PRODUCT INFORMATION

PRODUCT

(TYPICAL PROPERTIES)
These should not be considered as specifications.

KEY PC2024A/B
LONG POT LIFE, HIGH VISCOSITY TOUGH-SEAL

DESCRIPTION

KEY PC2024A/B is a tough and durable two component, hybrid epoxy elastomer that features a higher viscosity than KEY Tough-Seal 22 to limit lateral flow in "glob top" encapsulation. **KEY PC2024A/B** is a superior electrical potting compound with excellent thermal cycling performance. It maintains this exceptional flexibility from –40°C to 150°C (-40°F to 300°F) and it resists contraction during thermal cycles so it protects sensitive electronics. Since **KEY PC2024A/B** is an epoxy and not a urethane, it does not incorporate isocyanates and **KEY PC2024A/B** has a mild health and safety profile.

ADVANTAGES & APPLICATIONS

- ✓ Excellent Thermal Cycling Performance & Thermal Shock Resistance
- ✓ Resilient, Tough, Durable, High Elongation
- ✓ Low Embedment Stress on Electronics, Low Shrinkage
- ✓ Adhesion to Thermoplastics and Wire Insulation, Specific Adhesion to Aluminum

PHYSICAL PROPERTIES *(Typical)*

	KEY PC2024A	KEY PC2024B	MIX
Color	Off White	Black	Grey / Black
Viscosity at 25°C Brookfield RVT	7,000 cP #5 @ 20 rpm	184,000 cP #5 @ 10 rpm	80,000 cP #7 @ 10 rpm
Specific Gravity	1.32	1.28	1.29
Density (lbs/gal)	11.0	10.7	10.8

CURED PROPERTIES *(Typical)*

Property	ASTM	Temperature	Value
Elongation at Break	D638	25°C (77°F)	225%
Hardness, Shore A	D2240	25°C (77°F)	64A

CURE SCHEDULE *(Typical)*

Gel Time (100g):	60 minutes at 25°C (77°F)
Hard Cure	Overnight at 25°C (77°F)
Full Cure	3 to 5 Days, Dependent on part size
Accelerated Cure	Yes, Mild Heating 66 to 80°C (150-175°F)

INSTRUCTIONS FOR USE

MIX RATIO By	WEIGHT	VOLUME
KEY PC2024 Part A	51 A	1 A
KEY PC2024 Part B	100 B	2 B

Combine Part A and B and mix thoroughly, being careful to limit entrapped air during mixing. Scrape sides, walls and bottom of container. Pour material into part and cure. Bulk meter-mix dispensing machines and convenient cartridges provide air free mixing.

SAFETY & HANDLING

PLEASE READ MATERIAL SAFETY DATA SHEET BEFORE USING.
Avoid all contact with skin, eyes, clothing and food. Wash thoroughly after handling.

SHELF LIFE & STORAGE INFO

For Unopened, Factory Sealed Containers

KEY PC2024 Part A	3 Months from Date of Manufacture (15°C to 35°C)
KEY PC2024 Part A	12 Months from Date of Manufacture (-18°C to 3°C)
KEY PC2024 Part B	12 Months from Date of Manufacture (-18°C to 35°C)
KEY PC2024AB Cartridges	3 Months from Date of Shipment (15°C to 35°C)
KEY PC2024AB Cartridges	12 Months from Date of Shipment (-18°C to 3°C)

KEY POLYMER CORPORATION
SPECIALTY CHEMICAL COMPOUNDS
17 Shepard Street, Lawrence, MA 01843-1023 ■ 978/683-9411 ■ FAX 978/686-7729

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KEY PC2024A/B
HIGHER VISCOSITY TOUGH-SEAL

CURED PROPERTIES
(Typical) Page 2

Electrical Properties		**ASTM**	**Temperature**	**Value**
Dielectric Strength		D149	25°C (77°F)	350 Volts/mil
Volume Resistivity		D257	25°C (77°F)	1.2 x 10^{12} Ω-cm
Dielectric Constant	1 MHz	D150	25°C (77°F)	5.00
	1 kHz	D150	25°C (77°F)	5.50
	60 Hz	D150	25°C (77°F)	5.75
Dissipation Factor	1 MHz	D150	25°C (77°F)	0.026
	1 kHz	D150	25°C (77°F)	0.028
	60 Hz	D150	25°C (77°F)	0.064
Thermal Properties		**ASTM**	**Condition**	**Value**
Heat Capacity, Cp		E1461	25°C (77°F)	1.37 J/g°K
Thermal Conductivity		E1461	25°C (77°F)	0.26 W/m°K
Coefficient of Thermal Expansion		E831 E1545	-65°C to 75°C	135 ppm/°C
			75°C to 100°C	0 ppm/°C
			100°C to 150°C	75 ppm/°C
Mechanical Properties		**ASTM**	**Condition**	**Value**
Tensile Strength		D638	25°C (77°F)	450 psi
Elongation at Break		D638	25°C (77°F)	225%
Linear Shrinkage (Upon Cure)		D2256	25°C (77°F)	<0.001 in/in
Hardness vs Temperature Shore A		D2240	-75°C (-103°F)	88 A
		D2240	-25°C (-13°F)	75 A
		D2240	5°C (41°F)	69 A
		D2240	25°C (77°F)	64 A
		D2240	50°C (122°F)	62 A
		D2240	66°C (150°F)	61 A
		D2240	80°C (176°F)	62 A
		D2240	100°C (212°F)	57 A
		D2240	120°C (248°F)	51 A
		D2240	150°C (302°F)	47 A
Hardness vs RT Cure	1 Hour	D2240	25°C (77°F)	15 A
	2 Hours	D2240	25°C (77°F)	26 A
	4 Hours	D2240	25°C (77°F)	31 A
	8 Hours	D2240	25°C (77°F)	35 A
	12 Hours	D2240	25°C (77°F)	35 A
	1 Day	D2240	25°C (77°F)	39 A
	2 Days	D2240	25°C (77°F)	46 A
	3 Days	D2240	25°C (77°F)	52 A
	4 Days	D2240	25°C (77°F)	57 A
	1 Week	D2240	25°C (77°F)	60 A
	1 Month	D2240	25°C (77°F)	68 A

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CURED PROPERTIES
(Typical) Page 3

METALLIC ADHESION	**ASTM**	**Temperature**	**Value**
Tensile Lap Shear Strength, 1" x 4" Adherands, 20 mil bondline gap, 1 inch overlap Co = Cohesive Bond Mode Ad = Adhesive Bond Mode			
Aluminum Bare	D1002	25°C (77°F)	540 psi [Co]
Steel Bare	D1002	25°C (77°F)	530 psi [Ad]
Steel Ground	D1002	25°C (77°F)	480 psi [Co]
Primed Steel	D1002	25°C (77°F)	530 psi [Co]
Galvanized Steel	D1002	25°C (77°F)	560 psi [Co]
Tin Plated Steel	D1002	25°C (77°F)	470 psi [Co]
Chrome Plated Steel	D1002	25°C (77°F)	560 psi [Co]
FRP ADHESION	**ASTM**	**Temperature**	**Value**
Tensile Lap Shear Strength, 1" x 4" Adherands, 20 mil bondline gap, 1 inch overlap Co = Cohesive Bond Mode Ad = Adhesive Bond Mode			
FRP – Polyester Fiberglass	D3163	25°C (77°F)	540 psi [Co]
Garolite G-9 Melamine/Glass	D3163	25°C (77°F)	530 psi [Co]
Garolite G-10 Epoxy/Glass	D3163	25°C (77°F)	550 psi [Co]
Garolite XX Phenolic/Paper	D3163	25°C (77°F)	570 psi [Co]
THERMOPLASTIC ADHESION	**ASTM**	**Temperature**	**Value**
Tensile Lap Shear Strength, 1" x 4" Adherands, 20 mil bondline gap, 1 inch overlap Co = Cohesive Bond Mode Ad = Adhesive Bond Mode			
Acrylic	D3163	25°C (77°F)	560 psi [Co]
Acrylic / PVC	D3163	25°C (77°F)	430 psi [Co]
PVC - Polyvinyl Chloride	D3163	25°C (77°F)	530 psi [Co]
CPVC - Chlorinated PVC	D3163	25°C (77°F)	660 psi [Co]
ABS Acrylonitrile Butadiene Styrene	D3163	25°C (77°F)	500 psi [Co]
PETG Polyethylene Terephthalate	D3163	25°C (77°F)	610 psi [Co]
Lexan - Polycarbonate	D3163	25°C (77°F)	520 psi [Co]
Nylon 6/6 - Polyamide	D3163	25°C (77°F)	520 psi [Co]
Polypropylene	D3163	25°C (77°F)	50 psi [Ad]
Polyethylene LDPE	D3163	25°C (77°F)	20 psi [Ad]
Polyethylene HDPE	D3163	25°C (77°F)	40 psi [Ad]
Teflon PTFE Polytetrafluoroethylene	D3163	25°C (77°F)	40 psi [Ad]
Noryl Polyphenylene Oxide/Polystyrene	D3163	25°C (77°F)	220 psi [Ad]
Ultem - Polyetherimide	D3163	25°C (77°F)	540 psi [Co]

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KEY POLYMER CORP.
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REV AA DCO # 0588
February 3, 2003