3MS.009
Magnesium Oxide-Based Adhesives

Summary

Physical variables included in this documentation are provided by way of indication only and do not, under any circumstances, constitute a contractual undertaking. Please contact our technical service if you require any additional information.

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Overview

Final Advanced Materials is collaborating with Cotronics to offer magnesium oxide-based adhesives. These products are highly resistant and can be used in many applications.

Areas of application:

- Research and development, electronics, metallurgical, industrial and nuclear applications, etc.

Applications:

- Bonding of steel, aluminium, brass, copper and metals with a high expansion coefficient

Advantages:

- Max. operating temperature: up to 1,650 °C
- Very high expansion coefficient
- Resistant

Safety

Do not inhale the powders! Wear a mask when handling in large quantities.

Avoid all contact with the eyes or skin.

In the event of an accident, quickly clean skin and eyes with water and consult a doctor.

We will provide you with the material safety data sheets.

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COTRONICS CORP
High Temperature Specialty Materials Since 1971

Resbond™ 906

High thermal expansion, 1,650 °C

The Resbond™ 906 adhesive is prepared with magnesium oxide. It is specially formulated for bonding high expansion materials

Properties

- Very high expansion coefficient ideal for bonding metals
- Operating temperature: 1,650 °C

Applications

- Bonding with steels, aluminium, brass, copper and metals with a high expansion coefficient

Implementation

- Two-component with a paste-like consistency once mixed
- Viscosity can be adapted with the 906T binder
- Curing at room temperature
- Post-curing at 120 °C minimum for optimal properties

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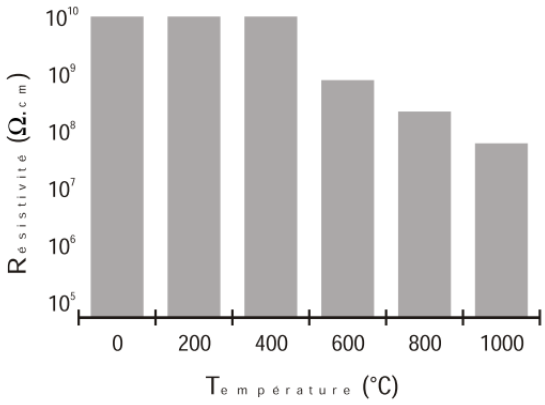
Resbond™ 919

High dielectric strength, 1,530 °C

Specially formulated with magnesium, the Resbond™ 919 adhesive is the best moulding and bonding material for electrical applications with a dielectric constant of 10.5 kV/mm.



Properties

- Dielectric strength of 270 V/mm
- High mechanical strength
- High and stable dielectric properties even when exposed to cold or hot temperatures

The table opposite shows its electrical resistance according to the temperature.

Applications

- Manufacture of insulators for electrical resistors.

Implementation

- Gradually mix the powder with distilled water.

Note: The optimal ratio of water is 13 to 15 % depending on the ambient humidity and possible degassing conditions.

- Curing in 24 hours at room temperature
- Post-curing at 120 °C for 4 hours for optimal properties

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Technical Data

Property	Unit	906	919
Max. Operating Temperature	°C	1,650	1,530
Components		2	2
Appearance		Paste	Paste
Filler		MgO	MgO
Compressive Strength at 20 °C	MPa	20.7	31
Flexural Strength at 20 °C	MPa	10.3	3.1
Thermal Conductivity	$W.m^{-1}.K^{-1}$	5.76	0.57
Thermal Expansion	$10^{-6}.K^{-1}$	12.6	4.7
Dielectric Strength	kV/mm	9.75	0.27
Resistivity	Ω.m	10^{7}	10^{9}
Mix Ratio	Powder - Binder	100 - 42	100 -13
Cure at Room Temperature		24 hrs	24 hrs
Fast Cure		-	4 hrs at 120 °C
Post-Cure		-	-

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