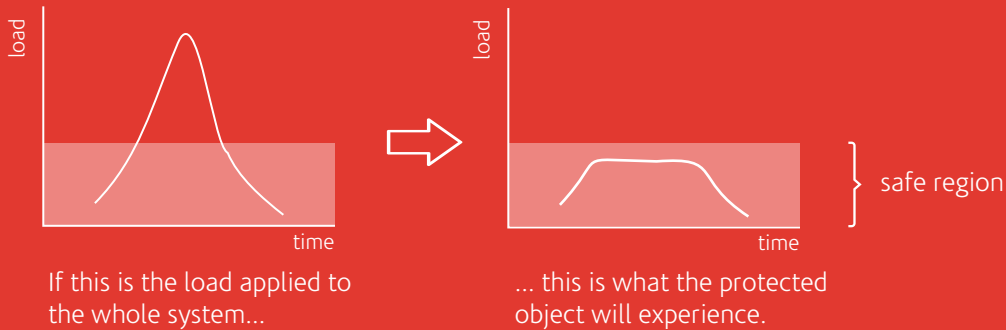


Absorb energy to protect fragile objects with Duocel®

Foam absorbs energy by crushing during impact, which lowers the force transmitted to the protected object.



Protection in all directions

Isotropic structure protects against impacts, no matter the direction



No pneumatic rebound

Open cells result in a steady crush response, with no force re-transmitted



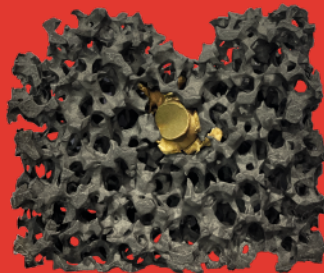
Reliable in extreme conditions

Duocel® materials perform reliably in a broad range of environments

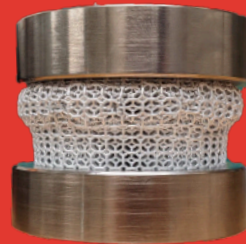
We tailor Duocel® to meet your needs



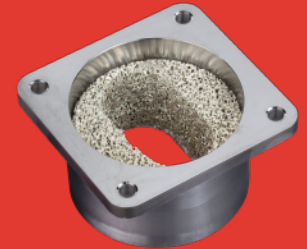
Protect the most delicate of payloads



Contain high-velocity impact debris



Protect against very high impact loads



Conformal shapes for easy integration

Applications



Hold Down & Release Mechanisms



Micrometeoroid Orbital Debris (MMOD) Shielding



Bird Strike Protection

More About Duocel®

Duocel® is an open-celled rigid foam with solid ligaments and optimized properties for your design.

Base material



Aluminum



Copper

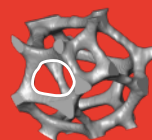


Carbon



Silicon Carbide

Pore Size

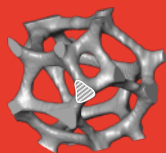


100 PPI
(~0.01")



5 PPI
(~0.20")

Ligament cross-section



3%



6-8%



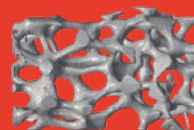
10-12%



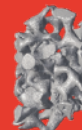
15%

Relative Density

Compression



Uncompressed



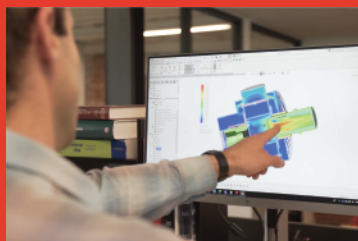
Compressed

ERG Engineering

With over 50 years of expertise designing and manufacturing foam components, we tailor Duocel® to your design for maximum performance.

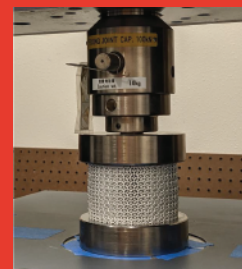
Design Optimization

- Thermal conductivity
- Crush strength
- Pressure drop
- Surface area
- Operating temperature
- Electrical conductivity
- Reactivity

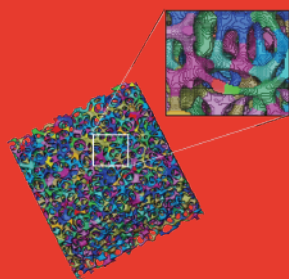


Testing

- Compressive and tensile testing
- Shock and random vibration
- Proof and burst pressure
- Thermal cycling
- microCT scanning
- Single and two-phase heat transfer

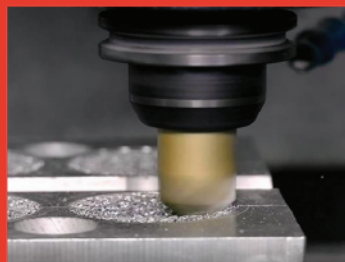


Manufacturing Advantage



Better strength and conductivity

Unlike metal foam produced through other methods, Duocel® has solid ligaments with fully developed grain boundaries.



Flexible fabrication

Duocel® metal foam can be machined, formed, brazed, soldered, anodized, and coated.

Flight Proven

ERG Aerospace has produced TRL-9 Duocel® components for various applications, including Mars landers, satellites, and commercial and military aircraft.

- UTC Supplier Gold
- 2019 Pratt & Whitney Most Innovative Supplier
- 2018 IHI Supplier of the Year
- 2017 Pratt & Whitney Service-Disabled Veteran Owned Supplier of the Year

