

MADE IN SPACE

For Immediate Release

Made In Space Begins Manufacturing in Space-Ready Material

Moffett Field, Calif., July 10, 2017 – Made In Space, Inc. (MIS) has begun using PEI/PC (polyetherimide/polycarbonate), a high-performance polymer, for 3D printing in its Additive Manufacturing Facility (AMF) aboard the International Space Station (ISS). PEI/PC is an aerospace-grade polymer that produces stronger, more heat-resistant materials. Blends of PEI/PC, such as ULTEM 9085 and ULTEM 1010, are used in additive manufacturing in the commercial aerospace industry.

Continuing its mission of expanding space-based manufacturing capabilities, PEI/PC is the third material MIS has demonstrated on ISS for space-based additive manufacturing feedstock. “Made In Space is proud to add PEI/PC to the suite of materials it is manufacturing in space with,” said MIS President & CEO Andrew Rush. “Our team has been regularly printing parts in space with AMF for over a year now. This unparalleled knowledge base of in-space manufacturing operations will enable us to deliver future in-space manufacturing solutions in the most cost effective and efficient ways possible.”

On orbit, MIS is also manufacturing in ABS (acrylonitrile butadiene styrene) and Green PE (polyethylene). In recent years, MIS has also demonstrated metal casting, electronics additive manufacturing, and other manufacturing techniques in microgravity.

Terrestrially, PEI/PC is used in aircraft cabins and in the medical industry. Having nearly triple the tensile strength of ABS, a high strength-to-weight ratio and low off gassing properties, PEI/PC has been used in space on external hardware and satellites. Human spaceflight missions, especially deep space missions, will benefit greatly from space-proven, multi-material manufacturing facilities. “PEI/PC gives us greater capabilities to start working with materials that have characteristics needed for advanced manufacturing in the space environment,” added Matt Napoli, MIS vice president of In-Space Operations.

“Manufacturing in PEI/PC really expands the value of in-space manufacturing for human spaceflight,” said Rush. “PEI/PC is a truly space-capable material. With it, extravehicular activity (EVA) tools and repairs, stronger and more capable intravehicular activity (IVA) tools, spares, and repairs, and even satellite structure can be created on site, on demand. That enables safer, less mass-intensive missions and scientific experiments.”

One program PEI/PC will benefit is the Archinaut Development Program, which MIS is contracted with NASA on. Archinaut is a platform that manufactures, assembles, and integrates space-optimized systems. These systems include reflectors, antennae, trusses, booms, and radiators. Archinaut is specifically designed to create large space structures for space, in space. In its basic configuration, Archinaut is a system integrated into a satellite and includes a space-capable manufacturing unit, assembly robotics, feedstock, and prefabricated components. Once on orbit space-optimized structured are manufactured and integrated into the satellite which can be larger, more

capable, and/or lighter than traditional deployables can achieve.

About Made In Space:

Made In Space, Inc. (MIS) is the world's most experienced space manufacturing company. Established in 2010 and with offices in Florida, California, Alabama and Ohio, MIS leverages the unique properties of the space environment to develop manufacturing solutions to commercial, industrial, research and defense challenges. The company's vision is to enable the future of space exploration through manufacturing in microgravity. For more information about MIS, visit www.madeinspace.us.

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