



## TECHNICAL INFORMATION

### EPOWELD<sup>®</sup> 47020/53655 (formerly EPOWELD<sup>®</sup> 7020A/3655B) Epoxy Adhesive System

#### PRODUCT DESCRIPTION

EPOWELD 47020/53655 is a room temperature cured, two-component epoxy adhesive designed for all general-purpose adhesive and casting applications.

Key A medium viscosity adhesive and easily mixed.

#### APPLICATION

EPOWELD 47020/53655 is recommended as a tooling compound for bonding striking tools such as hammers, axes and sledge hammers.

#### MIXING AND CURING SCHEDULE

The production of the desired epoxy requires accurate measurement of the two components and adequate mixing. In general, hand-mixing small production runs is easily accomplished by weighing the two components. Machine mixing utilizes the volumetric ratio.

Most machines are calibrated by weighing the components and adjusting the volume ratio. Larger volume hand mixing is easily controlled by filling pre-measured buckets to the indicated heights. The mix ratios are shown below:

<u>Ratio</u>	<u>47020</u>	<u>53655</u>
By volume	100	130
By weight	100	100

The gel time and work-life vary with the mass and the ambient temperature. Larger masses and higher temperatures reduce the work-life. Lower temperatures extend the work-life.

The typical gel time is ninety (90) minutes. This is measured in the laboratory using a 100 gram mass at 25°C.

The cure schedule is dependent upon the temperature. The recommended cure schedule will vary with the desired properties. The recommended schedule to achieve the typical properties is shown below:

Cure 7 days at 25°C (77°F)

The epoxy will have some of the desired physical properties within the first day, but epoxies will require several more days to achieve the final properties. Heating accelerates the post cure.

#### TYPICAL UNCURED PROPERTIES

The uncured components are easy to handle, mix and use at room temperature. Pre-mixing of components is not required as the system does not contain fillers.

<u>Property</u>	<u>Part A</u>	<u>Part B</u>	<u>Mixed</u>
Appearance	Amber	Dk. Amber	Amber
Viscosity, cps. @25°C	1,000	40,000	8,000
Density, lb./gal.	9.5	8.1	8.8
Specific Gravity, @ 25°C	1.14	0.97	1.06
Gel time, 100 gram mass @ 25°C, (minutes)	--	--	90
Shelf Life, months	12	12	--

#### TYPICAL CURED PROPERTIES

(Tested at 25°C unless otherwise indicated)

The EPOWELD 7020A/3655B system exhibits high tensile and lap shear strengths. The principal properties of the cured epoxy are shown below:

<u>Property</u>	<u>Typical value</u>
Hardness, Shore D	82
Tensile strength, psi.	7,000
Lap shear strength, Al./Al., psi	4,000
Heat distortion temperature, °C	55

#### STORAGE AND HANDLING

These materials should be stored in a dry environment within a temperature range of 16°C to 27°C (60°F to 80°F). Extremes of temperature beyond this range may result in crystallization of the materials. Introduction of a nitrogen blanket into the containers before closing will improve the storage life.



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### SAFETY

These materials are intended for industrial use only and the practices of good housekeeping, safety and cleanliness should be followed before, during and after use.

Part A contains low volatility materials, nevertheless, care should be taken in handling. Adequate ventilation of the work place is essential.

These materials may cause dermatitis in susceptible individuals. Keep off skin and out of eyes. In case of accidental skin contact, wash thoroughly with soap and water. In case of eye contact, flush eyes thoroughly with water and consult a physician immediately.

Refer to Materials Safety Data Sheet for additional information.

### ADDITIONAL INFORMATION

Visit our web site at:

[www.royaladhesives.com](http://www.royaladhesives.com)

Contact us at:

Royal Adhesives and Sealants, LLC  
2001 W. Washington Street  
South Bend, IN 46628  
Phone: 800-999-GLUE  
Fax: 574-246-5425  
Web: www.royaladhesives.com

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