

GRAYSTAR LLC

A Manufacturer and Distributor of
Abrasive Materials and Specialty Products

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Technical Data Sheet

Product: Black Silicon Carbide – Bonded Abrasives and General Industrial (including Pressure Blasting)

Description: Black Silicon Carbide is produced in electrical internal resistance furnaces from high purity silica sand and petroleum coke. Its combination of being very hard and sharp makes it a very aggressive abrasive ideal for many applications.

Applications: Black SiC is typically used on hard or brittle materials. It is also used for kiln furniture, lapping and polishing, non-woven, tumbling, pressure blasting, anti-skid, electrical heating elements, aerospace, composites, etc.

Typical Chemical Analysis:

| | |
|---------------------------------|--------|
| Silicon Carbide (SiC) | 97.80% |
| Free Silicon (Si) | 0.65% |
| Free Silica (SiO ₂) | 0.59% |
| Iron (Fe) | 0.12% |
| Free Carbon (C) | 0.29% |

Physical Characteristics:

| | |
|----------------|-----------------------------------|
| Crystal Form: | Hexagonal (Alpha SiC) |
| True Density: | 3.21 g/cm ³ |
| Hardness: | Knoop (100) 2500 kg/mm, Mohs 9.2 |
| Melting Point: | SiC does not melt but dissociates |
| Color: | Black |

ANSI Test Methods:

| | |
|---------------|--------|
| Chemistry: | B74.15 |
| Sizing: | B74.12 |
| Bulk Density: | B74.4 |

Packaging & Shipping:

Warehousing in Bluffton, SC and Niagara Falls, NY
50 lb. or 55 lb. paper bags
300 lb. fiber drums (grade sizes 8 – 240)
2000 lb. supersacks
Plastic pails, etc. for a surcharge (SC only)

Bulk Density (g/cm³):

| Grit | BD | Grit | BD |
|------|-------------|------|-------------|
| 8 | 1.42 – 1.54 | 60 | 1.46 - 1.58 |
| 10 | 1.42 – 1.54 | 70 | 1.45 - 1.57 |
| 12 | 1.45 – 1.57 | 80 | 1.44 - 1.56 |
| 14 | 1.46 – 1.58 | 90 | 1.43 - 1.55 |
| 16 | 1.47 – 1.59 | 100 | 1.42 - 1.54 |
| 20 | 1.50 – 1.62 | 120 | 1.41 - 1.53 |
| 24 | 1.50 - 1.62 | 150 | 1.39 - 1.51 |
| 30 | 1.50 - 1.62 | 180 | 1.37 - 1.51 |
| 36 | 1.49 - 1.61 | 220 | 1.35 - 1.47 |
| 46 | 1.49 - 1.61 | 240 | 1.35 - 1.47 |
| 54 | 1.47 - 1.59 | | |

Certifications Available:

ANSI
FEPA
Agency and Mil-specs