

## SINTER GRADE SILICON CARBIDE POWDER

Sinter Grade Silicon Carbide powders are specially sized to aid in the manufacturing of sintered ceramic parts. They are typically fine powders with a specially tailored particle size distribution.

Panadyne offers a range of sinter grade powders to meet your specific application.



## TYPICAL APPLICATIONS

|                         |                                    |
|-------------------------|------------------------------------|
| Technical Ceramic Parts | Heat Transfer / Thermal Management |
| Sintered Parts          | High Temp Sensors                  |
| Reaction-Bonded         | Ceramic Wear Parts                 |
| Ceramic Parts           |                                    |

## TYPICAL PROPERTIES

|                                      |
|--------------------------------------|
| High Hardness                        |
| Chemical Inertness                   |
| High Thermal Conductivity            |
| Abrasion Resistance                  |
| Low Coefficient of Thermal Expansion |
| Thermal Shock Resistance             |
| Strength at High Temperature Ranges  |



## SINTER GRADE SILICON CARBIDE POWDER TECHNICAL DATA

### TYPICAL CHEMICAL AND PHYSICAL ANALYSIS

|                    | % Free SiO <sub>2</sub> | % Free Si | % Free C | % Total Oxygen | S.S.A. M <sup>2</sup> /g | pH                                    |
|--------------------|-------------------------|-----------|----------|----------------|--------------------------|---------------------------------------|
| FCP 10C            | 0,60                    | 0,05      | 0,20     | 0,20           | 10 m <sup>2</sup> /g     | 6-7                                   |
| FCP 13             | 1,50                    | 0,50      | 0,30     | 1,75           | 13 m <sup>2</sup> /g     | 7-8                                   |
| FCP 13C            | 0,70                    | 0,05      | 0,15     | 0,75           | 13 m <sup>2</sup> /g     | 6-7                                   |
| FCP 15             | 1,20                    | 0,10      | 0,20     | 1,10           | 15 m <sup>2</sup> /g     | 6-7                                   |
| FCP 15C            | 0,75                    | 0,05      | 0,20     | 0,85           | 15 m <sup>2</sup> /g     | 6-7                                   |
| Analytic Procedure | ASNI B 74, 15 1986      |           |          | LECO           | Bet Quantachrome         | 25 Gr. SiC +50 MI D1 H <sub>2</sub> O |

### TYPICAL TRACE ELEMENTS

| Elements                              | Total Fe ppm | Total Al ppm | Total Ni ppm | Total V ppm | Total Na ppm | Total Cr ppm | Total Ca ppm | Total Ti ppm | Total Mg ppm | Total K ppm |
|---------------------------------------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|-------------|
| FCP 10C                               | 30           | 250          | < 10         | 70          | < 100        | < 10         | 20           | 150          | < 100        | 20          |
| FCP 13                                | 1500         | 1750         |              |             |              |              |              |              |              |             |
| FCP 13C                               | 50           | 1200         | < 10         | 60          | < 100        | < 10         | 20           | 200          | < 100        | 20          |
| FCP 15                                | 250          | 250          | < 10         | 70          | < 100        | < 10         | 20           | 150          | < 100        | 20          |
| FCP 15C                               | 30           | 200          | < 10         | 50          | < 100        | < 10         | 20           | 75           | < 100        | 20          |
| Analytic Procedure X Ray Fluorescence |              |              |              |             |              |              |              |              |              |             |