



Omniseal Solutions
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PRESS RELEASE

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FOR IMMEDIATE RELEASE

Omniseal Solutions Returns To Space Symposium, Providing Decades Of Expertise That Solves Leakage, Cryogenic & Other Operating Challenges



Garden Grove, Calif. (June 3, 2024) – Omniseal Solutions, a design engineering and manufacturer of precision sealing and wear control solutions, returned to the Space Symposium at Booth #437, highlighting their extensive portfolio of polymer seals, metal seals and advanced materials. Visitors interacted with the business' experts to solve leakage, cryogenic and extreme temperature and pressure challenges often encountered in the space industry.

Held in Colorado Springs, the Space Symposium gathered a space community from various nations, including space agencies; commercial and military businesses; national security and intelligence organizations; government agencies and organizations; research and development facilities; and educational institutions.

Omniseal Solutions is a key partner to [space customers](#) as well as emerging global players in the industry, including start-ups, private companies and public agencies. The main reason is due to their [Omniseal® RACO®](#), 103A and 400A spring-energized seals, which have a proven history of reliability and safety for over 60 years within NASA mission-critical missions (e.g., Apollo & Artemis moon missions and rover programs) and leading private space companies. Their metal seals have also been a source of protection for rocket combustion chambers and satellite weather instrumentation on European space projects.

Not only are their customized sealing solutions widely used in launch vehicles and satellites, but also their advanced material solutions such as [Rulon® PTFE compounds](#) and [Meldin® thermoset polyimides](#). With lighter weight becoming more critical in space applications, low weight polymers are now being considered for “tribological” components in the form of bearings and bushings. One prime example can be found in the [solar array](#)

[deployment system](#) where bushings are needed to ensure the deployment is smoothly accomplished with low friction. Similar applications can also be found in the deployment of antennas and other moving components in a satellite. The key and beneficial properties that both Rulon® and Meldin® material grades can provide in satellite applications are low outgassing, long lifetime (10 to 15 years is a typical requirement), electric and thermal insulation and radiation resistance.

At the Space Symposium show this year, the Omniseal Solutions' space team reintroduced the [metal boss seal solution](#) for AS5202 fittings, sharing technology advantages such as ease of installation, lighter weight and cost advantages. These seals are widely used in critical space applications that are challenged by extreme pressure and temperature conditions. Metal boss seals are not only used in space but also in aviation, nuclear and chemical, outperforming elastomer O-Rings that fail as a result of challenging system conditions. As a pressure-loaded, positive sealing device, the metal seal is designed for service in port-to-tube fitting applications and is composed of a crush ring that attaches with the coating of the seal to the surfaces of the port and tube fitting.

As a way of sharing their decades of knowledge and to help engineers and manufacturers in the space industry gain critical engineering insights, the business had released a special technical white paper that explains other stressing factors that affect sealing performance aside from leakage rate. Titled "Polymer & Metal Sealing Solutions in Critical Cryogenic Space Applications: Going Beyond Leakage Rate," the white paper details key as well as overlooked factors related to seal selection for core systems in extreme environments as experienced in cryogenic fuel tanks, feedlines and fuel valves.

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About Omniseal Solutions

Omniseal Solutions is a global engineering leader with over 65 years of historical legacy, relentlessly dedicated to the design and manufacture of precision sealing and wear control solutions that protect critical applications in the most demanding environments and passionately driven to push "Beyond the Boundaries of Possible."

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