



ALUMAX™ COATING

Micrograin aluminum oxide

Overview

Developed from the Surmet™ specialty coating technologies, this dense, strongly adherent and amorphous alumina coating applied using sputtering is ideal for protecting metal and alloy components against high-temperature oxidation. Because of its amorphous nature – from room temperature to above 1000°C (1832°F) – and microstructural stability at elevated temperatures, the coating is suitable for high-temperature applications such as bond coat for thermal barrier

coatings (TBC) system for the protection of hot gas components and also for semiconductor equipment.

Applications

- High-temperature oxidation protection of superalloys
- TBCs for hot-gas path components of gas turbines
- Semiconductor equipment

Specifications

Substrate:	Compatibility	Steels, superalloy, MCrAlY bond coat, most ceramics and many polymers
	Size	Up to 40.6 cm (16")
	Geometry	Any shape, even complex geometries
Structure:	Amorphous	
Temperature:	Deposition	200°C (392°F)
	Use	1100°C (2012°F)
Coating thickness:	1–5 μm	
Thermal conductivity:	30 W/m-K	
Refractive index:	1.765 (λ = 0.589 μm)	
Elastic modulus:	323 GPa	
Hardness:	2000 DPHN	
Fracture toughness:	3.5 (MPa-m ^{1/2})	
Thermal expansion coefficient:	7.8 (10 ⁻⁶ /K)	
Resistance:	Oxidation resistant up to 1100°C (2012°F) in air	

For More Information

To learn more about how Entegris' high-purity specialty coatings help customers enhance yields, improve productivity and meet technological roadmaps, call Entegris Specialty Coatings at +1 781-359-3700.

To review Entegris' specialty coatings offering, visit Entegris' Web site at www.entegrisspecialitycoatings.com.

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