MATERION

ToughMet® and copper beryllium Alloy 25 parts endure rigorous demands and resist wear under extreme loads.

COPPER BERYLLIUM/TOUGHMET® APPLICATION:

AEROSPACE

Profile: Aerospace Industry

For more than 30 years, Materion Brush Performance Alloys has designed, invented and commercialized alloys that have advanced the aerospace industry. Our aerospace alloys, including Alloy 25 and the increasingly popular ToughMet® are now widely used on all models and vintages of aircraft, enabling optimization of aircraft design, increased reliability and improved performance.

CHALLENGE:

With a push for aircraft efficiency and safety, major aircraft manufacturers are looking for components to reduce aircraft weight, extend service intervals and increase reliability, while being friendlier to the environment.

This has led to a need for smaller parts that endure rigorous demands, including resisting wear under extreme loads and temporary protection from lubrication failure or omission.

SOLUTION:

Brush Performance Alloys' ToughMet® has become the material of choice for meeting these challenges. ToughMet®'s extraordinary strength, lubricity and wear resistance now play a critical role to handle the extreme load conditions found in airframes and landing gear operations. This high performance alloy has helped reduce aircraft weight and maintenance costs, while increasing fuel efficiency.

While ToughMet® and Alloy 25 play a key enabling role in the development of next generation aircraft, both materials are also used to support maintenance and repair needs as well as equipment retrofits on older aircraft.

Two grades of ToughMet® 3 AT110 rod/tube and TS160 rod/bar, are included in the Materials Properties Development & Standardization (MMPDS-05) Handbook. This handbook, formerly known as Department of Defense (DoD) MIL-HDBK-5, contains Federal Aviation Administration (FAA) approved "design allowables" for metals and alloys used in aerospace vehicles. The design limits specified in the listing for the two grades of ToughMet® 3 are consistent with recently approved Aerospace Materials Specifications (AMS) 4596B and 4597.

TOUGHMET®

TECHNICAL INQUIRIES
p 800.375.4205
f 216.383.4005

BRUSH PERFORMANCE ALLOYS
6070 Parkland Boulevard
Mayfield Heights, OH 44124 USA
p 800.321.2076 +216.486.4200
www.materion.com/brushalloys

CS0016 06.11