



SILICO^{MAX}™ COATING

Ultrapure silicon carbide coating

Overview

Entegris uses its innovative, low-temperature Plasma Enhanced Chemical Vapor Deposition (PECVD) process to deposit a family of silicon carbide coatings for several industrial applications. The dense, micro-conformal, high-purity coatings have very low residual stress, making them an ideal coating for semiconductor equipment. The coatings are amorphous and exhibit high electrical resistivity and wear resistance. SilicoMax™ coatings exhibit high reflectance/high emissivity in the extreme ultraviolet, making them suitable for EUV optical components. The coatings can be deposited on a wide variety of substrates.

Applications

- Semiconductor and optics markets
- Oxidation protective coatings, especially in the presence of moisture

Features

- Low residual stress
- Dense and micro-conformal
- High purity ensures contamination-free operation

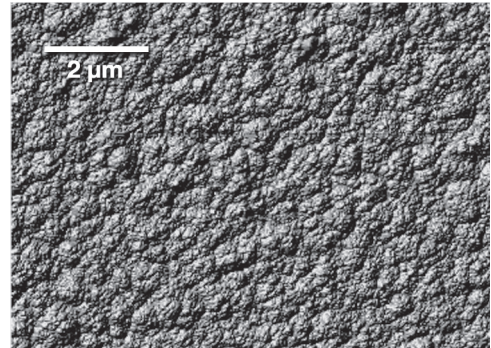
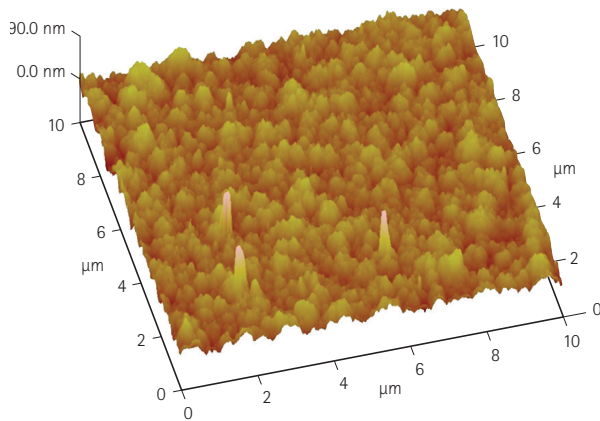
Specifications

Substrate:	Compatibility	Most metals and ceramics
	Size	Up to 91 cm (36")
	Geometry	Any shape, including complex geometries
Structure:	Amorphous; contains hydrogen	
Temperature:	Deposition	<150°C (302°F)
	Use	650°C (1202°F)
Coating thickness:	A few nm to over 60 μm	
Electrical resistivity:	~10 ⁸ Ω-cm, lower values possible	
Hardness:	1600 HV	
Purity:	99.999%	
Wear resistance:	Very good	
Corrosion resistance:	High-temperature oxidation resistance in air up to 650°C (1202°F)	
	Excellent aqueous corrosion resistance including acids and alkalis	



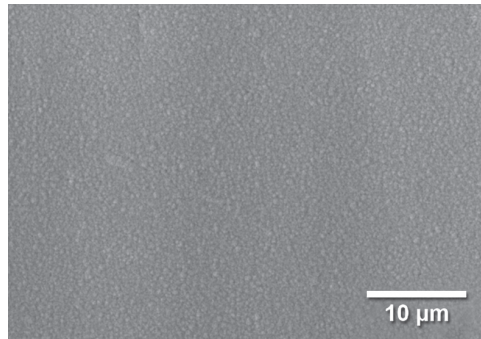
Characteristics

AFM Images of SilicoMax Coating

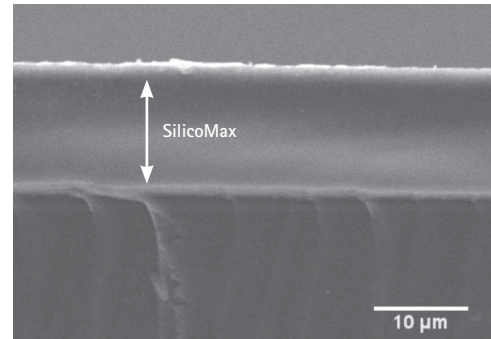


SEM Images of SilicoMax Coating

Coating Surface Morphology



Coating Cross-section



For More Information

To learn more about how Entegris' high-purity specialty coatings help customers enhance yields, improve productivity and meet future technological needs, call Entegris at +1 781-538-8745.

To review Entegris' specialty coatings offering, visit Entegris' website at www.EntegrisSpecialtyCoatings.com.

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