

EMPOWERING

AGC

SOLAR EFFICIENCY

SOLAR

CELL MANUFACTURING

Roiceram-HS

ロイセラム-HS

Roiceram-HS is High purity SiC components for solar cells. Roiceram-HS has high thermal conductivity, high-strength, high-corrosion resistance, high-heat resistance

ロイセラム-HSは高純度SiC製太陽電池ウェハ処理用治具です。ロイセラム-HSは、高熱伝導、高強度、高耐食性、高耐熱性に優れた素材です

AGC's Roiceram material is ideal for making high purity SiC components, It is customized for semiconductor thermal process usage. Roiceram-HS has superb high temperature strength preventing softening or deformation in cycle use over 1200°C temperature range. [i.e Diffusion process]. AGC applies the latest CNC machining technology assuring the highest level of dimensional accuracy in difficult to machine ceramic materials.

AGCのSiC治具『ロイセラム-HS』は主に半導体製造の熱処理工程用治具として用いられる極めて純度の高い材料です。『ロイセラム-HS』は耐熱と強度が極めて高いので、拡散工程等での1200°Cを超える高温における繰り返し使用に対し、軟化等による変形を起こしません。セラミックスは加工難易度の大変高い素材ですが、『ロイセラム-HS』はお客様のご要求に適合した寸法精度を得るため、最新鋭自動機での加工を行っています。

PRODUCT DESCRIPTION

Applications High heat-resistant ware for phosphorus diffusion processes

用途 リン拡散プロセス用高耐熱治具



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Material Properties of Roiceram-HS (SiC)

Impurity Concentration

Typical Data

Element	Unit	Roiceram-HS U -Grade SiC+Si (Recrystallized SiC+Si)	Roiceram-HS SiC-CVD coat	Quartz
Fe	ppm	3	0.028	0.1-0.8
Al	ppm	25	0.017	8-28
Ni	ppm	1	0.004	0.05
Ca	ppm	5	0.015	0.2-1.0
Cu	ppm	<1	0.008	0.005-0.1
Na	ppm	<1	0.004	0.2-2.0
Ti	ppm	1	0.003	0.3-2.0

Material properties

Typical Data

Properties	Unit	Roiceram-HS U -Grade SiC+Si (Recrystallized SiC+Si)	Roiceram-HS S-Grade SiC-CVD	Quartz
Density	g/cm ³	3.02	3.21	2.20
Porosity	%	0	0	0
Hardness	GPa	25	35	9
Bending Strength	Mpa	230	650	59
Young's Modulus	Gpa	350	490	74
CTE (\times)	$\times 10^{-6}/K$	4.3	4.3	0.54
Thermal Conductivity	W/m·k	170	240	1.4
Electrical Resistivity	$\Omega \cdot cm$	10^{-1}	10^2	10^{14}
Softening point	°C	Non	Non	1070

※Coefficient of thermal expansion

Acid resistance comparison among wafer jig materials.

