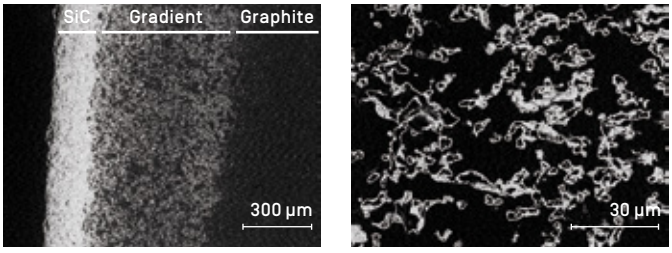
SIGRAFINE® duro SiC

SiC coating on graphite for industrial applications



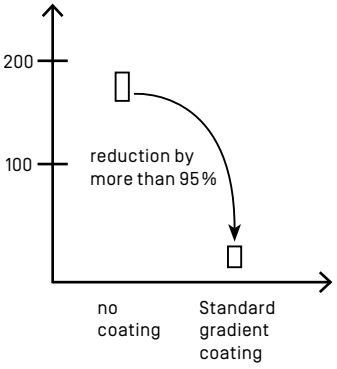
↑ SEM image: Cross-section (left) and detailed view (right) of SiC gradient coating with SiC corresponding to bright and graphite to dark areas

SIGRAFINE duro SiC with its gradient (SiC) coating provides

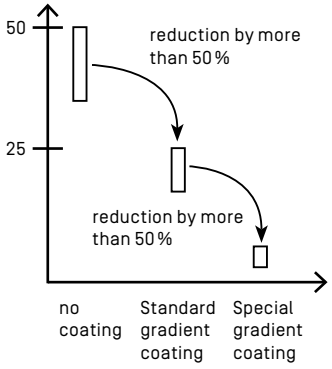
- enhanced abrasion/erosion stability
- increased oxidation stability
- enhanced interlocking between SiC and graphite
- adapted interface for other conventional coatings.

Depending on application requirements, the SiC gradient coating can be adjusted to customer needs.

Oxidation rate at 1000 °C[1] [mg/cm²h]



Wear rate[2] [mg/cm²h]



[1] SGL Carbon internal test in air atmosphere

[2] Kucher et al., "Characterization of carbonaceous materials with respect to slurry-abrasion", Carbon Conference 2010, ACS.

Typical material data of graphite with silicon carbide gradient coating*

Typical properties	Units	Grade A	Grade B	Grade C
Apparent density	g/cm³	1.9	1.8	1.6
Young's modulus	GPa	15	14	10
4P-Flexural strength	MPa	25	20	7
Surface roughness (Ra)**	µm	3	6	14
Martens hardness***	N/mm²	330	310	180

* The actual individual values might vary depending on dimensions. Please contact us for any engineering/design purposes.
** Additional polishing possible
*** Values corresponding to test load of 100 N

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