

MATERIAL EXPERTISE

ISOSTATIC GRAPHITE

FOR SiC GROWTH

HIGH PURITY

Down to ppb range on specific elements (Boron, iron, ...)
< 5 ppm total impurity

EXTREME OPERATING TEMPERATURES

Up to 2 700°C under inert atmosphere

STRENGTH INCREASES WITH TEMPERATURE

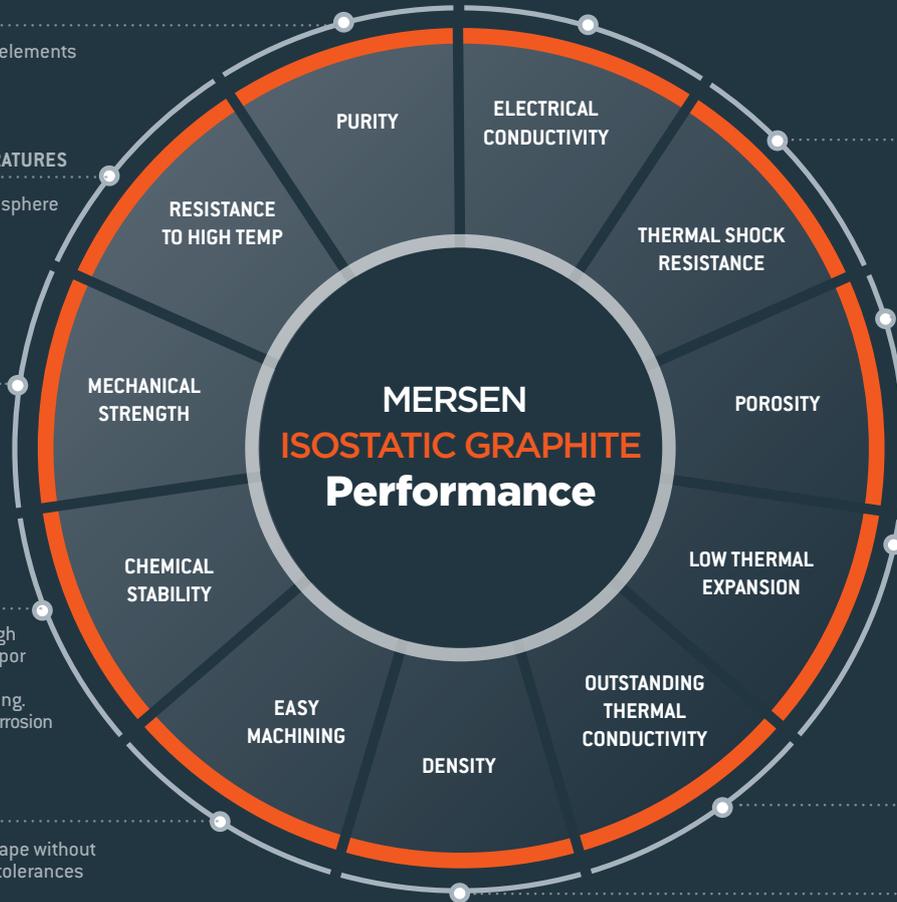
x2 strength at 2 500°C than at room temperature

HIGH CHEMICAL RESISTANCE

High chemical resistance in high temperature silicon carbide vapor environment.
Can be improved with TaC coating.
High density graphite reduces corrosion with silicon carbide vapor.

EASY MACHINING

Easy machining to complex shape without any difficulties with very tight tolerances and various surface finish.
Ra down to 0.8 µm or even less.



NO THERMAL STRESS INSIDE GRAIN STRUCTURE

Low young modulus (9 to 25 GPa)
Good thermal shock resistance

PERMEABLE TO GAZ

Porous structure, with 10% pore volume
Permeability < 0,1 with impregnation

LOW COEFFICIENT OF THERMAL EXPANSION (CTE)

Large range of CTE available
Can be selected to match SiC CTE or TaC CTE.
Very stable CTE batch to batch and block to block.

EXTREMELY GOOD THERMAL UNIFORMITY

From 20 to 130 W/m.K

DENSITY

Adjustable between 1.75 and 1.90 g/cm³
Very stable density from batch to batch and block to block.
Density as high as 1.85 available on large size blocks.

MERSEN CALCARB® HIGH PERFORMANCE CARBON INSULATION



RIGID BOARDS
CALCARB® CBCF



CYLINDERS
CALCARB® HYBRID
CALCARB® EDGE



FLEXIBLE
CALCARB® SOFT FELT

CALCARB® INSULATION PROPERTIES:

High purity (<5 ppm (Al; Cu; Fe; Cr; Ni) / Halogen purified; stabilization at 2 300°C; additional treatment available for an improved performance.



GLOBAL EXPERT IN ELECTRICAL
POWER AND ADVANCED MATERIALS

AMERICAS

MERSEN USA
Bay City, MI
Greenville, MI
St Marys, PA
Columbia, TN

MERSEN MEXICO
Monterrey

MERSEN ARGENTINA
Buenos Aires

MERSEN CHILE
Santiago

MERSEN COLOMBIA
Bogota

MERSEN BRAZIL
Sao Paulo

EUROPE & AFRICA

MERSEN BENELUX
Schiedam

MERSEN GERMANY
Suhl & Munich

MERSEN FRANCE
Gennevilliers & Bazet

MERSEN IBERICA
Barcelona

MERSEN TURKEY
Gebze

MERSEN ITALY
Milan & Malonno

MERSEN NORDIC
Kista

MERSEN UK
Teesside & Holytown

MERSEN SOUTH AFRICA
Johannesburg

ASIA & OCEANIA

MERSEN CHINA
Chongqing, Kunshan
& Yantai

MERSEN INDIA
Bangalore & Pune

MERSEN JAPAN
Tokyo

MERSEN SOUTH KOREA
Seoul

MERSEN OCEANIA
Fairfield Victoria

MERSEN TAIWAN
Taipei