

TECHNA-DUC® CASE STUDY

MULTI-FLOOR COMMERCIAL BUILDING



Replacement of failed HVAC ductwork improves energy efficiency and reduces summer cooling hours



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Failing Insulation Causing Poor Performance Despite No Obvious Damage

PHFA's Vision:

The Pennsylvania Housing Finance Agency, created by the government in 1972, works to provide affordable homes and apartments for older persons, adults of modest means, and those with special housing needs.

PHFA's Challenge:

The rooftop HVAC system featuring fiberglass board, a weather barrier, and exposed joints due to improper insulated ductwork failed after only five years.

What was the impact of that challenge and why was it so important to solve?

Environmental conditions took a toll on the HVAC system, allowing it to become water-logged, mold and mildew infested, and eventually rusted. Potential air quality issues could affect the entire building if PHFA did not take appropriate action. Given the poor insulation of duct joints, PHFA also incurred higher energy costs. The pressure of a compromised system potentially spreading mold throughout the new headquarters and driving up operational costs required PHFA to act quickly.

How did the Techna-Duct solve this issue for PHFA? What was the outcome?

The Techna-Duct system provided PHFA with a long-term solution that eliminated the problem by:

- ◆ Replacing the failed system
- ◆ Reducing the necessary cooling time
- ◆ Eliminating maintenance costs
- ◆ Saving in energy costs

PHFA sought the Techna-Duct system for its high R-16 installed system value, the interlocking panels ability to minimize air quality concerns, strength, and timely installation.

Initial Cost Difference to Install Techna-Duc®	\$37,678
Estimated Savings after Installation	\$2,500/mo. = \$30,000/yr.
Return on Investment in Years	1.3 Years
Savings Over 20 Year Limited Warranty	\$599,920
Annual Tax Base Not Required due to Energy Savings	\$299,957
20 Years of Tax Base Not Required	\$5,999,140
20 Years of 0\$ Maintenance (\$5,000 / year)	\$100,000
4 Replacements of Original System (\$110,000 each)	\$440,000
TOTAL SAVINGS OVER 20 YEARS	\$7,139,060

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Before Techna-Duc®
Insulation Failure • Loses Money



Is this what is on your roof? How much does this cost you?

Original Insulation System

- ◆ Fiberglass Insulation
- ◆ Field Fabricated
- ◆ Thin Jacket (.016" Thickness)
- ◆ Rivet Fasteners
- ◆ Regular Maintenance Required
- ◆ Susceptible to Moisture Intrusion
- ◆ R-6 Installed Thermal Value
- ◆ 1 Year Contractor Warranty

After Techna-Duc®
20 Year Warranty • \$30K Annual Energy Savings



Are you ready for the SOLUTION?

Techna-Duc® Insulation System

- ◆ Shop Fabricated
- ◆ No Maintenance Required
- ◆ Interlocking Joint System
- ◆ Water Tight Triple Sealed
- ◆ Extremely Durable
- ◆ > 20% Energy Savings
- ◆ R-16 Installed Thermal Value —
166% Higher Than R-6
- ◆ 20 Year Limited Warranty



Gary Banks is the President of the Banks Industrial Group (BIG). Since 2003, BIG has kept industrial facilities across the northeast operating efficiently, reliably and safely through their preventative and corrective maintenance services. Visit us at www.banksindustrial.com to learn more about how BIG can help you solve your industrial problems.



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