CINOS COATING TECHNOLOGY

Patent No.10-1721232

SAC™

SUPER ADVANCED COATING

High Purity

High Hardness

High Density

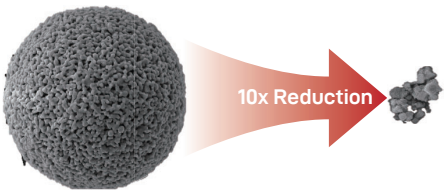
CINOS

WE MAKE GLOBAL STANDARD

About

It is a thermal spray coating type of suspension plasma spray and, unlike APS coating which uses dry powder, a liquid-type slurry is used as the coating material. SAC coating uses slurry-type raw materials, and it is possible to coat with **3μm or less powder particle size without agglomeration, which greatly improves the density.**

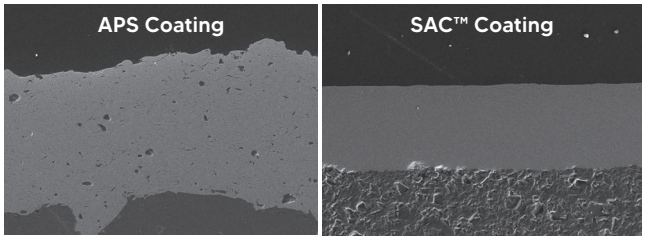
Powder Size



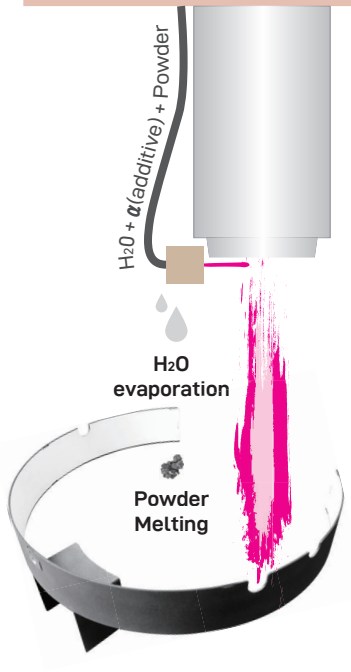
APS Coating
30μm

SAC™ Coating
Sub 3 Micro Powder

Density



Mechanism



Liquid Slurry Material
The density of the coating material can be improved by using the liquid-type coating material.

Super Micro Powder
It is possible to coat with 3μm or less powder particle size without agglomeration.

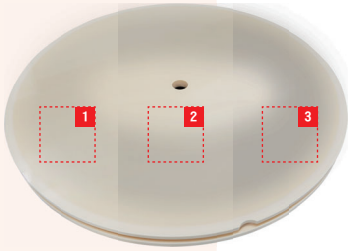
Particle Minimized
The lifespan of the parts and the yield are improved by minimizing the powder particle size.

Review

After using 3000 Hrs, the SAC Y_2O_3 evaluation result,
Confirmed that it was superior to LAM's AD coating in the surface defect.

SAC™

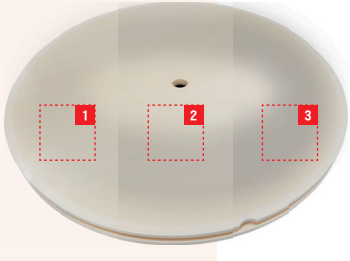
1000hr » 2000hr » 3000hr

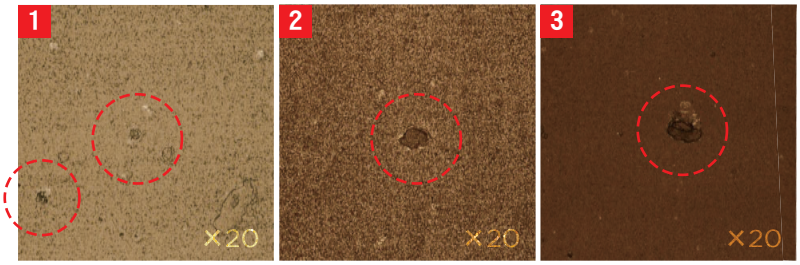


No pit found after 3000 hrs of use

AD

1000hr » 2000hr » 3000hr





More pit found as the process time increases

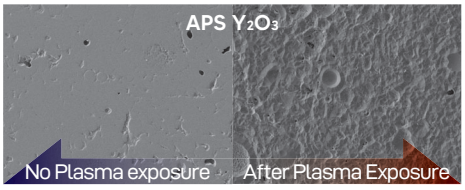
About

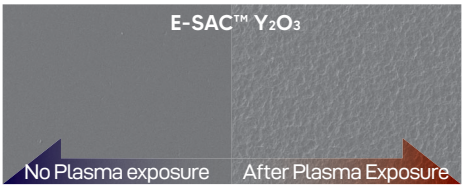
It is possible to coat not only Y_2O_3 but also YOF and YAG, and **can improve the coating density by reducing the powder size to improve the density.**
It has high-density coating characteristics, so it minimizes roughness change and etching rate in plasma compared to APS coating.

Coating	APS Y_2O_3	(E)-SAC™ Y_2O_3	(E)-SAC™ YOF	(E)-SAC™ YAG
Hardness (Hv)	512	658	710	805
Adhesion (MPa)	15	14.8	15.1	16.27
Roughness (μinch)	200±50	60±20	80±20	80±20
Porosity (%)	3~5 ↓	0.03	0.04	0.25

Roughness Change Reduce by 73% and Etch Rate Reduced

by Compared to APS Coating





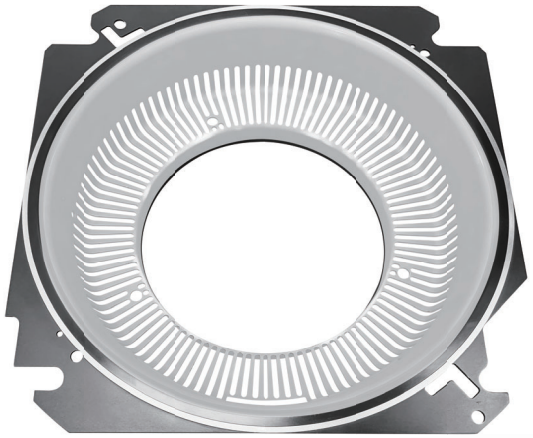
Liquid Slurry Material
The density is improved by using the slurry type raw material for coating.

Plasma Resistance
Etching amount and roughness are minimized in plasma.

Minimized Particles
The lifespan can be extended, and the yield is improved.

Application

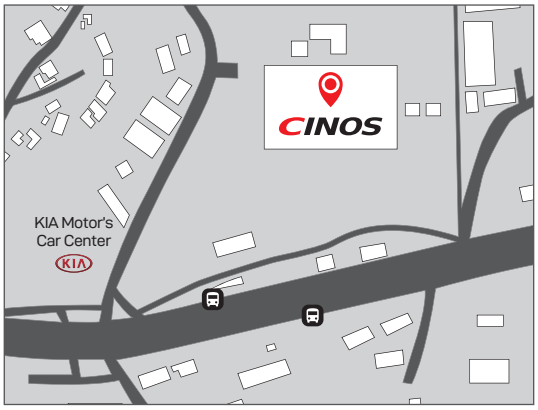
Inner Liner



It is applied to liners, shields, ceramic windows, etc. of 7nm class etch equipment to minimize particles to improve the lifespan and yield.

Performance
Technology
Quality

CINOS



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