



HEAT PIPE TECHNOLOGY

CASE STUDY

Colleges & Universities

University of South Florida Slashes Energy Costs While Maintaining Lower Humidity

THE PROBLEM

In order to address the needs of Florida's rapidly emerging urban regions, several public universities were established. While some newer facilities were built, many older facilities had to be renovated to improve energy efficiency and cut energy costs. When designing HVAC systems for these universities, it is important to supply cool, clean, and dry air conditions to maintain good Indoor Air Quality (IAQ) while eliminating the potential for mold and mildew in the building. The humidity problems associated with the tropical climate of Florida add another daunting challenge for engineers as they try to cut energy costs while decreasing high humidity as well.



THE SOLUTION

Dehumidification Heat Pipe Systems

Heat Pipe Technology's wrap-around Dehumidification Heat Pipes (DHPs) utilize the phase change of the working fluid to precool the outside air before entering the cooling coil and reheat the air after the cooling coil. This method has no moving parts and requires no maintenance. DHPs also reduce the load on the cooling coil and can reduce or eliminate the energy that would otherwise be needed for a separate reheat system.

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THE RESULTS

After installation of the DHPs, the incoming air is precooled, allowing the cooling coil to extract more moisture from the air. The heat pipe systems allow for drier supply air and provide free reheat downstream of the cooling coil. The installation of Heat Pipe Technology's DHPs allows the university to save energy without compromising the comfort of staff and students.

As of June 2010, a total of 36 heat pipe systems have been installed throughout the USF campus, including medical buildings, classrooms, and laboratories.

The estimated total annual savings after the entire installation: **\$523,340**. The project has a simple payback of **under 4 years!**



For more information, visit www.heatpipe.com