



Project Description

- New 60,000 sq. ft. manufacturing building in Allentown, PA
- Installation completed in October 2006
- Design objective includes:
 - Heating energy savings
 - Comfortable air ventilation year round
 - Positive air pressure

Solar Collector and Air Distribution System

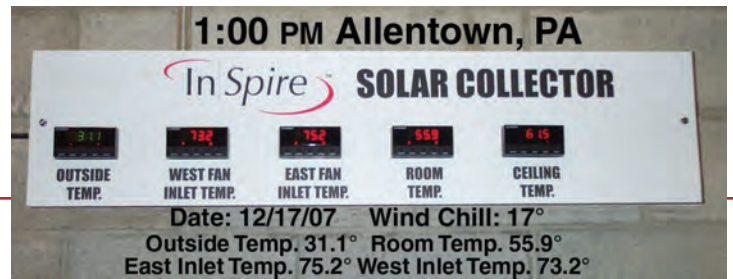
- Collector faces 16 degrees west of south
- Collector panel area 22 ½ ft high by total of 160 ft wide
- Total collector area 3600 sq. ft.



- Kynar 500® PVDF/ Hylar 5000® PVDF finish in Classic Bronze color
- Solar absorptivity of 0.91
- Plenum depth 9 inches
- Total airflow rate 13,000 cubic feet per minute (cfm), delivered by two 30-inch diameter fans
- Flow rate of 3.6 cfm for each square foot of collector wall (design range is 2 to 8 cfm)
- Air distribution through perforated ducts destratifies overheated air at the ceiling

Annual Renewable Energy Delivered

- 300 million BTUs
- Average air temperature rise 12.7° F @ 3.6 cfm/sq. ft. during daylight hours for 9-month season of use.
- Rise of temperature over ambient on a sunny afternoon is typically 55°.



Greenhouse Gas Reduction

- Annual Greenhouse Gas Reduction 37,600 lbs./yr

Financial Summary Project Cost

- \$112,500 total cost includes wall panels and accessories, fans, filters, silencer, all ducting and controllers
- \$78,750 net cost after 30% Federal Tax Credit



Energy Savings and ROI

- Average annual energy savings \$6,400 or 30%
- Annual energy savings \$1.78 per sq. ft. of collector wall
- Total projected energy savings over 30-year project life is approximately \$305,000
- Equity Payback with MACRS depreciation less than 7 years



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LRD0710 LAT225

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