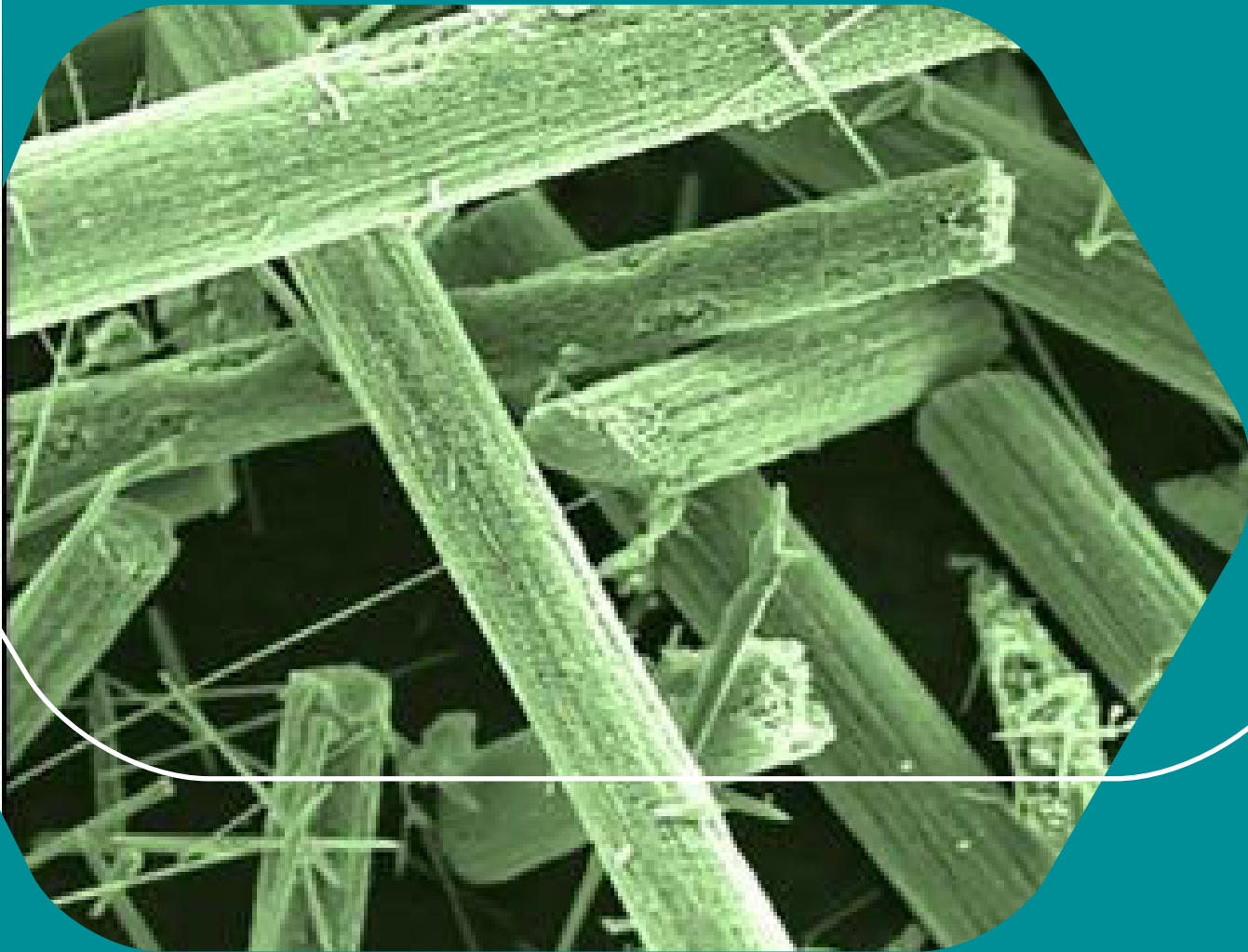


Creating Material Change



SI-TUFF™ SF-1B

Technical Data Sheet



Innovation underpins everything we do

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 HaydaleGraphene



SF-1B Silicon Carbide Microfibers

Haydale's SI-TUFF™ SF-1B 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 at low loading levels without affecting other desirable properties.

Chemically SF-1B is high purity, silicon carbide; the key ingredient is a beta silicon carbide fiber. It has a similar cubic crystal structure to 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.

Processing and Applications:

SI-TUFF™ SF-1B 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.

Haydale recommends reviewing the Applications Guide for more detailed usage information before beginning your evaluation.

Typical Properties	
Chemical Composition	Single Crystal
Crystal Structure	Diamond Cubic
Geometry	High L/D Rigid Rod Microfiber + Particle
Mean Diameter, μm	0.65μm (microfiber), 7μm (particle)
Medium Length, μm	6-7 (D50)
Modulus, GPa	450 (microfiber, estimated)
Density, g/cm ³	3.21
Hardness, (Mohs)	9.5



SUPER TOUGH



HEAT TRANSFER



SUPER STRONG

Packaging and Product Handling:

SI-TUFF™ SF-1B is available immediately for purchase. It can be packaged as a dry powder or a dispersion in resin, oligomer or monomer.

- Powder - packaged in 50lb (22.7kg) bags contained in fiber drums
- Aqueous dispersions - packaged in 400lb (181kg) steel drums
- Smaller quantities - available for purchase for development purposes

Dry SF-1B powder is a respirable fiber and it is recommended to be handled in a controlled environment. Please consult the SDS for additional safety and handling information.

The content supplied in this technical data sheet ("Information") supersedes all previous versions supplied. Version 3, January 2021

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