



Industrial

Leadville Water Treatment Plant



Left, a close up of the SolarWall solar air heating system installed at the Leadville Water Treatment Plant in Colorado. Top, angled view of the SolarWall and the rest of the water treatment facility.

Background

At the Water Treatment Plant in Leadville, Colorado, contaminated water from the Leadville Mine is treated. The cold harsh climate, along with the high ventilation requirements within the building created two different sets of problems for plant managers.

Firstly, the existence of noxious fumes from the chemicals that are used to treat the contaminated water means that a continuous supply of heated ventilation air is needed in the building to maintain a high level of indoor air quality.

Secondly, at a latitude of 3000 meters, another concern was the tremendous expense of heating the building in such a cold climate. The situation was compounded by the fact that water from the Leadville Mine flows continuously through the building, drawing heat from the air. The problems were so severe that outdoor clothing had to be worn inside, despite having the heaters on at all times.

Solution

The solution to both problems was resolved with the installation of a SolarWall air heating system. Measuring 1755 ft² (163 m²), the bronze solar cladding harnesses the heat of the sun, and uses it to warm the ventilation air which is drawn into the building through the perforations in the solar panels.

Results

At the time of installation in 1998, the SolarWall system was saving the plant over \$4,300 U.S. each year in displaced energy costs (using 1998 natural gas prices). The reduction in natural gas for heating also meant the elimination of 250 tons of carbon dioxide emissions each and every year.

"An innovative solar air heating technology provides economical heating and ventilation in an extreme climate high in the Colorado Rockies."

- Solar Today

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