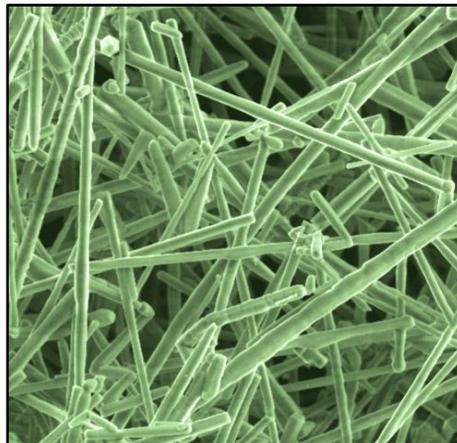


## Typical Properties

|                                 |                               |
|---------------------------------|-------------------------------|
| Chemical Composition            | Single-Crystal $\beta$ -SiC   |
| Crystal Structure               | Diamond Cubic                 |
| Geometry                        | High L/D Rigid Rod Microfiber |
| Mean Diameter, $\mu\text{m}$    | 0.65                          |
| Mean Length, $\mu\text{m}$      | 10-12                         |
| Modulus, GPa                    | 450 (estimated)               |
| Density, $\text{g}/\text{cm}^3$ | 3.21                          |
| Hardness (Mohs)                 | 9.5                           |



## Product Description

SI-TUFF™ P-SW 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. It does this at low loading levels without affecting other desirable properties, including non-stick/release, flexibility, and low friction.

Chemically, P-SW is high purity, single crystal  $\beta$ -silicon carbide ( $\beta$ -SiC). It has the same cubic crystal structure as diamond and a high aspect ratio, giving it exceptional hardness, mechanical properties, and reinforcing ability.

P-SW 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 suitable for indirect food contact and is suitable for use in medical devices.

## Application Information

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.

## Packaging and Product Handling

SI-TUFF™ P-SW is produced commercially today and is available immediately for purchase. It can be packaged as a dry powder, an aqueous dispersion, or a dispersion in resin, oligomer or monomer. Powder is packaged in 50lb (22.7kg) 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-SW 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.

## Contact Haydale Technologies Inc.

We believe consultative sales and technical collaboration is the key to success. Please email us at [sales@haydale-technologies.com](mailto:sales@haydale-technologies.com)

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