Fortafix High Temperature Adhesives

FORTAFIX HIGH TEMPERATURE ADHESIVE – LIGHT/MEDIUM/HEAVY
- A dense water based Ceramic Adhesive paste.
- Designed for bonding, jointing or repairing glass, ceramics, metals, quartz and steatite.
- Excellent adhesive, thermal, electrical and mechanical properties.
- Cold setting.
- Available in three viscosities – Heavy, Medium and Light Grades.
- Operating temperatures of 850 > +1000°C.

Typically Used For
- **Elements**
- **Resistors**
- **Heaters**
- **Ovens**
- **Hot Plates**
- **Thermocouples**

- Heavy Grade - For use for sealing and gap filling applications where little or no porosity is evident in substrates.
- Medium Grade - General purpose high temperature adhesive.
- Light Grade - For use when porous materials are bonded or when a consistency more fluid than Medium Grade is required.

Principal Characteristics
- Suitable for Thin films/ Coating and Bonding.
- Maximum Continuous Service Temperature: > +1000°C (depending on Grade).
- Available as a white paste.
- Ready to use.
- Sets to form hard and rigid ceramic mass which is resistant to thermal shock and age.

Health and Safety / Environmental Information
- See separate MSDS sheet. (MSDS – Fortafix High Temperature Adhesive - All Grades).
- RoHS Compliant.
Guidelines for Use

Application
- Stir/shake contents of the container prior to use, to ensure product is thoroughly mixed.
- Thoroughly clean and degrease all surfaces to be bonded or sealed.
- A light surface abrasion of the material to be bonded will increase the surface area available for adhesion and improve mechanical key.
- Apply the sealant as supplied to all surfaces to be bonded and complete tooling within 5-10 minutes.
- Apply moderate pressure to ensure even anchorage and solid contact of the surfaces to be bonded, so that all surfaces are fully wetted.
- Secure components and allow the adhesive to set.
- All application equipment should be cleaned with warm water immediately after application.

Curing Schedule
- As this product is water based, it is necessary to fully dry and dehydrate the adhesive.
- The curing of this product may vary depending on temperature, humidity, porosity of substrates, volume of adhesive and area etc. A rough guide for typical applications at room temperature and average humidity would be approximately 36-48 hours.
- Curing may be accelerated by the application of gentle and progressive heat (do not exceed 100°C during curing as this may lead to product failure).
- The cured product may be removed using steam/boiling water (high pH will also aid removal).

Storage
- Once opened this product is moisture sensitive avoid continuous exposure to air.
- Product should be stored in original packaging between 5 - 30°C.
- Shelf life – 12 months.
# Fortafix High Temperature Adhesives

## Principal Characteristics:

<table>
<thead>
<tr>
<th>Property</th>
<th>Heavy Grade</th>
<th>Medium Grade</th>
<th>Light Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Softening Temperature</td>
<td>1250°C</td>
<td>1200°C</td>
<td>850°C</td>
</tr>
<tr>
<td>Melting Temperature</td>
<td>1350°C</td>
<td>1300°C</td>
<td>1000°C</td>
</tr>
<tr>
<td>Wet Density g cm⁻³</td>
<td>2.75</td>
<td>2.4</td>
<td>1.71</td>
</tr>
<tr>
<td>Thermal Conductivity W.m⁻¹.k⁻¹</td>
<td>1-2</td>
<td>1-2</td>
<td>1-2</td>
</tr>
<tr>
<td>Thermal Expansion x10⁻⁶°C⁻¹</td>
<td>-</td>
<td>10</td>
<td>10.5</td>
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<tr>
<td>Dielectric Strength KV.mm⁻¹</td>
<td>-</td>
<td>7-10</td>
<td>7-10</td>
</tr>
<tr>
<td>Volume Resitivity Ωcm</td>
<td>-</td>
<td>&gt;10^7</td>
<td>&gt;10^7</td>
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<tr>
<td>pH</td>
<td>13</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Expansion</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oxidation Resistance</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Excellent</td>
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<tr>
<td>Acid Resistance</td>
<td>Excellent – Except hydrofluoric</td>
<td>Excellent – Except hydrofluoric</td>
<td>Excellent – Except hydrofluoric</td>
</tr>
<tr>
<td>Coverage</td>
<td>2 m²L⁻¹</td>
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</tr>
<tr>
<td>Packaging</td>
<td>250ml, 1, 5 and 25 L tins</td>
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</tr>
</tbody>
</table>

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