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WAL-MART Selects SOLARWALL for Heating at New Supercenter

Aurora, Colorado—Wal-Mart recently opened their first cold-climate energy efficient store, the Aurora Supercenter, in the metro-Denver area. This store is the latest in environmentally sustainable design, and Wal-Mart has taken the position that it could profoundly change the way in which the retail industry designs and builds future stores. To illustrate, the metal panels that form the exterior south wall of the Supercenter serve a dual purpose in that they also act as a solar heater. The SOLARWALL[®] panels, supplied by Conserval Engineering of Buffalo, NY, and Toronto, Canada are expected to reduce annual energy consumption at the Wal-Mart Supercenter by 1,325 million Btu (388,000 kWh), and save the store over \$17,000 U.S. per year in displaced energy costs at current natural gas prices.

The solar heating concept is simple. The 8,000 ft² of grey metal cladding that forms the south exterior wall of the Supercenter heats up in the sun, and the ventilation fans draw the warmed air on the surface of the wall through the perforations in the panels and into the air cavity. This solar heated air is then distributed throughout the building and auto service center by the ventilation system using a series of long fabric ducts to deliver fresh air to all shoppers anywhere in the store. This “natural” pre-heating of fresh air means less natural gas is needed to heat the ventilation air required to maintain a high level of indoor air quality. The wall also acts as a solar shield, reducing solar heat gain and cooling needs in the summer.

Wal-Mart decided to actively showcase the energy-saving features with information screens throughout the stores, and a “walk of fame”. Each energy technology involved in the process has a “star” somewhere in the store which describes their technology, and how it will reduce energy consumption and improve the working environment. The objective is to increase awareness and allow store patrons to learn about the different technologies, thereby mainstreaming the concept of energy efficiency.