

EP 3203A/B

Two Component, Epoxy adhesive for fluoroplastics & other hard-to-bond materials

Typical Properties

(Not for specification purposes. All tests run at 25°C unless otherwise noted)

EP / A-side Properties:

Appearance	Visual	Amber
Specific Gravity	ASTM-D-2393	1.16 g/cc
Viscosity	ASTM-D-792	29,600 cP
Flash Point, closed cup	ASTM-D-92	>95°C (203°F)

EP/ B-side Properties:

Appearance	Visual	Amber
Specific Gravity	ASTM-D-2393	0.97 g/cc
Viscosity	ASTM-D-792	14,500 cP
Flash Point, closed cup	ASTM-D-92	>94°C (>201°F)

Mix Ratio:

Parts by weight (volume) 100A:100B (100A : 120B)

Mixed Properties:

Initial Viscosity, 100g at 25°C	ASTM-D-792	16,400 cP
Pot life (200 g.mass)	OC-WI-001	60 minutes

Recommended Cure Schedules:

24 hrs at 25°C or alternate 2-4 hours @ 65°C.

Please note: any cure schedule selected for use should be confirmed through testing as being appropriate for your particular processing methods and for your intended application.

Cured Properties (cured 7 days at 25°C)

Appearance	Visual	Amber
Specific Gravity	ASTM-D-792	1.09 g/cc
Shore Hardness	ASTM-D-2240	80D
Linear shrinkage	ASTM-D-2566	0.005 in/in
Cure shrinkage	ASTM-D-2566	0.30% by volume
Glass Transition Temp (T _g)	Perkin Elmer Appl. Cast #20	56°C
Coefficient of Thermal Expansion(CTE) (per °C)	ASTM-E-381	110 x 10 ⁻⁶
Water absorption (24 hrs @ 25°C)	ASTM-D-252	0.46%
Thermal Conductivity	ASTM D-2214	0.0005 cal/cm-sec-°C
Recommended service temperature		-55-+105°C
Compressive strength	ASTM D-695	12,900 psi
Compressive modulus	ASTM D 695	285,000 psi
Flexural Strength	ASTM-D-790	9,000 psi
Flexural modulus	ASTM-D-790	242,000 psi
Tensile lap shear strength	ASTM-D-638	1600 psi
Volume resistivity @ 25°C	ASTM-D-257	1.56x 10 ¹⁶ Ω-cm.
Dielectric Strength	ASTM-D-149	425 volts/mil
Dielectric Constant	ASTM-D-150	3.14 / 2.83
Dissipation Factor @1KHz / @1MHz	ASTM-D-150	0.007 / 0.02

EP 3203 A/B is a 100% solids, unfilled, two-component, specialty epoxy resin adhesive designed for the bonding of chemically etched fluoroplastics; such as, Teflon® and Rulon®. It has a convenient one-to-one mix ratio, and can be cured at room temperature to produce a tenacious, resilient, chemically resistant, and water-proof bond.

Custom colored, low viscosity and flexibilized version of the EP 3203 are also available. Please contact us for information if these specialty grades would be of interest for your application.

Benefits:

- Unfilled, transparent
- Outstanding adhesive to chemically etched fluoroplastics and other hard-to-bond materials
- Convenient mix ratio

Suggested Application Method:

Proper substrate cleaning is recommended to ensure optimum adhesion in any assembly. Contact SP&S Product Information department for information concerning substrate cleaning.

Apply adhesive to all surfaces to be bonded and joined together. Only contact pressure is required. Cure per the recommended schedule. In general, optimum properties are achieved if the initial cure is followed with a post cure.

Storage Guidelines:

Store this material in a clean, cool and dry environment in its tightly closed original container. Product may crystallize if exposed to freezing temperatures. If solid, lumpy or thicker than normal, heat to the loosely covered containers, to 65°C for 2-4 hours to return to normal condition. Allow contents to cool to at least 35°C before using. Avoid extended exposure to extreme humidity as this may curing problems or reduced performance. If the recommended storage conditions are observed the products will have a minimum shelf-life of 12 months from the date of shipment.

Processing Guidelines:

Weigh Part A and Part B in the recommended ratio as accurately as possible into a clean mixing container. Always use weighing equipment having

accuracy in proportion to the amounts being weighted. (ex. For weighing 10 grams a scale with an accuracy of +/- 0.1 gram is recommended; for weighing out 19

Blend by hand for 2-3 minutes using a kneading motion. Scrape the bottom and sides of the mixing container carefully and frequently to produce a uniform mixture. Follow with power mixing, if possible, for an additional 2-3 minutes. Avoid excessive power mixing speeds which could introduce large amounts of air or cause overheating of the mixture resulting in shorter working life.

Handling Precautions:

Mandatory and recommended industrial hygiene procedures should be followed whenever these products are being handled and processed. For additional information please consult the corresponding material safety data sheets.

Exotherm Warning: Most room temperature curing epoxy systems, including the EP 3203A/B, generate heat during curing. The reaction heat is called exotherm and in is proportional to the mass of the epoxy system. This exothermic heat can raise the temperature of the epoxy by 100°C or more and can accelerate the reaction of the system reducing the available work life. In extreme cases, the heat can begin to burn the epoxy or generate acrid fumes or smoke. When mixing more than 224 grams (0.5 lbs.) at a time, take care to protect yourself from the heat of the reaction using gloves and other protection and/or take precautions to cool the mixture or spread it out into a thin layer as quickly as possible after mixing. If you have any concerns please contact SP&S to discuss your application and receive specific recommendations

Personal Hygiene:

EP 3203 Part A

CAUTION! May cause eye irritation. Prolonged or repeated skin contact may cause irritation, may cause allergic skin reaction. Harmful if inhaled or swallowed. Avoid contact with eyes, skin, or clothing. Wear eye protection and impervious gloves when handling. Wash thoroughly after handling. Avoid breathing vapor or mist. Keep containers closed when not in use. Use only with adequate ventilation. Do not take internally.

EP 3203 Part B

WARNING! Causes severe eye irritation and possible eye damage. Causes severe skin irritation and possible allergic skin reaction. Harmful if inhaled or swallowed. Do NOT get in eyes, on skin, or clothing. Wear chemical splash goggles and impervious gloves when handling. Wash skin and clothing thoroughly after handling. Avoid breathing vapor or mist. Use only with adequate ventilation. Keep containers closed when not in use. Do NOT take internally.

First Aid

In case of contact:

Skin – Immediately wash skin thoroughly with mild soap and water. Remove contaminated clothing and wash before reuse. Destroy contaminated shoes and other articles made of leather.

Eyes – Immediately flush eyes with plenty of water for 15 minutes and get prompt medical attention.

Inhalation - Remove person to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.

Ingestion - Do not induce vomiting. Dilute with plenty of water and contact physician immediately. Never give anything by mouth to an unconscious person.

Disclaimer:

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