Heat & Acid-Resistant Ceramic Coating

- Ceramic Coating in high temperature at 800°C and oxidation condition to prevent corrosion (DY-8000)

- Ceramic Coating in high temperature at 2100°C and oxidation condition to prevent corrosion (DY-2100)
DY–8000 and DY–2100 are ceramic coating products that combine nano-silica with ceramic composite materials. These are high performance, heat resisting coatings in high temperatures of 800 °C and ultra high temperature of 2100 °C respectively.

<table>
<thead>
<tr>
<th>Thermal resistance</th>
<th>Excellent acid-resistance</th>
<th>Thermal shock protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Heat resistance at 800°C (DY-8000)</td>
<td>• Excellent acid-resistance against hydrochloric acid, sulfuric acid, nitric acid, phosphoric acid, etc.</td>
<td>• Protection from the thermal shock by using binder and materials that can resist in ultra high temperature</td>
</tr>
<tr>
<td>• Heat resistance at 2,100°C (DY-2100)</td>
<td>• Superb chemical resistance, chloride resistance and corrosion prevention</td>
<td>(Binder and heat resisting materials absorb the thermal shock)</td>
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<tr>
<td>• No cracks or delamination due to sudden thermal impact</td>
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<th>Eco-friendly / nonflammable</th>
<th>Durability and abrasion resistance</th>
<th>Excellent constructability</th>
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<td>• Eco-friendly product that does not inflict any volatile toxic substance or heavy metals</td>
<td>• High performance ceramic with superb durability</td>
<td>• Simple but excellent constructability with 1 liquid (mixing liquids or primers are not required.)</td>
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<tr>
<td>• Also a nonflammable product that has no fire risk</td>
<td>• Excellent coating strength &amp; abrasion resistance</td>
<td>• Room temperature setting (If necessary, bake hardening is also possible.)</td>
</tr>
</tbody>
</table>
Ceramic Coating for various facilities that use high temperatures (800°C) and oxidation conditions

- Boilers
- Desulfurizers
- Dust collectors
- Incinerators
- Ducts
- Turbines
- Heaters
- Containers
- Tanks

Ceramic Coating for various facilities that use ultra high temperatures (2100°C) and oxidation conditions

- Steam turbines
- Facilities for coal
- Incinerator
- Heat engine
- Smelting furnace, shaft furnace
- Refractories

### Specifications

<table>
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<tr>
<th>Product</th>
<th>Volume</th>
<th>Thickness</th>
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<tr>
<td>DY-8000</td>
<td>0.1~0.2 Kg/m²</td>
<td>40 ~ 60 μm</td>
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<tr>
<td>DY-2100</td>
<td>0.1~0.2 Kg/m²</td>
<td>40 ~ 60 μm</td>
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</table>

※ Method: spray, roller and brush, coating twice (1 liquid)
Test Results

**DY-8000 Heat Test**

-[750°C Heat Test]-

Test OK at 750°C

**DY-8000 Acid Proof Test**

-[5% Soaking Test]-

5% hydrochloric acid 5% sulfuric acid

Test OK after soaking in 5% & 30% hydrochloric acid and sulfuric acid for 24 hours

-[30% Soaking Test]-

**[400°C Thermal Shock Test]**

Test OK for rapid cooling / 4 times at 400°C

**DY-2100 Heat Test**

Only steel with a general coating is cut off.

It is not cut off even with welding machine.
Construction Cases

DY-8000 Sample

[Korea Zinc Co. Inc.] Corrosion prevention in high temperature at 200℃ and oxidation condition

Suffered corrosion after Teflon coating

[Korea Zinc Co. Inc.] Corrosion prevention in high temperatures of 400℃ and oxidation conditions

Ceramic coating on facility coated with Teflon

DY-2100 Sample

[Korea Zinc Co. Inc.] Corrosion prevention in high temperatures of 600℃ and oxidation conditions

[SeAH Besteel Co.] Corrosion prevention and erosion control in high temperatures of 1300℃

Pipes at the ceiling were worn down and eroded by oxygen (approx. 1,300 ℃).