



SF-7 DEAGGLOMERATED SILICON CARBIDE FIBERS

› ADVANCED MATERIALS

TECHNICAL DATA SHEET

1. TYPICAL PROPERTIES

CHEMICAL COMPOSITION	Polycrystalline β -SiC
CRYSTAL STRUCTURE	Diamond Cubic
GEOMETRY	High L/D Rigid Rod Fiber
MEAN DIAMETER, μm	7.0
MEDIUM DIAMETER, μm	65-75 (D_{50})
MODULUS, GPa	350 (estimated)
DENSITY, g/cm^3	>3.0
HARDNESS (Mohs)	9.5

2. PRODUCT DESCRIPTION

SI-TUFF™ SF-7 is a diamond-like SiC additive used to toughen protective coatings and extend their useful lifetime. It improves abrasion, scratch resistance, thermal conductivity, temperature stability, and hardness. It does this at low loading levels without affecting other desirable properties, including non-stick/release, flexibility, and low friction. SF-7 is high purity, polycrystalline β -silicon carbide. It has the same cubic crystal structure as diamond and a high aspect ratio, giving it exceptional hardness, mechanical properties, and reinforcing ability. It is chemically inert, will not react with acids and bases, is immune to all solvents, and stable up to 600°C in air. It has no extractables and is suitable for indirect food contact and is suitable for medical devices.

3. PROCESSING AND APPLICATIONS

If used properly, service life is expected to increase by 20-35%. Critical considerations include selecting the appropriate product grade and form, exercising proper dispersion technique, incorporating into the correct coating layer(s), and using the right loading levels. Haydale Technologies Inc. recommends reviewing the Applications Guide for more detailed usage information before beginning your evaluation.

4. PACKAGING AND PRODUCT HANDLING

SI-TUFF™ SF-7 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-7 powder is a respirable fiber and it is recommended to be handled in a controlled environment. Please consult the SDS (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