

Nitride Global Presents Latest Advancements in Aluminum Oxynitride Coatings at PSE '24

Partnership with Fraunhofer FEP yields groundbreaking results

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-- [Nitride Global](#), Inc., a global leader in Aluminum Nitride technology, today announced its latest advancements in

collaboration with the [Fraunhofer](#) Institute for Electron Beam and Plasma Technology (FEP) at the 19th International Conference on Plasma Surface Engineering ([PSE '24](#)), held in Erfurt, Germany. The presentation, titled "Sputter Deposited Aluminum Oxynitride Films for Applications as Electrically Isolating, Thermally Conductive Films," highlighted cutting-edge developments in aluminum oxynitride (AlON) coatings, offering groundbreaking potential for the semiconductor and power electronics industries.



The presentation detailed how AlON films, a hybrid substrate material, offer significant advantages across a range of applications, including power electronics, laser diodes, electronic cooling, and semiconductor manufacturing. By fine-tuning the composition of AlON between pure Aluminum Nitride (AlN) and Aluminum Oxide (Al₂O₃), Nitride Global has created an optimized substrate that delivers superior electrical isolation, high thermal conductivity, excellent adhesion, and minimal stress on copper substrates.

"Our advancements in AlON coatings represent a significant leap forward for semiconductor devices and power electronics," said Mahyar Khosravi, CEO of Nitride Global. "AlON's unique combination of electrical isolation, adhesion, coefficient of thermal expansion (CTE) matching, and durability positions it as the ideal candidate to replace conventional Direct Bonded Copper (DBC) and Active Metal Brazed (AMB) materials in next-generation systems. We are incredibly proud of these results and our collaboration with Fraunhofer FEP."

The collaboration between Nitride Global, Inc. and Fraunhofer FEP leverages Nitride Global's expertise in advanced materials with Fraunhofer FEP's cutting-edge magnetron sputtering deposition technology. This partnership has resulted in a highly manufacturable, production-ready substrate material that sets a new standard for performance in critical electronics applications.

About Nitride Global

Nitride Global (www.nitrideglobal.com) is a leading innovator in the development and commercialization of advanced aluminum nitride boules and templates and a revolutionary thermal management and passivation coating technology based on aluminum oxynitride. The company's cutting-edge solutions are used in a variety of high-performance applications in semiconductor manufacturing and packaging across various sectors, such as power electronics, microelectronics, EVs, photonics, aerospace, and renewable energy. With a focus on quality, performance, and innovation, Nitride Global is committed to driving advancements in materials science and delivering value to its customers globally.

About Fraunhofer Institute for Electron Beam and Plasma Technology (FEP)

Fraunhofer FEP is a world-renowned research institute specializing in electron beam and plasma technology, with a focus on innovative surface coatings, materials, and plasma systems.

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