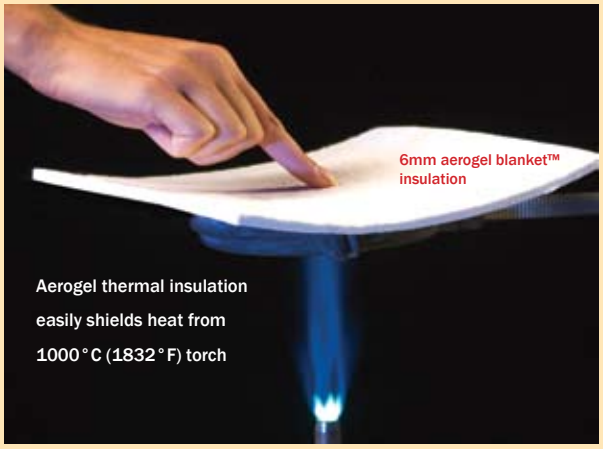
aspen aerogels™

NANOTECHNOLOGY AT WORK™

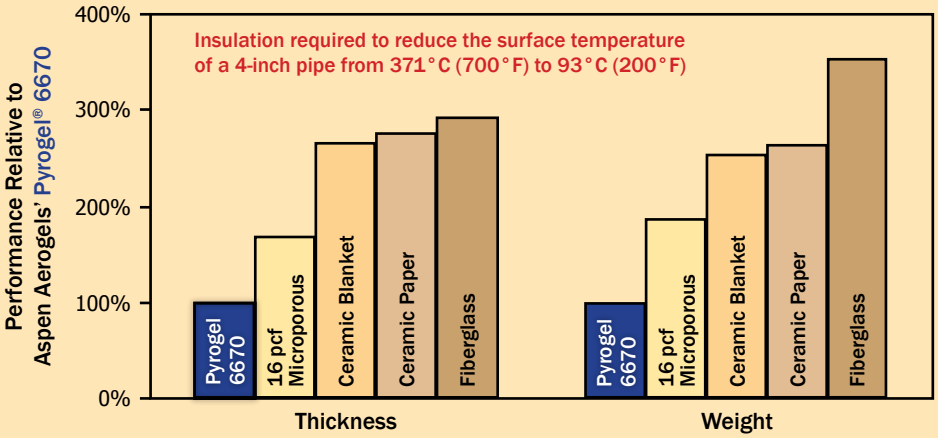
Driving Innovation in Transportation Heat Shielding



Aspen Aerogels provides high-performance heat shielding solutions for trucks, autos, off-road vehicles, and aerospace vehicles.

Our strong, durable, flexible aerogel blanket™ insulation meets the unique needs of vehicle manufacturers with breakthrough benefits:

- Two to eight times the insulation value for the same thickness compared to traditional materials.
- Extremely thin profile, which increases internal volume within tight vehicle spaces.
- Consistent, high insulating effectiveness for the life of the vehicle.
- Continuous-use temperatures better than polymer-based insulation.
- Easy fabrication — die-cutting, laminating, composite layering, and other options.
- Light weight for aerospace applications.



Transportation heat shielding demands low thermal conductivity in tight spaces. Aspen Aerogels' nanotechnology-enabled aerogel blanket™ insulation outperforms other insulation in a variety of applications:

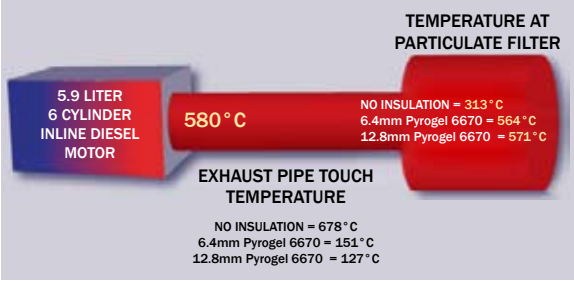
Firewalls: Aerogel's unique combination of temperature control, fire resistance, and acoustics makes it an ideal insulating material for firewall applications.

Underhood or Cab Liners: Aerogel creates an exceptional thermal barrier to manage top-side touch temperatures and reduce solar loading.

Hot Spot Management: Flexible aerogel blankets are perfect for thermal shielding to control local hot spots in the engine compartment.

Battery Housings: Aerogel's exceptional thermal insulation can protect batteries from extreme temperature fluctuations, leading to improved performance and battery life.

Diesel Particulate Filter Systems: Aerogel maintains necessary diesel exhaust temperatures inside the filter and reduces exhaust pipe touch temperature.



CASE STUDY: Bus Thermal Shielding

Shielding of bus rear engine compartment to decrease cabin interior temperature.

Aspen Aerogels' flexible, high-performance aerogel blanket™ insulation is an ideal choice for this application.

Aerogel blanket™ is cut into any shape and encapsulated between two metallized polyester foils. Total thickness is 8mm, compared to 30mm of previous insulation.

Pieces are easily installed with rivets in high-temperature zones of engine compartment, especially in the turbo area.

(Use red dot as reference point in below photo.)

Thickness savings of 22mm with aerogel insulation clearly valuable in tightly assembled engine compartment.

This case study courtesy of Carpenter France, qualified Aspen Aerogels™ fabricator.

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