



# SF-7B SILICON CARBIDE FIBER BLEND

› ADVANCED MATERIALS

## TECHNICAL DATA SHEET

### 1. TYPICAL PROPERTIES

CHEMICAL COMPOSITION	Silicon Carbide
CRYSTAL STRUCTURE	Cubic
GEOMETRY	High L/D Fiber + Particle
MEAN DIAMETER, $\mu\text{m}$	7.0 $\mu\text{m}$ (fiber), 20 $\mu\text{m}$ (particle)
MEDIUM LENGTH, $\mu\text{m}$	70 $\mu\text{m}$ (D <sub>50</sub> ) fiber
MODULUS, GPa	350 (fiber, estimated)
DENSITY, g/cm <sup>3</sup>	3.21
HARDNESS (Mohs)	9.5



### 2. PRODUCT DESCRIPTION

SI-TUFF™ SF-7B is an engineered blend powered by a diamond-like fiber that toughens protective coatings and extends their useful lifetime. It improves abrasion, scratch resistance, thermal conductivity, temperature stability, and hardness. It does this at low loading levels without affecting other desired properties. Chemically, SF-7B is high purity, silicon carbide. The key ingredient is a beta silicon carbide fiber. It has a similar cubic crystal structure as diamond and a high aspect ratio, giving it exceptional hardness, mechanical properties, and reinforcing ability. P-SFB is chemically inert, will not react with acids and bases, is immune to all solvents, and is temperature stable up to 600°C in air. It has no extractables and is CFR-21 compliant for indirect food contact.

### 3. PROCESSING AND APPLICATIONS

SI-TUFF™ SF-7B is typically used at loading levels of 2- 6% by weight in polymeric coatings. It is compatible with all resins and all coating methods, including liquid, spray applied, and powder coatings.

### 4. PACKAGING AND PRODUCT HANDLING

SI-TUFF™ SF-7B is produced commercially today and is available immediately for purchase. It can be packaged as a dry powder or a dispersion in resin, oligomer or monomer. Powder is packaged in 50lb (22.7kg) bags contained in fiber drums. Smaller quantities are available for purchase for development purposes. Dry SF-7B powder is a respirable fiber and it is recommended to be handled in a controlled environment. Please consult the SDS ([www.Haydale-technologies.com](http://www.Haydale-technologies.com)) for additional safety and handling information.

### 5. CONTACT HAYDALE CERAMIC TECHNOLOGIES,

We believe in consultative sales and technical collaboration for success. Email us at [sales@haydale-technologies.com](mailto:sales@haydale-technologies.com)

Creating  
**Material**  
Change

