FortaFix

A brand of MINKON

DATA SHEET

Fortafix High Temperature Adhesives

Product: AUTOSTIC FC & FS SERIES - HIGH TEMPERATURE ADHESIVES

Principal Characteristics

Ready to use. Non-combustible. Pre-mixed water based Ceramic Adhesive paste to +1000°C.

Available in a range of viscosities.

FC4 for use with spray or dipping application (1000 MPa).

FC6 for use with brush or spreader (1400 MPa).

FC8 for use with trowel or cartridge gun application (3000 MPa).

FC9 for cartridge gun application (3500 MPa).

FS is a faster curing product than the FC Series - for cartridge gun application (2000 MPa)

Can be applied by spray, cartridge or trowel

Suitable for Thin films, Coating and Bonding.

Designed for bonding, jointing or repairing most glass, metal & ceramic materials.

Sets to form hard and rigid ceramic mass which is resistant to thermal shock.

Excellent adhesive, thermal, electrical and mechanical properties.

Maximum Continuous Service Temperature: > 1000°C (depending on Grade).

Fire Protection: Non-combustible adhesive/sealant

Will comply with BS 476: Part 4: Non combustibility test for materials & EN13501-1: Fire Test to Building Material - Class A1

Typical Applications

- **Elements**
- **Fire Doors**
- **Glazing Bars**
- **Heaters**
- **Hot Plates**
- **Resistors**
- **Ovens**
- **Thermocouples**

Health and Safety / Environmental Information

- See separate MSDS sheet. (MSDS – Fortafix Autostic FC/FS Series).
- RoHS Compliant.

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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 adhesive 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

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 boiling of residual water in the glue line and product failure.

Partially cured product may be removed using steam/ boiling water (very high pH will also aid removal).

Storage

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

Cartridges should be stored in an upright position at all times.

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

Protect from freezing – may cause separation of components.

Shelf life – 12 months.

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Characteristics:

Softening Temperature	**1000°C**	Compressive Strength	**28.4 MPa**
Melting Temperature	**1100°C**	Tensile Strength (between steel plates)	**1.7MPa**
Wet Density	**2.08 gcm^{-3}**	Max. Tensile Stress (bending test)	**7.1MPa**
Thermal Conductivity	**0.5-1.0 $Wm^{-1}K^{-1}$**	Shear Strength	**3.2 MPa**
Thermal Expansion	**18-20 x $10^{-6}C^{-1}$**	Max. Tensile strength (bending test)	**7.1 MPa**
Dielectric Strength	**400 KV mm^{-1}**	Hardness	**VPN 6 (1kg load)**
Dielectric Constant	**41.2**	Shrinkage (150-500°C)	**1.5%**
Volume Resistivity	**>10^{9}Ωcm**	pH	**13**
Oxidation Resistance	**Excellent**	Alkali Resistance	**Can be re-dissolved at high pH**
Colour (FC/FS)	**Off-White/White**	Acid Resistance	**Excellent except for hydrofluoric**
Packaging	FC4, 6 and 8: 500g 3Kg.	**FC9 FS: 300ml Cartridge.**	

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