SC-1400 is a water-based paintable Beta (cubic-crystal-structure) Silicon Carbide (SiC) coating that is usable to 1400 C and above (even to 1600 C for short-time exposure) in air/oxidizing atmospheres to protect all graphite and carbons from oxidation while providing an abrasion resistant layer. Thus, SC-1400 reduces carbon loss and costly graphite component replacement.

**Key Attributes**
- Extends Lifetime & Reduces Maintenance
- Provides a Hard, Abrasion-Resistant Layer
- High Emissivity due to SiC
- Usable on all Graphites / Carbons
- Withstands Cyclic Use
- Forms Sealed-Porosity-Coating That Stops Oxidation: Performs Best if Used > 700 C (>1292 F) due to Pore-Sealing
- Water-based, Ready-to-use, Like Housepaint

**Ideal Use**
- Oxidation Reduction/Prevention with Graphite and Carbons
- Abrasion-Resistant Surface Sealant Layer for Graphite

**Use Notes**
1. DO NOT DILUTE.
2. Resuspend the paint.
3. Lightly roughen (sandpaper or grit-blast) the surface to be coated.
4. Clean surface of all loose dust/powder.
5. Apply 2-4 coatings [3-10 mils, 0.003-0.01 inch or 0.08-0.25 mm] by brush or spray, drying thoroughly between applications and before heating to use-temperature.
6. Coating is fully hard and water-resistant after heating to >350 C (>662 F).

**Typical Graphite Protection from Oxidation for 1 Hour at Soak Temperature**

<table>
<thead>
<tr>
<th>Material</th>
<th>Soak Temp. (C)</th>
<th>% Unreacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coated w/SC-1400</td>
<td>1400</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>1600</td>
<td>80</td>
</tr>
<tr>
<td>Uncoated</td>
<td>1400</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1600</td>
<td>0</td>
</tr>
</tbody>
</table>

Heating & cooling times were 4.5 h (1400 C) or 5.5 h (1600 C); samples were 1" D, 1" H cylinders of CS-312 graphite; coatings were 0.2 mm thick (7-8 mils); three brush applications.

**Specifications**

- **Active Ingredient**: Beta Silicon Carbide
- **Max Use Temperature**: 2552 F / 1400 C
- **Short-Term Use To**: 2912 F / 1600 C
- **Use Atmosphere**: Air [others also OK]
- **Fired Composition**: >75% SiC with proprietary Binder
- **Liquid Carrier**: Water
- **Brookfield Viscosity (cps)**: 1700-2700 @3/30
- **Specific Gravity**: 1.85
- **Color**: Greenish-Gray
- **Shelf Life (months)**: >12
- **Coverage (ft2/gal)**: 100-400
- **Coating pH**: 2-3
- **H F R Ratings**: 1-1-0
- **Substrate Use**: Graphite

**Sizes and colors**

SC-1400 is greenish-gray colored paint. Standard Size: wide-mouth 1 gallon pail.

**Safety Information**

- Consult MSDS before use.
- Avoid breathing of spray/vapors.
- For Industrial use only.

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