

Basis	<b>HIGH TEMPERATURE ADHESIVE SYSTEM</b>
Resin	<b>551A Resin</b>
Hardener	<b>551B Hardener</b>

### Applications

551A resin with 551B hardener is a rapid setting, low viscosity, epoxy resin system designed for use where temperatures may reach 350°F. It may be used for many diverse bonding applications. The resin system gels at room temperature, but requires a post cure to achieve maximum properties.

### Handling Properties

	<u>VALUE</u>	<u>TEST METHOD</u>
Resin Density at 25°C, lbs/gal	9.61	ASTM D1475
Hardener Density at 25°C, lbs/gal	8.22	ASTM D1475
Resin Viscosity at 25°C, cP	3,800	ASTM D2196
Hardener Viscosity at 25°C, cP	70	ASTM D2196
Viscosity Mixed at 25°C, cP	1,800	ASTM D2196
Mix Ratio by Weight	100A : 14B	Calculated
Mix Ratio by Volume	6A : 1B	Calculated
Gel Time at 25°C, 150g mass, min	30 - 35	ASTM D2471
Tack Free at 25°C, hours	PCR	

### Physical Properties

	<u>VALUE</u>	<u>TEST METHOD</u>
Colour	Brown	Visual
Hardness, Shore D	88	ASTM D2240
Tensile Strength, psi	12,400	ASTM D638
Tensile Modulus, psi	466,000	ASTM D638
Tensile Elongation, %	3.7	ASTM D638
Compressive Strength, psi	18,600	ASTM D695
Flexural Strength, psi	16,900	ASTM D790
Flexural Modulus, psi	475,000	ASTM D790
HDT, Room Temperature Cure, °F	PCR	ASTM D648
HDT, Post Cure, °F	350	ASTM D648
Izod Impact, Notched, ft-lb/in	1.24	ASTM D256
Linear Shrinkage, in/in	<0.003	ASTM D2566

### Cure Increments

High temperature epoxy systems require an elevated temperature post cure to enable the resin and hardener to develop their full physical and temperature properties. Select one of the following cure schedules depending upon the physical properties of the master and the desired physical properties of the final tool. Please contact technical service if you find it necessary to have a different post cure schedule.

	Option I	Option II
24 hrs. at 77°F (25°C)	X (S)	X (S)
2 hrs. at 150°F (66°C)	X (S)	
4 hrs. at 150°F (66°C)		X (S)
1 hr. at 200°F (93°C)	X (S)	X (U)
1 hr. at 250°F (121°C)	X (S)	X (U)
1 hr. at 300°F (149°C)	X (S)	X (U)
1 hr. at 350°F (177°C)	X (S)	X (U)

S = supported

U = Unsupported

### Tool, Mould and/or Pattern Preparation

Wood structures should be sealed. Gypsum moulds should be dried to remove free moisture and preferably sealed with the PFP process or appropriate sealer. All non-porous tools, moulds or patterns should be treated with release or parting agents, which can withstand the temperature that the part will be cured at while remaining in a supported position.

### Storage and Handling

Store at 60-100°F in a dry place. After use, tightly reseal. (This product may crystallise during storage. If crystallised vent container and heat to 125-145°F until crystals dissolve. Stir well after product has liquefied.) Always use clean dry tools for mixing and applying. Mix according to the mix ratio stated for the specific product as listed on the front page. Mix together thoroughly and use immediately. Material temperatures should not be below 65°F when mixing.

### Safety Handling

Work in well ventilated areas using gloves, eye protection and clothing protection. Avoid contact to the skin and eyes. Avoid clothing contamination. Wash thoroughly after handling. These products may cause skin and respiratory allergic reactions. Consult Material Safety Data Sheets for complete precautions with this product.

The instructions and recommendations are given in good faith and are based on long experience and careful tests. Since the conditions of use are beyond our control. And due to the versatility of applications and working methods, we can't give any guarantee. All information are non-binding and are no guarantee for special characteristics or properties of the product. Despite information given from **ebalta** the customer has to make his own tests regarding applications and processing. If any special warranty is requested, written agreement on this subject is essential.

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