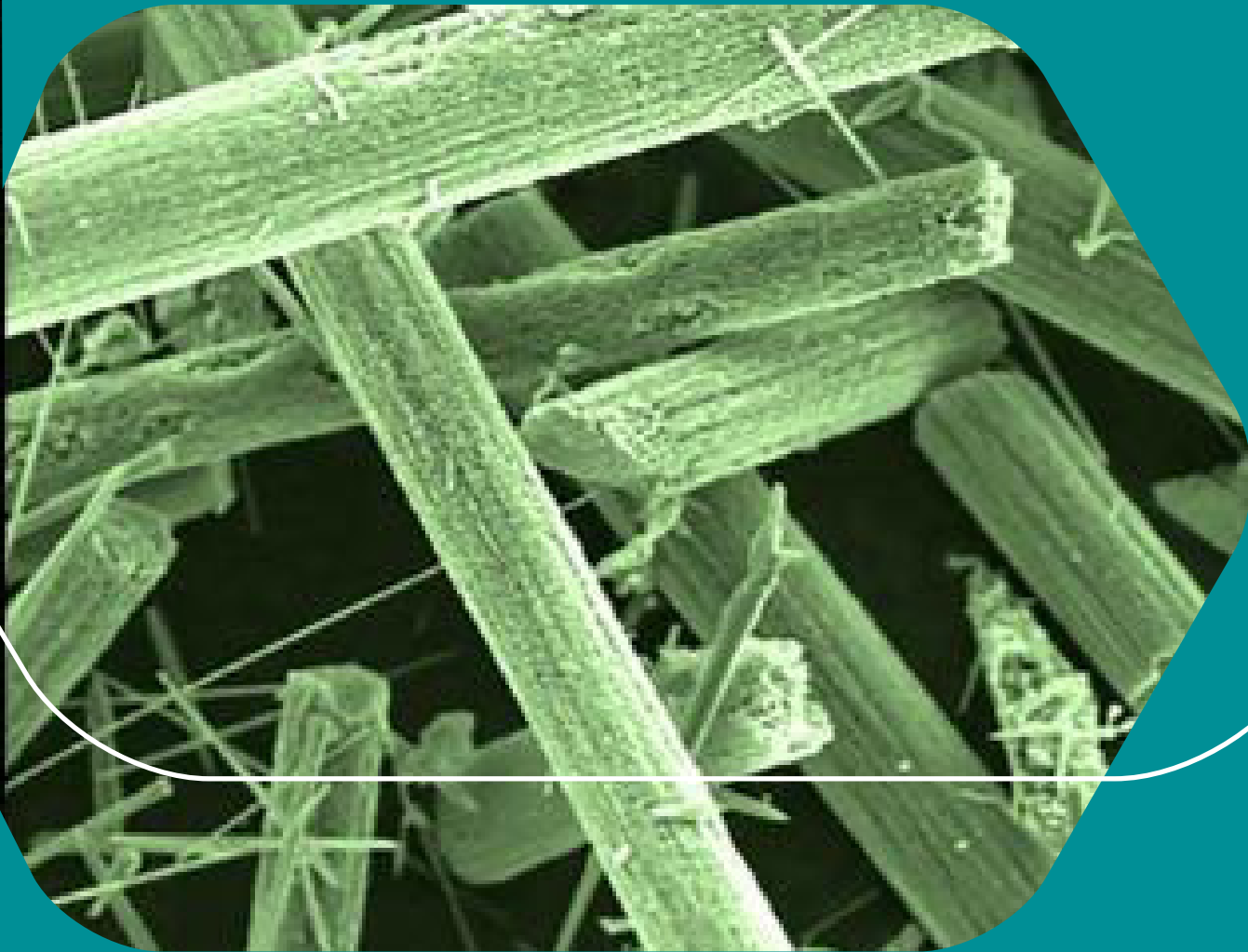


Creating Material Change



SI-TUFF™ SF-1E

Technical Data Sheet



Innovation underpins everything we do

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 HaydaleGraphene



SF-1E Deagglomerated Silicon Carbide Microfibers

Haydale's SI-TUFF™ SF-1E is a diamond-like SiC additive used to toughen protective coatings and extend their useful lifetime. It improves abrasion and scratch resistance, thermal conductivity, temperature stability, and hardness at low loading levels without affecting other desirable properties, including non-stick/release, flexibility, and low friction.

Epoxy-functionality allows SF-1E to chemically lock into the polymer matrix, which can increase performance in compatible reactive coating systems.

SF-1E can interact in complex ways with your coating system, and in many applications can degrade performance.

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 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 |
| Mean Diameter, μm | 0.65 |
| Medium Length, μm | 10-12 (D50) |
| Modulus, GPa | 450 (estimated) |
| Density, g/cm^3 | 3.21 |
| Hardness, (Mohs) | 9.5 |



SUPER TOUGH



HEAT TRANSFER



SUPER STRONG

Packaging and Product Handling:

SI-TUFF™ SF-1E 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-1E 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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