPEA), which owns and operates the facility, were presented with energy conservation estimates of \$70,000 annually and equipment cost payback of less than two years, choosing air curtains was a sure thing. In fact, air curtains were one of several energy conserving technologies that helped the project achieve its two Leadership in Energy and Environmental Design (LEED) credits from the U.S. Green Building Council (USGBC), Washington, D.C. The mammoth exposition facility has more than 375 linear feet of freight and pedestrian doors typically open 10 to 14 hours daily during the required five to seven days of setup prior to major winter events such as February's annual Auto Show. Energy savings were calculated using a 26-week heating season with each door open 10 hours weekly for a total of 260 hours annually, according to David A. Johnson, engineering manager, Berner International Corp., New Castle, Pennsylvania, which supplied the air curtains and accompanying controls.

"Besides the annual savings and payback, we also calculated the hourly savings of \$269.79 when all the doors are open simultaneously," said Johnson, who uses Berner's proprietary software that crunches numbers on more than a dozen site conditions to calculate energy savings. Aside from the energy savings, air curtains also have an impact on indoor air comfort in the facility's 470,000 square feet of open exhibition space. "Without the air curtains on all large roll-up doors and main doors, the temperature would drop dramatically during set-up/tear-down and it would require a minimum of 24 to 48 hours to regain the target temperature of 73°F to 75°F for an event," said Susan Van Klompenburg, senior mechanical design engineer, A. Epstein & Sons International, Inc., which performed consulting engineering for the McCormick Place West expansion as a member of the joint-venture, McCormick Place Design Team, Take II LLC, Chicago. The fact that Berner air curtains have had a solid track record of energy conservation at the MPEA's 11-year-old, 1.1-million-square-foot McCormick Place South also helped clinch the decision. "We also like the previous performance we've gotten from air curtains in McCormick Place South," said James Furlong, superintendent of engineering, MPEA, who mandated air curtains.



*Saving Energy and Creating Healthy, Comfortable Environments*