R.K. Instruments & Controls

TECHNICAL DATASHEET

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Silicon Carbide (SiC) Tubes — Custom Shapes for Flame & Thermal Protection

Brand: R.K. Instruments & Controls | Code/Part No.: Custom / Made to Order | Category: SILICON CARBIDE TUBES

Specifications

Product Type	**Silicon Carbide (SiC) Tube**
Material Grades Available	**Reaction-Bonded SiC (SiSiC/RBSiC) · Sintered SiC (SSiC) · Nitride-Bonded**
Max Use Temperature	**Up to 1380°C (SiSiC) · 1600-1800°C (SSiC) · 1470-1550°C (NSiC)**
Hardness	**Approx. 22-28 GPa — near-diamond hardness, Mohs 9-9.5**
Density	**2.85-3.15 g/cm³ depending on grade**
Chemical Resistance	**Excellent against acids, wear and oxidation; SSiC grade additionally**
Shape/Configuration	**Custom — straight, tapered, flanged, multi-hole and rectangular-bore profiles**
Dimensions (OD/ID/Length)	**As per customer drawing / application requirement**
Typical Applications	**Burner & radiant tubes, kiln furniture / rollers, thermocouple protection**
Manufacturer	**R.K. Instruments & Controls**



Description

R.K. Instruments & Controls supplies Silicon Carbide (SiC) ceramic tubes for demanding high-temperature and corrosive-duty applications. SiC is a near-diamond-hard technical ceramic (Mohs 9-9.5) with high thermal conductivity and strong thermal-shock resistance, offered in three industrial grades: Reaction-Bonded (SiSiC/RBSiC) — cost-effective and dimensionally stable, rated to around 1380°C; Sintered (SSiC) — higher-purity, fully gas-tight, rated to 1600-1800°C and the only grade resistant to hydrofluoric acid; and Nitride-Bonded (NSiC/NBSiC) — rated to around 1550°C. Tubes are manufactured to custom shape and dimension — straight, tapered, flanged, multi-hole or rectangular-bore profiles — for use as radiant burner tubes, kiln rollers and structural beams, thermocouple protection sleeves, blast nozzles, wear liners for abrasive slurry or coal-dust pipelines, and shell-and-tube heat exchangers handling corrosive fluids. Grade, dimensions and end configuration can be specified to your application and drawing.

Typical media compatibility: CNG, PNG, LPG, Air, Nitrogen — confirm against application before installation.