

COTRONICS RESBOND HIGH TEMP. ADHESIVE PROPERTIES

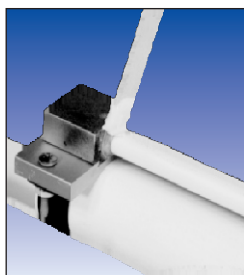
The following criteria is useful in selecting the optimum ceramic adhesive.
 These criteria are offered as a general guide and should be followed in the approximate order listed.
 A final manufacturing selection is then based on the results obtained.
 If several adhesives are indicated for a specific application, we would recommend a comparative evaluation be made.

1. Choose maximum temperature required.
2. Match thermal expansion between materials to be bonded.
3. Select the required electrical properties.
4. Select the bond strength requirements.
5. Check for porous surfaces (is a primer or pre-coat required).
6. Check moisture or humidity requirements.
7. Choose from the following manufacturing requirements:
 - A) One component, cures by evaporation.
 - B) Two component, chemical set.
 - C) Viscosity and Dispensability.
 - D) Cure time for handling strength.
 - E) Production Requirements.

Composition	Alumina			Zirconia	Zircon	Mica	Magnesia	Silica		Graphite	Metallic						
	901	903HP	908					920	989		904	940	907	906	919	905	940LE
Resbond™	Fiber Base	Hi-Bond Strength	Moisture Proof	Therm. Cond.	General Purpose	Ultra Temp.	Fast Set	Industrial Strength	High Expan.	High Resist.	Low Expan.	Fast Set	High Strength	Graphite	Alum. Metal	Nickel Metal	Stainless Steel
Service Temp (°F)	3,000	3,000	3,000	3,000	3,000	4,000	2,000	2,300	3,000	2,800	2,500	2,500	1,800	5,400	1,200	2,000	2,000
Base	Al ₂ O ₃	Al ₂ O ₃	Al ₂ O ₃	Al ₂ O ₃	Al ₂ O ₃	ZrO ₂	Zircon	MICA	MgO	MgO	SiO ₂	SiO ₂	SiO ₂	Carbon	Al	Nickel	316SS
Comprehensive Strength (psi)	1,200	7,000	3,000	4,500	3,000	6,000	4,000	3,500	3,000	4,500	3,200	3,500	5,000	3,000	4,000	5,000	4,500
Flexural Strength (psi)	600	3,500	1,100	450	1,100	3,000	1,800	1,250	1,500	450	2,100	2,100	1,450	1,500	3,000	3,000	2,500
Thermal Expansion (10 ⁻⁶ / °F)	4	4	4.5	4.5	4.5	4.1	4.5	4.5	7	2.6	0.3	0.4	7.5	4.1	10	4	10
Thermal Conductivity (BTU - in / Hr. °F Ft ²)	2	40	15	15	15	15	8	6	40	4	10	5	8.3	60	44	14	10
Dielectric Strength (volts / mil)	200	250	200	270	200	250	125	300	250	270	200	125	100	COND.	COND.	COND.	COND.
Volume Resistivity (ohm-cm)	10 ¹²	10 ¹⁰	10 ¹⁰	10 ¹¹	10 ⁸	10 ⁸	10 ⁸	10 ⁹	10 ⁹	10 ¹¹	10 ¹¹	10 ⁸	10 ⁹	COND.	COND.	COND.	COND.
Components	1	1	2	2	1	1	2	1	2	2	2	2	2	2	2	2	2
Mix Ratio	N/A	N/A	100/33	100/14	N/A	N/A	100/28	N/A	100/42	100/13	100/60	100/45	100/20	100/35	100/60	100/120	100/25
Consistency	Paint	Paint	Paste	Paste	Paint	Paint	Paste	Paste	Paste	Paste	Paste	Paste	Paste	Paste	Paste	Paste	Paste
Page Number	51	26	26	29	27	32	31	30	28	29	28	31	30	32	33	33	33

RESBOND™ CERAMIC ADHESIVES

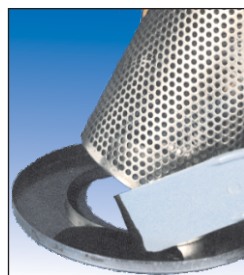
Structural, Electrical and Metallurgical Applications



Resbond™ 904



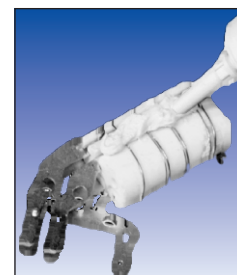
Thermeez™ 7030



Durabond™ 950



Resbond™ 940LE



Resbond™ 989

Resbond Ceramic Adhesives are based on high purity, ceramic binders and selected reinforcing fillers. They were designed to satisfy the most difficult, high temp. application requirements.

These adhesives have excellent adhesion to ceramics, metals, glass and plastics and offer excellent high temp. stability, dielectric strength, mechanical properties and thermal shock resistance.

They are resistant to molten metals, oxidizing and reducing atmospheres, most chemicals and solvents.

Just mix and cure at room temp. No objectionable odors, VOCs' or outgassing.

Resbond adhesives are available in a wide range of temperature capabilities, viscosities, strengths, expansion rates, conductivities, and dielectric strengths.

They are the ideal choice for research, electronics, metallurgical, nuclear and industrial applications.

Bond Ceramic to ceramics, metals, or glass for high temp. structural bonds.

Impregnate Insulator parts for electrical components, appliances, heaters, etc.

Coat Metals, ceramics, glass, cloths, windings, etc.

Electronics Encapsulation, resistors, high intensity lamps, fiber optics.

Equipment Bonding door gaskets, thermocouples, furnace parts, feed thrus, vacuum equipment, seals, etc.

Appliances Seals thermocouples, bonds heating elements, etc.

Instrumentation Bonds and coats coil forms, fiber optics, strain gauges, etc.

Production Light bulbs, gas ignitors, automotive sensors, end seals, catheters, thread locking, etc.

970N Resbond Structural & Electrical Specialty Adhesive Selector Kit

Seven High Temperature Adhesives
in Convenient 4 oz. Bottles
Ideal for Simplifying
Product Evaluation and Selection



Each Kit Contains:

Cat. No.	Description	Use For	Temp.	Pg. No.
Resbond 901.....	Fiber Based Alumina.....	Bonding and coating porous materials	2300°F	24, 51
Resbond 907GF.....	Gasket Former/Adhesive.....	Sealing, bonding filling	2350°F	24, 38
Resbond 919.....	Electrically Resistant.....	High resistance, encapsulating and bonding	2800°F	24, 29
Resbond 989.....	General Purpose Alumina.....	Coating and bonding	3000°F	24, 27
Resbond 940.....	Fast Setting Ceramic.....	Strong bonds, available in custom grades	2000°F	24, 31
Durabond 950.....	Metallic Aluminum.....	High thermal conductivity and machinability	1200°F	24, 33
Thermeez 7030.....	Strong, Epoxy-Like Ceramic.....	Bonding, coating, high expansion applications	1800°F	24, 30

970N Kit151.31