aspen aerogels™

CASE STUDY

Airplane





Product Used Pyrogel[®] 6350

Aerogel Provides Thermal Insulation and Fire Protection for Airplane Firewall

High performance, flame resistance of aerogel ideal for temperature barrier

Fabrication and Installation Partners Aerogel Slovenia, Polyformes	Challenges	 The insulation had to resist intensive open flame exposure (1100°C above ambient temperature) for at least 15 minutes. The cold side of the insulation could not reach higher than 150°C above ambient temperature. The insulation needed to be light weight and install quickly and easily for serial production purposes.
	Aerogel Solution	 Pipistrel d.o.o. Ajdovscina developed a solution of encapsulated 6 mm Pyrogel[®] 6350 with a self-adhesive cold side. The total thickness was just 7 mm.
	Benefits	 Pyrogel was a cost-effective solution that met all performance and other challenges. The encapsulated solution was much lighter than conventional metal-sheet solutions. Its cold side has a much lower temperature than conventional metal-sheet solutions, critical for epoxy-reinforced fiber composite constructions.

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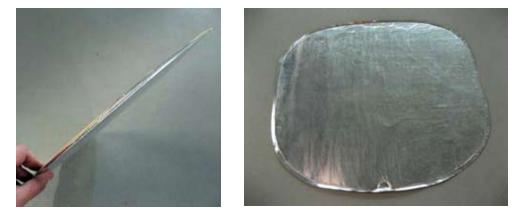
Aerogel and firewall section during tests:

• 1100°C flame exposure for 15 minutes



Cold side temperatures (ambient temperature: 10°C):

- 138°C behind aerogel insulation
- 69°C inside firewall section



Thin, light weight encapsulated 6 mm Pyrogel with self-adhesive cold side



Aerogel firewalls were installed on (left to right): Pipistrel Taurus, Sinus, Virus



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