



Advanced Solutions for Aerospace Applications

Thermal Ceramics

Innovative solutions for aerospace applications

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From commercial airliners to state of the art military aircraft, Morgan Advanced Materials engineer a wide range of thermal management solutions to provide exceptional capabilities whilst meeting stringent weight, temperature and performance specifications.

We can find solutions specific to your aerospace applications, whether they are commercial or defence based. The outstanding thermal properties of our products and materials provide consistent performance in extreme temperature environments from sub zero to over 1600°C (2912°F).



For more the 60 years, the aerospace industry has relied on the market leading and innovative, Min-K® Microporous insulation from Morgan Advanced Materials to provide lightweight, thermal and fire protection insulation solutions for applications ranging from Critical Data Recorders to Heat Shields for Thrust Reversers and Ducts.

Typical products

- Min-K® Flexible Microporous
- Min-K® Molded Microporous
- Superwool® Plus Fibres
- EST Superwool® Fibres
- Heat Shields: Cloth, Textile, Metal

These extreme environments found in aerospace applications require engineered solutions designed to meet stringent performance, temperature and weight specifications.

Min-K Microporous insulation products for aerospace are chosen to fulfil applications in commercial and defence aircraft.

Available in engineered solutions of rigid, flexible or panel systems, they offer low thermal conductivity, exceptional thermal efficiency, high compressive strength, low weight and low shrinkage at high temperatures.

Our Min-K Microporous insulation systems are designed specific to the application using a combination or single solution of our Min-K Microporous and Superwool® fibres.

Our aerospace applications team will work with you to engineer and supply the most appropriate thermal insulation solution for your project, anywhere around the world.

To discuss your application requirements, contact us today.

Our innovative products are used where performance matters on aircraft around the world



Ultimate aerospace solutions

Improving the safety, reliability and performance of aircraft engines and systems in extreme environments.

It is by combining the exceptional capability with low weight and excellent thermal resistance that we are able to offer high performance aerospace solutions tailored to your needs.

- Application solutions through a unique approach to development and manufacturing
- Integrated approach, incorporating material design and manufacture

Ducting Systems

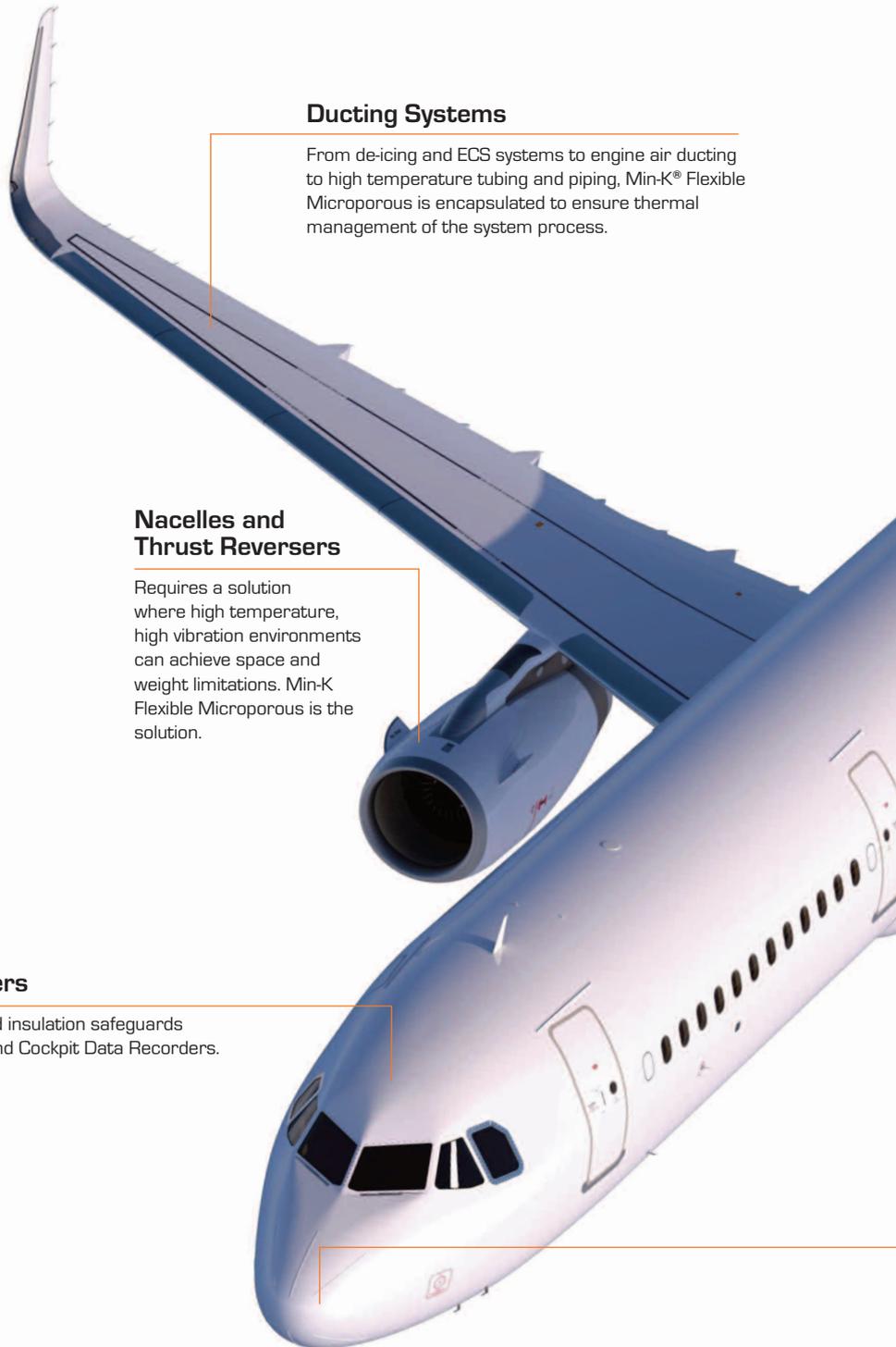
From de-icing and ECS systems to engine air ducting to high temperature tubing and piping, Min-K® Flexible Microporous is encapsulated to ensure thermal management of the system process.

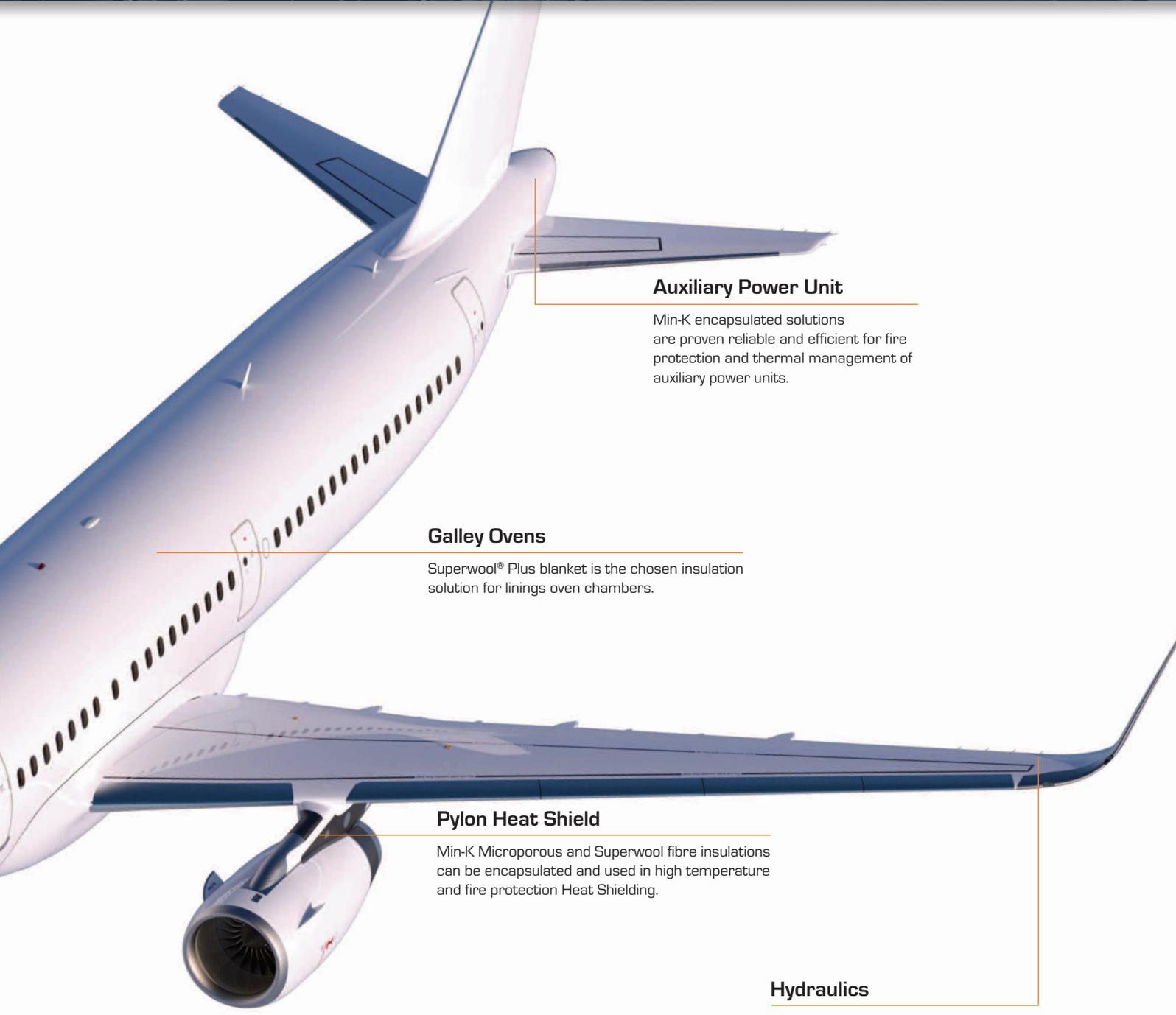
Nacelles and Thrust Reversers

Requires a solution where high temperature, high vibration environments can achieve space and weight limitations. Min-K Flexible Microporous is the solution.

Flight Data Recorders

Min-K Molded and Machined insulation safeguards electronics found in Voice and Cockpit Data Recorders.





Auxiliary Power Unit

Min-K encapsulated solutions are proven reliable and efficient for fire protection and thermal management of auxiliary power units.

Galley Ovens

Superwool® Plus blanket is the chosen insulation solution for linings oven chambers.

Pylon Heat Shield

Min-K Microporous and Superwool fibre insulations can be encapsulated and used in high temperature and fire protection Heat Shielding.

Hydraulics

Micro-Foil and Flexible Min-K Tapes can be used in hard to insulate areas where weight and temperature are critical. Some of the more widely used applications include fuel, oil and hydraulic lines along with high temperature tubing and piping systems.

Battery Storage

EST Superwool fibres developed and tested for thermal runaway and fire protection.

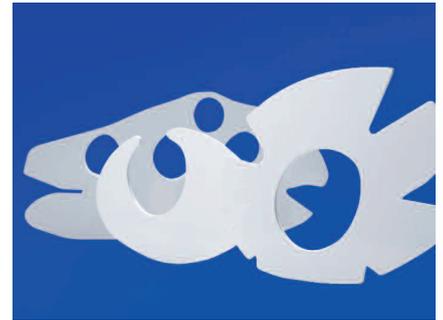


Protecting critical components

Weight matters. The lightest, thinnest and most thermally efficient material, Min-K® Microporous, has been selected for decades by aerospace market leaders in commercial and defense designs.

Our custom engineered solutions for commercial and defense aerospace applications begins with Min-K Microporous insulation. The market leading and industry proven product solution, has been specified for decades as the material choice for heat shields and critical data recorders across the aviation industry.

- Min-K Microporous Flexible is encapsulated in textile and quilted for heat shield applications
- Critical Data Recorders call for Min-K Microporous Molded into specific geometries
- Min-K Microporous Rigid is encapsulated in molded metal and seam/spot welded
- APU Exhaust, Bleed Air or De-Icing ducting is wrapped in encapsulated Min-K Microporous insulation to keep air hot and protect aircraft components



Nacelles and thrust reversers

Heat Shield applications around the engine demand optimal performance. Min-K Microporous is the leading material solution where space and weight constraints are demanding and high temperature performance and vibration resistance is critical.

- Most thermally efficient material in the industry
- Fire protection properties
- Ease of fabrication
- Heat Shield encapsulation

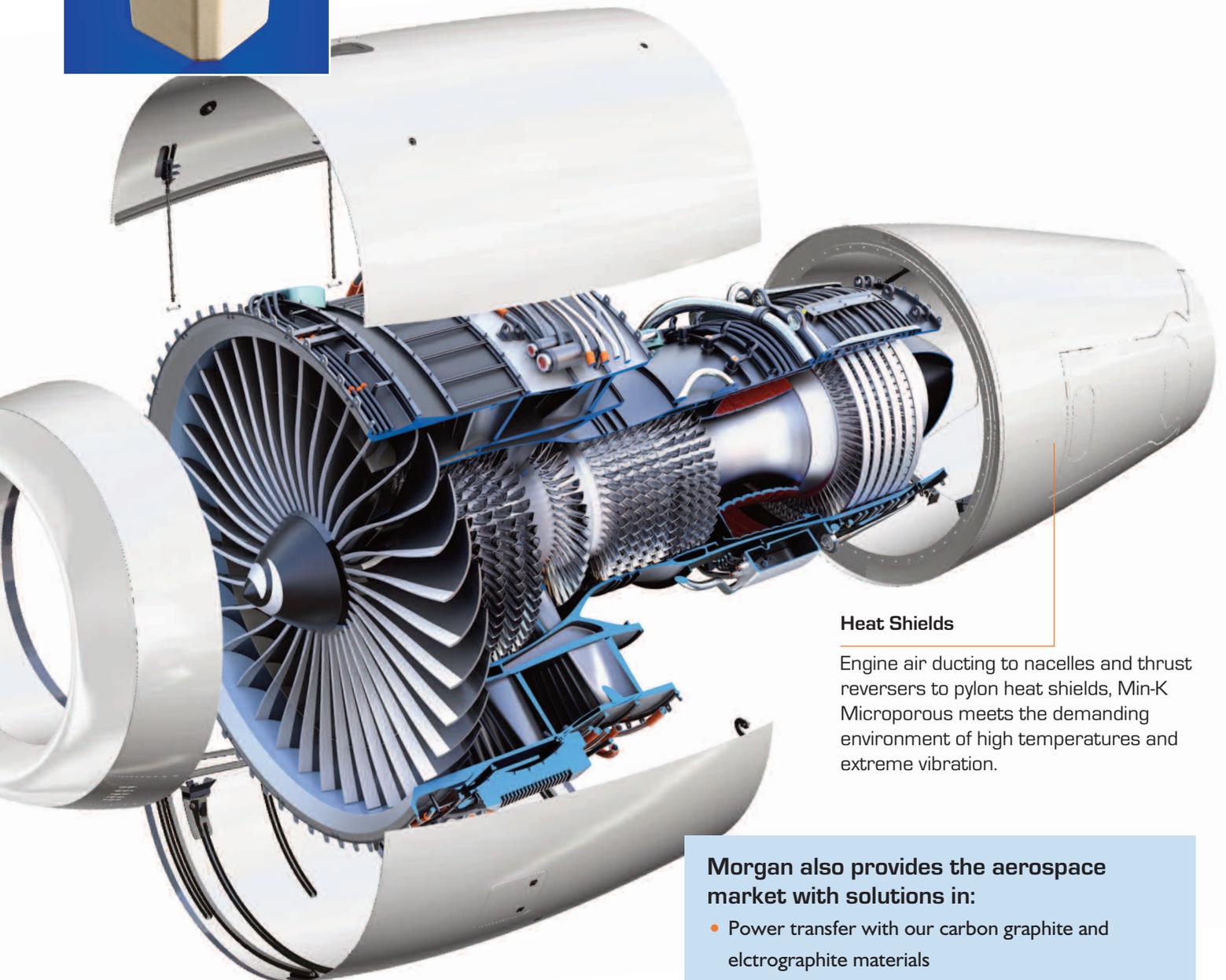




Flight Data Recorders

Min-K Microporous Molded insulation meet the harsh fire protection requirements and safeguard electronics in catastrophic environments.

Min-K Microporous Molded includes an endothermic component to extend the time required for heat to reach sensitive internals of Data Recorders in the event of a fire.



Heat Shields

Engine air ducting to nacelles and thrust reversers to pylon heat shields, Min-K Microporous meets the demanding environment of high temperatures and extreme vibration.

Morgan also provides the aerospace market with solutions in:

- Power transfer with our carbon graphite and electrographite materials
- Investment casting material solutions ranging from Fused Silica to Alumina for turbine blades
- MRO solutions for various applications in the aircraft

Morgan Advanced Materials

Morgan Advanced Materials is a global engineering company.

We apply world-class materials science and manufacturing expertise to solve technical challenges that our customers face everyday.

We work in the electronics, energy, healthcare, industrial, petrochemical, security and transport markets, forming close collaborative relationships with our customers.

Morgan is a global leader in materials science and application engineering.

What differentiates us?

Advanced material science and processing capabilities.
Extensive applications engineering experience.

A strong history of innovation and reinvention.
Consistent and reliable performance.

A truly global footprint.
We find and invest in the best people.

For all enquiries, please contact our specialist sales and marketing offices:

Europe

Morgan Advanced Materials
Thermal Ceramics UK Ltd
Tebay Road, Bromborough
Wirral, Merseyside
CH62 3PH
United Kingdom
T +44 (0) 151 334 4030
marketing.tc@morganplc.com

Americas

Morgan Advanced Materials
Thermal Ceramics Inc
2102 Old Savannah Road
Augusta
Georgia 30906
USA
T +1 (706) 796 4200
marketing.tc@morganplc.com

Asia

Morgan Advanced Materials
Morgan Ceramics Asia Pte Ltd
150 Kampong Ampat
05-06A, KA Centre
368324
Singapore
T +65 6595 0000
asiasales@morganplc.com