



## DATA SHEET

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### Fortafix High Temperature Adhesives

#### **Product: FORTAFIX QS/B4: 2-PART CHEMICAL SETTING ADHESIVE (Filler + Binder)**

##### Principal Characteristics

**Two Part Chemical Setting Adhesive Cement. (Filler + Binder system)**

**Water based. Ceramic Adhesive paste to +1250°C.**

2-part Filler/Binder - variant of 'Fortafix Light/Medium/Heavy grades.

Chemical setting action - Sets to form hard and rigid ceramic mass.

Improved water resistance when compared to pre-mixed products.

Designed for bonding, assembling, sealing, jointing or repairing glass, ceramics, metals, quartz etc.

Suitable for Bonding, Thin Films/Coatings, Thick Sections and Potting/Encapsulation.

Excellent electrical, thermal, and mechanical properties.

Resistant to thermal shock.

<b>Mixing ratio</b>	3 part by weight Filler 2 part by weight Binder	<b>Pot Life @ 20°C</b>	15-20 minutes
<b>Softening Temperature</b>	Up to 1150°C	<b>Melting Temperature</b>	Up to 1250°C
<b>Oxidation Resistance</b>	Excellent	<b>Resistance to alkali, acid, organic solvents</b>	Good
<b>Dielectric Strength</b>	7-10 KV.mm <sup>-1</sup>	<b>Volume Resistivity</b>	>10 <sup>17</sup> Ω cm
<b>Thermal expansion</b>	10.5 x10 <sup>6</sup> C <sup>-1</sup>	<b>pH</b>	13
<b>Binder solids by weight</b>	38.54%	<b>Packaging</b>	1 litre - Binder 1 kg - Filler

##### Typical Applications

- Elements
- Ovens
- Hot plates
- Encapsulating elements and resistors
- Potting/Embedding
- Heaters

## Health and Safety / Environmental Information

- See separate MSDS sheets. (MSDS – Fortafix QS/B4 Filler – Fortafix QS/B4 Binder).
- RoHS Compliant.

## Guidelines for Use

### Mixing Instructions

Mix binder and filler in a **ratio of 3 parts (by weight) filler: 2 parts (by weight) binder.**

Weigh quantities precisely.

Add powder filler to liquid binder and **mix for 3-5 minutes** until a smooth homogeneous paste is formed.

Mixing equipment should be washed out immediately after use with water before adhesive hardens.

**Note** – The above consistency should provide a mix satisfactory for most applications. If required the binder content may be varied by up to 20% to meet special requirements, however, additional binder will increase setting time & drying shrinkage and may slightly reduce maximum service temperature.

### Application

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 adhesive to 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

**This product is water based, it is necessary to fully dry and dehydrate the adhesive for use at high temperatures.**

Initial 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.

Full curing is achieved by the application of gentle and progressive heat.

**Care must be taken when raising the temperature through 100°C during first curing as this may lead to boiling of residual water in the glue line and product failure.**

Partially cured product may be removed using warm water.



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### Storage

Once opened, seal containers, to avoid continuous exposure to air.

Product should be stored in original packaging between 5 - 30°C.

Protect 'Binder' solution from freezing – may cause separation of components.

Shelf life – 12 months.