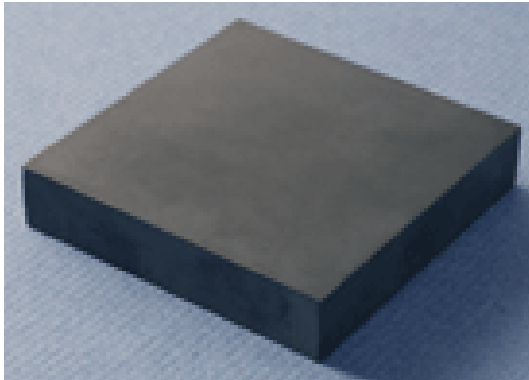


## SILICON CARBIDE Technical Data Sheet



### Sintered Silicon Carbide ( SSIC )

Calyco Sintered Silicon Carbide ( SSIC ) is produced using very fine powder containing sintering additives. It is processed using forming methods typical of other ceramics and sintered at 2000 to 2200 celcius in an inert gas atmosphere. Calyco SSIC is distinguished by high strength that stays nearly constant up to very high temperatures ( approximately 1600 celcius ) maintaining that strength over longer periods.

This material displays an extremely high corrosion resistance in acidic and basic media and this is also maintained up to very high temperatures.

These properties are outstanding among high temperature ceramics and are complimented by high thermal shock resistance, high thermal conductivity, high resistance to wear and hardness close to diamond.

#### APPLICATIONS:

- Slip ring seals in chemical pumps
- Bearing bushes
- High temperature burner nozzles
- Kiln furniture for high temperature applications.

#### FEATURES:

- Light weight
- High density
- As cast tight dimensional tolerances
- High creep resistance
- Superior wear resistance
- Corrosion resistant
- Excellent oxidation and erosion resistance
- Maximum use temperature to 1600°C.

#### RANGE OF PRODUCTS:

- Finished SSIC parts with advanced grinding
- Unfinished SSIC parts
- Machined SSIC casts
- Pressed SSIC casts with net dimension
- Complex fine machined parts.

ITEM:	UNIT:	DATA:
Maximum use temperature	Celcius	1600
Density	g/cm <sup>3</sup>	≥3.1
Open porosity	%	≤0.1
Flexural strength	MPa	480-600
Fracture strength	MPa	1950-2600
Modulus of elasticity	GPa	420-450
Thermal conductivity	W/m.k	74
Coefficient of thermal expansion	K-1 x 10-6	4.1
Vicker hardness HV10	GPa	22
Acid proof alkaline		Excellent

#### Mining Products

- Wear Protection • Equipment & Machinery
- Drilling and Blasting • Engineering Plastics
- Consumables • Safety