



GraphiSeal

- **GraphiSeal** is a low viscosity liquid ceramic precursor resin which heat cures to silicon carbide.
- Used to infiltrate / seal porous graphite, CFC & similar porous substrates used in harsh environments.
- Will improved **oxidation, wear and corrosion resistance** of porous graphite based products.
- One or more impregnation cycles will fill internal porosity (increase density) and further result in a thin film barrier on the surface.
- For additional enhanced properties GraphiSeal can be combined with particulate fillers (alumina, silicon, etc.) to modify both internal and coated surface properties.

- **Attributes of GraphiSeal:**
 - Low viscosity (< 10 cps), air stable liquid
 - Low odor
 - Hard cures at 150 to 220°C in air
 - Pyrolyzes to glass-ceramic in nitrogen or non oxygen environment at 850°C
 - Compatible with most metals, ceramic powders, and carbon/ceramic fibers
 - Solvent free (low VOC's)

- **Processing of Porous Graphite & CFC:**
 - Thin pieces of graphite can be brush /spray coated; for thick pieces soak part immersed in GraphiSeal overnight to ensure full penetration of all open porosity; Vacuum impregnation can speed the process as well as penetrate deeper thickness.
 - Remove impregnated part & wipe off excess resin.
 - Air cure (up to 220°C) in oven
 - High temperature processing(>600°C) in non-oxygen environment (Nitrogen, vacuum, etc) recommended to 850°C but no higher than 1400°C for minimum one hour.
 - Repeat cycle. One or more impregnation cycles will fill internal porosity more completely.
 - Note that during high temp process, some outgassing will occur.

- **Packaging**
 - Available in quart, gallon, 5 gallon & 55 gallon containers
 - Call for pricing.