



December 22, 2015

Materion Announces Publication of SAE-AMS Specification for SupremEX® 225XE

Spec for Metal Matrix Composite Offers a New Option for Aerospace Engineers

MAYFIELD HEIGHTS, Ohio--(BUSINESS WIRE)-- Materion Corporation (NYSE:MTRN) announced that the Society of Automotive Engineers - Aerospace Material Specification Nonferrous Alloys Committee (SAE-AMS) has approved and published aerospace specification [AMS4355](#) for Materion's [SupremEX® 225XE](#), a particle-reinforced aerospace-grade aluminum metal matrix composite. Publication of a SAE-AMS specification offers design engineers a new lightweight material, facilitates use by manufacturers and helps ensure a supply base to meet demand.

SupremEX 225XE is made by reinforcing a high-quality aerospace aluminum alloy with 25 volume percent ultrafine silicon carbide particles. Materion uses a proprietary mechanical alloying process that ensures excellent particle distribution and enhanced mechanical properties.

The composite is superior to conventional alloys because it combines the lightweight properties of aluminum with outstanding strength and stiffness. SupremEX products can be used to replace aluminum, titanium, steel, other structural alloys and composites.

The AMS4355 specification covers SupremEX 225XE in reinforced, hot isostatically pressed (HIP) shaped billets. Materion is working to obtain SAE-AMS specifications for SupremEX 225XE in forged and extruded forms, and for other grades of its SupremEX product line.

"This SAE-AMS specification is a major development for our family of SupremEX aluminum metal matrix composites and, we believe, for the aerospace industry," said W. Glenn Maxwell, President, Materion Performance Metals group. There is already strong interest in this material as no new metal matrix composites had SAE-AMS certification.

"Many of Materion's aerospace-grade products have earned SAE-AMS specification, so we understand its value and potential," he continued. "This allows design engineers to look at the material more intently. Without the specification, an engineer is unlikely to recommend a new material because they would have to self-qualify, which can take years. With the specification, a procurement agent can purchase to a spec."

All SupremEX metal matrix composites offer improved performance in aero-engine components and aircraft structures for both commercial and military applications. They are 60 percent lighter than steel and 36 percent lighter than titanium, yet they offer high strength, stiffness and fatigue properties that significantly increase a component's capability and useful life.

While components made of SupremEX are as light as some carbon fiber parts, they offer superior damage tolerance and improved wear resistance. With a low coefficient of thermal expansion, components made of these composites will not deform over the range of temperatures experienced during flight. And because SupremEX composites are aluminum, aircraft manufacturers know they will be able to use traditional metal assembly techniques in production.

"The combination of properties achieved with SupremEX 225XE provides potential for a wide range of applications in aerospace and defense," said Maxwell. "They include brakes and wheels, engine components, aircraft structure, control systems, and electro-optical sensor components on military aircraft."

In addition, he said, "Our SupremEX line has already made inroads in the performance automotive market, where applications include pistons, cylinder liners, connecting rods, brake calipers, and valve train and chassis components. But SAE-AMS specification carries clout in this industry, so we expect it will broaden interest in the product."

About SAE:

SAE International is a global association of more than 138,000 engineers and related technical experts in the aerospace, automotive and commercial-vehicle industries. Standards from SAE International are used to advance mobility engineering

throughout the world. The SAE Technical Standards Development Program is among the organization's primary provisions to the industries it serves. Today's SAE standards product line includes almost 10,000 documents created through consensus standards development by more than 240 SAE Technical Committees with 450+ subcommittees and task groups. These works are authorized, revised, and maintained by the volunteer efforts of more than 9,000 engineers, and other qualified professionals from around the world.

About Materion:

Materion Corporation is headquartered in Mayfield Heights, Ohio. The Company, through its wholly owned subsidiaries, supplies highly engineered advanced enabling materials to global markets. Products include precious and non-precious metals, inorganic chemicals and powders, specialty coatings, specialty engineered beryllium alloys, beryllium and beryllium composites, and engineered clad and plated metal systems.

View source version on [businesswire.com](http://www.businesswire.com): <http://www.businesswire.com/news/home/20151222005062/en/>

Materion Corporation

Investor Contact:

Michael C. Hasychak, 216-383-6823

mike.hasychak@materion.com

or

Media Contact:

Karen Ducatman, 216-383-4090

karen.ducatman@materion.com

or

<http://www.materion.com>

Mayfield Hts-g

Source: Materion Corporation

News Provided by Acquire Media