



**Industrial**

**Krause Plant, Poland**

**Europe's Largest SolarWall Installation**



*Left: The black SolarWall® system at the newly constructed Krause factory in Swidnica, Poland.*

*Right: The metal solar panels being installed on the south facade.*

## Background

KRAUSE-Werk GmbH Co. KG of Alsfeld Germany is a manufacturer of construction products with an extensive history, spanning over 100 years. With production facilities across Germany, Poland, and Hungary, the company management was very concerned about the overall energy operating costs of their buildings as such expenses have a direct impact on profitability.

The company investigated the viability of including renewable energy in their new manufacturing complex, to be built in Swidnica, Poland. Given the nature of the factory, and the planned heating system, it was determined that a solar air heating system would offer the most compelling return on investment.

In 2007, with the completion of their new Polish manufacturing plant, Krause attained the noteworthy status of having the largest solar air heating system in all of Europe.

## Results

The all-metal building integrated SolarWall® panels cover 2000 m<sup>2</sup> (21,500 ft<sup>2</sup>) of the south wall of the complex, which is used for production and shipping purposes. The solar heating system has a total installed capacity of 1MW thermal, and will displace around 65 tons of CO<sub>2</sub> each year.

By any energy standards, these are impressive numbers for one single system. The collector area was sized to match the infiltration of cold air that would normally enter the building. The SolarWall panels are mounted at a distance of 13 cm (5 inches) in front of the exterior insulation, and the heated air drawn off the surface of the panels is collected by several air intakes which are linked to a conventional ventilation system. A differential temperature thermostat controls the air entering the building. The fans deliver an air volume of 55,000 m<sup>3</sup>/h (32,000 cfm), and the corresponding energy output is estimated to be over 300 MWh/a. The projected payback on the system was calculated to be under 5 years.

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