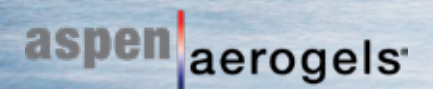


The Pyrogel logo consists of the word "Pyrogel" in a white, sans-serif font, set against a dark red rectangular background. This red rectangle is centered within a larger, light grey rectangular frame.

**Pyrogel®**

# TRANSFORMING STEAM DISTRIBUTION NETWORKS

## USA FEATURED PROJECTS


The logo for Aspen Aerogels features the word "aspen" in a lowercase, grey, sans-serif font, followed by a vertical red line and the word "aerogels" in a lowercase, grey, sans-serif font.

aspen | aerogels®

“Water is our number one enemy.”

“We no longer fight a losing battle against flooding.”

**Pyrogel<sup>®</sup>**  
XTE



Across the United States, district energy steam network operators face daily challenges as they work to provide safe, efficient, and resilient steam supply. Limited space, inclement weather, and water ingress are potential problems that can impact network reliability and threaten the security of supply that steam network customers depend on.

Time and time again, conventional insulation materials have failed to address these challenges. However, in recent years, a sustainable insulation solution has emerged. Proven in some of the United States' most challenging service, Pyrogel® XTE has transformed site after site to become the go-to thermal insulation for municipal and academic steam network operators.

# Featured Projects



Municipalities



Universities

# A University in Iowa

**Pyrogel<sup>®</sup>**  
XTE

At a university in Iowa, water logged insulation was compromising steam quality. This wet insulation was also contributing to severe corrosion under insulation (CUI).

The pipe was scheduled for removal and replacement. The location of the pipe, under one of the main campus intersections and between the power plant and emergency room, made the replacement even more challenging.

Pyrogel<sup>®</sup> XTE was selected to insulate the replacement steam pipe. Pyrogel is typically 3 to 5 times thinner than conventional insulation for the same performance. This ultra-thin format facilitated faster placement and the intersection was reopened ahead of schedule.



**SPACE**



**KEEP IT DRY**



**RESILIENCE**



University of Iowa . Shive Hattery Architecture-Engineering. 2016



**Pyrogel<sup>®</sup>**  
XTE

# A University in Georgia

Water is the prime enemy of thermal insulation. At best, it reduces thermal performance, and repeated wetting can cause the insulation to self-remove from the pipe. At a university in Georgia, the collection of surface water in vaults caused the incumbent insulation to fail. Subsequently, without proper insulation, hot steam pipes presented a personnel safety hazard and suppressed steam quality.

By implementing a Pyrogel<sup>®</sup> XTE based solution, the steam pipes stayed drier for longer. The ultra-thin profile had the additional benefit of freeing up space in the vault for maintenance personnel to safely operate.



**SPACE**



**KEEP IT DRY**



**RESILIENCE**

# A University in North Carolina

Pyrogel<sup>®</sup>  
XTE

A university and medical campus in North Carolina had faced the repeated challenge of maintaining their thermal insulation on steam distribution pipework in vaults.

A successful pilot installation tested Pyrogel<sup>®</sup> XTE in harsh service. Based on the resilient behavior displayed by Pyrogel, the facility changed their vault insulation specification with great success. The vault infrastructure remains sustainably drier for longer, allowing the facility to meet their steam generation commitments in a safe, efficient and economic manner.



SPACE



KEEP IT DRY



RESILIENCE





**Pyrogel<sup>®</sup>**  
XTE

# A University in Michigan

Surface water entering the concrete vaults at a Michigan university threatened the performance and safety of their steam distribution network. The maintenance team turned to Pyrogel<sup>®</sup> XTE to reinstate their thermal protection in the space-constrained vault. The ultra-thin Pyrogel insulation profile made maintenance tasks easier and safer.



**SPACE**



**KEEP IT DRY**



**RESILIENCE**



# A Municipality in Michigan

Timing of road closures and limited space had the potential to delay the critical steam network connection to a local hospital.

The project team turned to Pyrogel® XTE. A fast and efficient installation helped to limit the the duration of the road closure. In all, the project was completed under budget and ahead of schedule.

The contracting crew also welcomed the extra work space, in what would ordinarily be a space-challenged work environment.



SPACE



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RESILIENCE

Pyrogel®  
XTE



# A Municipality in Pennsylvania

Keeping pipe insulation intact and in place on a steam distribution network can be a hard task, particularly if the insulation isn't Pyrogel<sup>®</sup> XTE.

For years, a Pennsylvanian authority struggled with frequent insulation replacement, and increasing maintenance costs as a result. These days were referred to as "BP"— Before Pyrogel.

Since the switch to Pyrogel XTE six years ago, the authority has saved on insulation replacement costs and avoided the time and expense of frequent repair visits to their vault network.

*We have been using Pyrogel for years, and NOTHING besides this works.*



SPACE



KEEP IT DRY



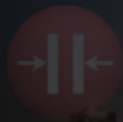
RESILIENCE

# A Municipality in Louisiana

Faced with rising sea levels and powerful storms, coastal communities across the US seek ways to improve resiliency in their energy networks. Increasingly inclement weather can be tremendously destructive to traditional thermal insulations. It is not uncommon to observe steam vaults containing boiling water—an unacceptable impact to the safety and quality of steam networks.

The application of water repellent and breathable Pyrogel® XTE means the critical vault infrastructure will remain drier for longer during flooding events, allowing the maintenance team to focus on delivering a quality steam supply to their customers.

**Pyrogel®**  
XTE



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RESILIENCE

# A Municipality in Washington State

Similar to other locations with high annual rainfall levels, this city was unable to keep thermal insulation in place on their steam distribution system. The problem was so severe that the city abandoned pipe insulation in this application for 30 years.

After learning that Pyrogel® XTE resists the damaging effects of heat and water, the city's steam infrastructure is now protected with class-leading, resilient, thermal protection. The ultra-thin insulation profile has the added bonus of requiring less road opening—a welcome factor when managing traffic disruption in a vibrant city.



SPACE



KEEP IT DRY



RESILIENCE

# A Municipality in Nebraska

Pyrogel<sup>®</sup>  
XTE

*re·sil·ient - able to withstand or recover from difficult conditions*

This municipality in Nebraska found that it was repeatedly replacing damaged insulation due to surface water entering vaults. Space constrained vaults made repair even more challenging.

A switch to Pyrogel<sup>®</sup> XTE put an end to the frequent repairs. The ultra-thin insulation profile means that the maintenance team has more space to work safely and efficiently, should the need to enter a vault arise.



SPACE



KEEP IT DRY



RESILIENCE

# A Municipality in Indiana

*we want you to forget about your insulation...*

Water and traditional insulations just don't get along. Experience led this municipality to think that there can be only one winner: water.

That was accepted as fact right up until they discovered the tough, durable and resilient solution known as Pyrogel XTE.

Now, with insulation as the winner, the network is protected and the facilities team can focus on meeting customer commitments (and forget about thermal insulation).



SPACE



KEEP IT DRY



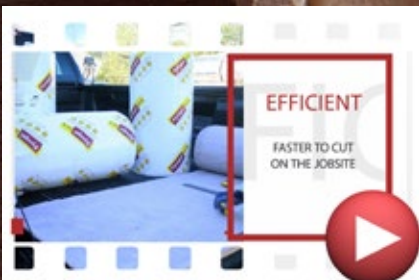
RESILIENCE



Pyrogel Insulation installation



The Enemy of Insulation



Introducing Pyrogel XTE Pony Rolls

Pyrogel® XTE is a flexible, high-performance, aerogel blanket insulation designed for use in industrial and commercial applications. Pyrogel XTE is engineered to deliver superior thermal performance while offering excellent protection against corrosion under insulation (CUI). Hydrophobic and breathable, Pyrogel XTE ensures long-lasting water resistance for both the insulation layer and underlying asset; they remain drier for longer, preserving process conditions, and saving energy in the harshest of environments. These characteristics make Pyrogel XTE the “go-to” insulation for resilient steam distribution networks.



**FOR MORE INFORMATION CONTACT:**

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*XTE*