

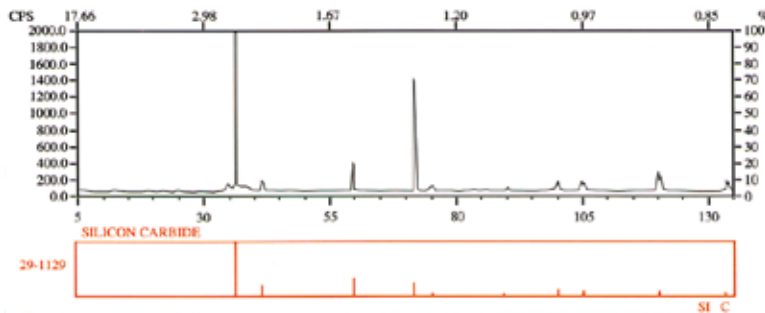
Broad Base. Best Solutions.

+ SIGRAFINE® SiC

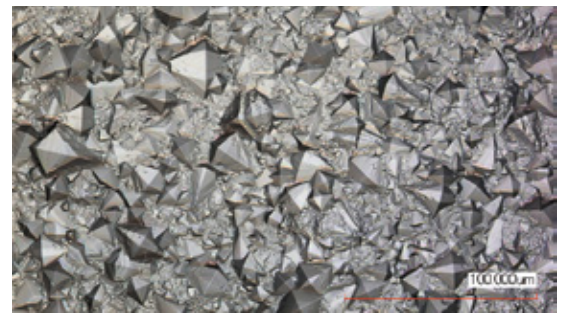
Material: SiC

Application: Semiconductor, chemical, mechanical, industrial

+ **SIGRAFINE® is the new brand name** for our finegrain graphites, previously known under the names RINGSDORFF®, SIGRAFORM®, SIGRAGENT® and CRYSTA-SIL®.



↑ X-Ray diffraction pattern



↑ SiC microstructure

Material data of our SIGRAFINE® SiC Coating

Typical properties	Units	Values	Analysis technique
Structure		Beta (cubic) 3C Polytype	XRD
Orientation	Fraction [%]	111 preferred	XRD
Density	g/cm ³	3.2	XRD
Stoichiometry		1:1 Si/C	XPS
Hardness	GPa	40	Nanoindentation
Fracture toughness	MPa m ^{1/2}	3.0	Vickers indenter
Coefficient of thermal expansion (100–600 °C)	10 ⁻⁶ /°C	4.3	Dilatometer
E-modulus	GPa	435	Nanoindentation
Typical film thickness	μm	100	Beta backscatter
Surface roughness	μm	2.5	Profilometer

**Purity data of SIGRAFINE® SiC Coating
(glow discharge mass spectroscopy)**

Elements	PPM by Wt
Sodium	< 0.05
Magnesium	< 0.01
Aluminum	< 0.04
Phosphorus	< 0.01
Sulfur	< 0.04
Potassium	< 0.05
Calcium	< 0.05
Titanium	< 0.005
Vanadium	< 0.001
Chromium	< 0.05
Manganese	< 0.005
Iron	< 0.01
Nickel	< 0.005
Copper	< 0.01
Zinc	< 0.05
Gallium	< 0.05
Germanium	< 0.05
Arsenic	< 0.005
Indium	< 0.01
Tin	< 0.01
Antimony	< 0.01
Tungsten	< 0.01
Tellurium	< 0.01
Lead	< 0.01
Bismuth	< 0.01

TDS SiC.02

* registered trademarks of SGL CARBON SE

08 2015/0 2NÄ Printed in Germany

This information is based on our present state of knowledge and is intended to provide general notes on our products and their uses. It should therefore not be construed as guaranteeing specific properties of the products described or their suitability for a particular application. Any existing industrial property rights must be observed. The quality of our products is guaranteed under our "General Conditions of Sale".

Graphite Materials & Systems | SGL CARBON GmbH

Sales Europe/Middle East/Africa | coating-europe@sglgroup.com

Sales Americas | coating-americas@sglgroup.com

Sales Asia/Pacific | coating-asia@sglgroup.com

www.fine-grain-graphites.com | www.sglgroup.com/gms

