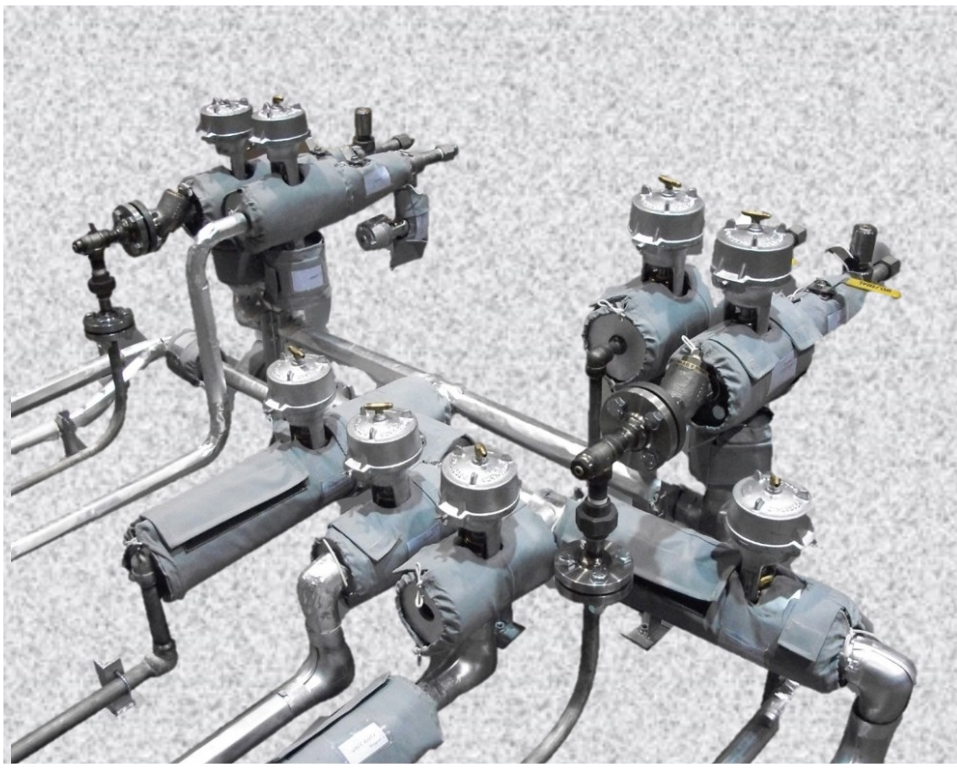
DURBIN
INDUSTRIAL VALVE
Innovation Through Flow



DURBIN AEROGEL INSULATION

DURBIN INDUSTRIAL VALVE

Durbin Industrial Valve

Aerogel Insulation Systems

DURBIN INDUSTRIAL VALVE

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DURBIN INDUSTRIAL VALVE

Aerogels have been in existence for more than 70 years. They consist of lightweight silica solids derived from a gel in which the liquid component has been replaced with gas. The silica solids, which are poor conductors, consist of very small, three dimensional, intertwined clusters that comprise only 3% of the volume. Conduction through the solid is therefore very low. The remaining 97% of the volume is composed of air in extremely small nanopores. The air has little room to move, inhibiting both convection and gas-phase conduction.

These characteristics make aerogel the world's lowest density solid and most effective thermal insulator. The outstanding thermal properties of aerogels have been studied for decades, but Durbin Insulation has developed a technically and economically viable form of aerogel for industrial insulation uses. Our unique process integrates aerogel into a carrier to create flexible, resilient, durable aerogel blankets with superior insulating properties.

Install Removable Insulation on Valves and Fittings

During maintenance, the insulation that covers pipes, valves, and fittings is often damaged or removed and not replaced. Pipes, valves, and fittings that are not insulated can be safety hazards and sources of heat loss. Removable and reusable insulating pads are available to cover almost any surface. The pads are made of a noncombustible inside cover, insulation material, and a noncombustible outside cover that resists tears and abrasion. Material used in the pads resists oil and water and has been designed for temperatures of up to 1200°F.

Applications

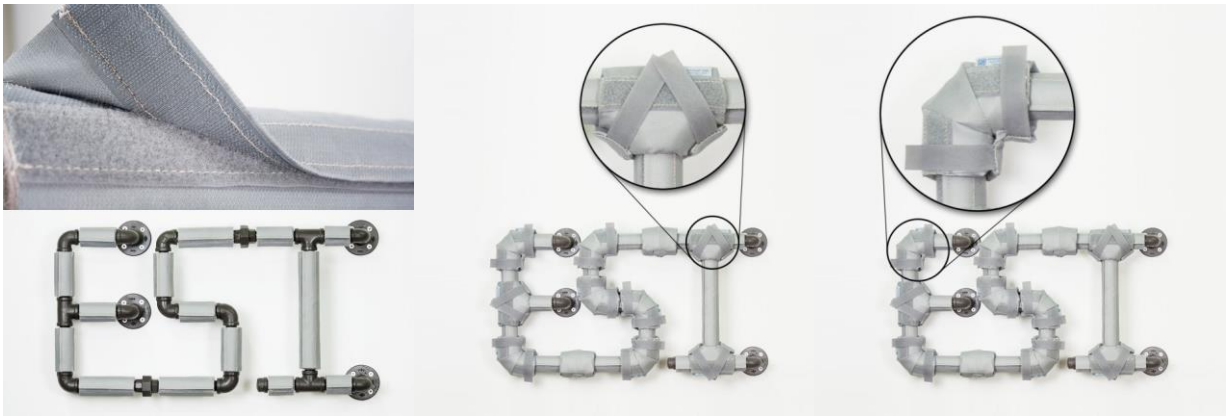
Reusable insulating pads are commonly used in industrial facilities for insulating flanges, valves, expansion joints, heat exchangers, pumps, turbines, tanks, and other irregular surfaces. The pads are flexible and vibration resistant and can be used with equipment that is horizontally or vertically mounted or that is difficult to access. Any high temperature piping or equipment should be insulated to reduce heat loss, reduce emissions, and improve safety. As a general rule, any surface that reaches temperatures greater than 120°F should be insulated to protect personnel. Insulating pads can be easily removed for periodic inspection or maintenance, and replaced as needed. Insulating pads can also contain built-in acoustical barriers to help control noise.

Hydrophobic

Durbin Insulation is extremely hydrophobic and therefore have outstanding resistance to moisture.

Removable & Reusable

straight runs | **tees** | **elbows**



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Service Temperature Range Maximum use Temperature 1200°F (650°C)

Thermal Performance Durbin Insulation is one of the most efficient industrial insulations in the world. Its required thicknesses are 50% - 80% less than other insulation materials.

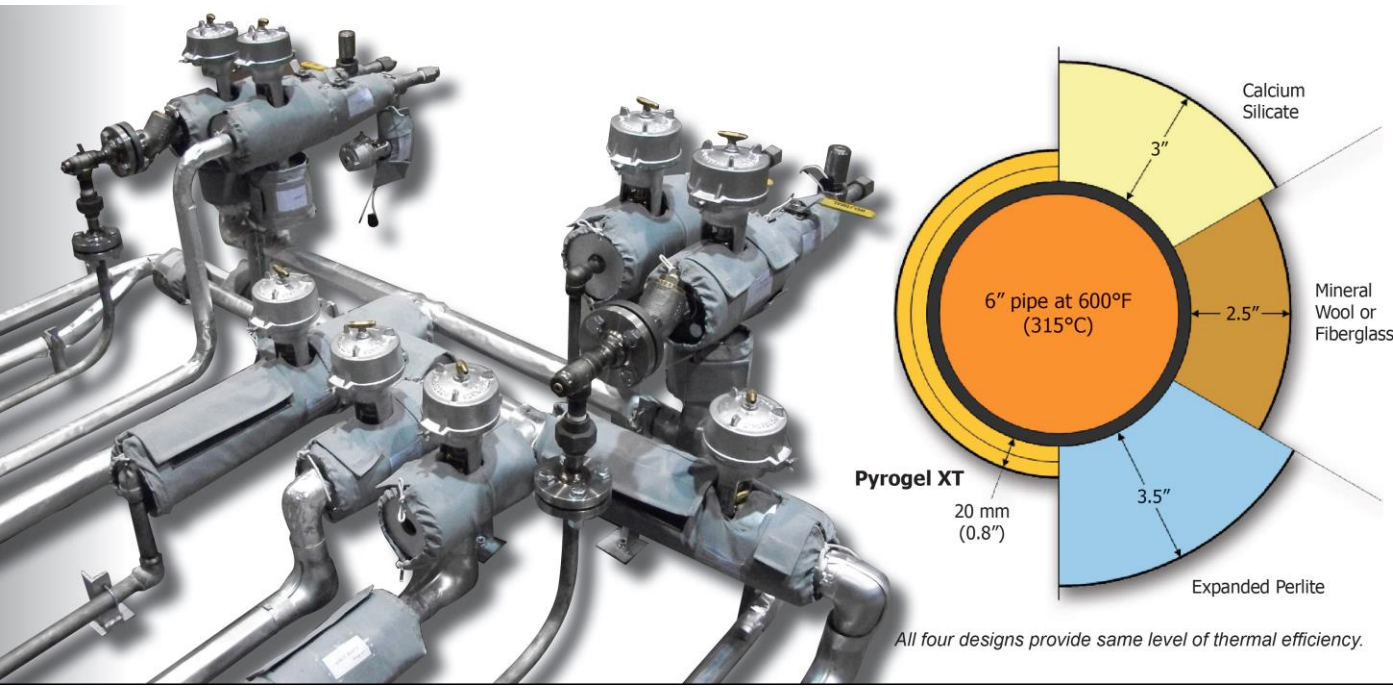
Moisture Resistance Moisture is a problem in insulation at temperatures up to 200°C. It can form within the insulation and cause corrosion under the insulation (CUI). Durbin Insulation is hydrophobic (resistant to liquid water) through the entire matrix of the material (not just on the surface) and provides excellent resistance to moisture. Other insulations tend to absorb moisture over time, potentially corroding the substrate. Durbin Insulation also meets all specifications for stress crack corrosion of stainless steel.

Logistics From procurement through installation, Durbin Insulation simplifies logistics because of its decreased volume requirements. These advantages include freight savings, storage space, simplified inventory, and the fact that it doesn't break in transit.

Special Applications

Overwrap System – Most hot insulation materials used today will eventually become wet, resulting in heat and energy loss, poor process control, and corrosion. The Durbin Insulation overwrap drives moisture out of the wet inner layers, resulting in improved thermal performance and reduced operating costs. It also decreases the outer surface temperature, helping to protect your personnel.

High Temperature Composite System – High temperature applications require higher insulating values. Most high temperature insulation materials (ceramic fi be, mineral wool, etc.) have to be applied in extremely large thicknesses to achieve such values. But for reasons such as space constraints and economics, thick insulation might not work. In these cases, Durbin Insulation can be used in combination with the other materials to substantially reduce the total thickness.



All four designs provide same level of thermal efficiency.