SOLAR® Crucibles

Added Value Through Quality, Safety In Use And Innovation

Partners in performance with Fused Silica
Where solar meets ceramics

Quality and efficiency

Fused Silica SOLAR® Crucibles are an integral part of the production process of multicrystalline Solar Grade silicon ingots. With the development program stretching back almost 20 years, and a partnership with the major players in the PV industry, Vesuvius has made full use of the unique properties of their Fused Silica to develop what has become the industry standard SOLAR® Crucible - Gen4 and Gen5.

This innovative approach has helped the PV industry to dramatically improve both efficiency and output.

Technical properties

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<tr>
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<th>SOLAR® Crucible 4000</th>
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<tr>
<td>Metal impurities (Fe, Cu, Ti, Zr, Cr, Ni)</td>
<td>&lt; 45 ppm</td>
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<td>Flexural strength (MPa)</td>
<td>&gt; 12</td>
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<td>Bulk density (g/cm²)</td>
<td>1.89 to 1.96</td>
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<td>Thermal conductivity (W/mK)</td>
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<tr>
<td>20°C</td>
<td>0.64</td>
<td></td>
</tr>
<tr>
<td>500°C</td>
<td>0.81</td>
<td></td>
</tr>
<tr>
<td>700°C</td>
<td>0.89</td>
<td></td>
</tr>
<tr>
<td>1300°C</td>
<td>1.72</td>
<td></td>
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<tr>
<td>Thermal expansion coefficient (%K)</td>
<td>0.8 x 10⁻⁶</td>
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Full traceability: Each Vesuvius SOLAR® Crucible has its own individual reference number and is supplied with a unique quality assurance report, including a bar code marking system.
Cutting edge development

More than just crucibles - Vesuvius, the market leader

- Vesuvius SOLAR® Crucibles are the industry standard. Making SOLAR® Crucibles since 1989, Vesuvius is the only supplier certified by GT Solar.
- With exceptionally high purity and state of the art production, Vesuvius SOLAR® Crucibles have a record of unparalleled reliability.
- Vesuvius is the world market leader, introducing the new Gen6 SOLAR® Crucible in 2007 and selling hundreds of thousands SOLAR® Crucibles to date.
- All Vesuvius SOLAR® Crucibles are provided with an innovative SESAME® Box packaging and delivery method for easy handling.
- Vesuvius worldwide presence provides the industry with top of line service and production with continuous ongoing technical development.

Generation development

1989 The first SOLAR® Crucible ever produced – Manufactured by Vesuvius
1993 Vesuvius launched the Gen4 SOLAR® Crucible and it rapidly became the industry standard.
2004 Leading the industry in research and development, Vesuvius offers the first Gen5 Jumbo SOLAR® Crucible. This new innovation dramatically increased efficiency and output for the industry.
2007 and beyond Vesuvius prides itself on meeting market demand with the newest technology and the Gen6 SOLAR® Crucible is exactly that. Vesuvius will continue to be the worldwide market leader by providing the customer with the latest technology, first.

Fused Silica Division
SOLAR® Crucible Generations

1989
Gen3 = 9 blocks

1993
Gen4 = 16 blocks

2004
Gen5 = 25 blocks

2007
Gen6 = 36 blocks
Blocks of 150/156 mm²
The physical or chemical properties and specifications of the products set forth herein represent typical average results achieved in accordance with generally accepted standards. Test methods, procedures and conditions are subject to normal manufacturing variations. Vesuvius reserves the right to modify the properties and specifications at any time without prior notice. This brochure is not a warranty of any kind, either expressed or implied. Any warranty of merchantability or of fitness for a particular purpose is expressly disclaimed. Users expressly assume all risks and liabilities arising from the use of a reliance upon this information.