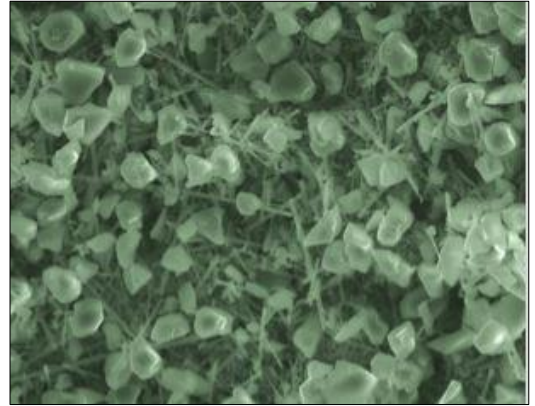


Typical Properties

Chemical Composition	Silicon Carbide
Crystal Structure	Cubic
Geometry	High L/D Microfiber + Particle
Mean Diameter, μm	Microfiber: 0.65 μm Particle: 7 μm
Mean Length, μm	6-8 μm (D_{50})
Modulus, GPa	450 (microfiber, estimated)
Density, g/cm^3	3.21
Hardness (Mohs)	9.5



Product Description

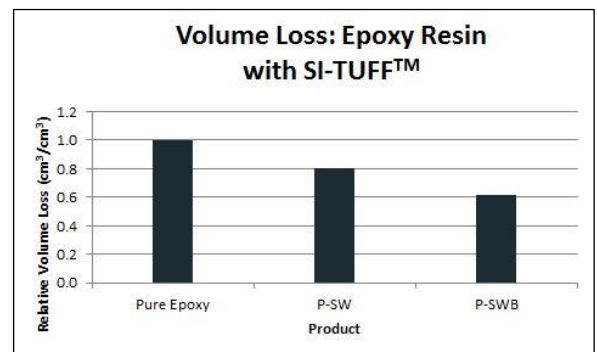
SI-TUFF™ P-SWB is an engineered blend powered by a diamond-like microfiber that toughens protective coatings and extends their useful lifetime. It improves abrasion and scratch resistance, thermal conductivity, temperature stability, and hardness. It does this at low loading levels without affecting other properties, e.g. non-stick/release, flexibility, and COF. Chemically, P-SWB is high purity silicon carbide. The key ingredient is a beta silicon carbide microfiber ($\beta\text{-SiC}$). It has a similar cubic crystal structure as diamond and a high aspect ratio, giving it exceptional hardness, mechanical properties, and reinforcing ability. P-SWB 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.

Application Information

SI-TUFF™ P-SWB 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. The chart shows the benefit of P-SW and P-SWB in an epoxy.

Packaging and Product Handling

SI-TUFF™ P-SWB is packaged as a dry powder, an aqueous dispersion, or a dispersion in resin, oligomer or monomer. Powder is packaged in 50lb bags contained in fiber drums. Aqueous dispersions are packaged in 400lb (181kg) steel drums. Smaller quantities are available for purchase for development purposes. Dry P-SWB powder contains 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



All products 3% loading in Epoxy. Struers ABRAPOL polisher with 320 grit SiC Sandpaper, 100 N force, 300 rpm, 90 seconds, repeat in triplicate.

Contact Haydale Technologies Inc.

We believe consultative sales and technical collaboration is the key to success. Please email us at sales@haydale-technologies.com

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