

**Advanced Materials****RenCast® 3215-1 / Ren® 3215-3 System****MASS CASTING SYSTEMS****DESCRIPTION:**

RenCast® 3215-1(Resin) / Ren® 3215-3(Hardener) is a black casting system used for making fixtures, dies, patterns and variable hardness molds. This system can be cured a variety of Shore hardnesses (as shown below) – from flexible to resilient – simply by changing the resin-to-hardener ratio:

Resin/Hardener Ratio (Weight)	Description	Shore D hardness
100/50	Flexible	45
100/40	Resilient	70
100/30	Impact Resistant	85

Castings can be made effectively at thicknesses of ¼ inch to 2 inches in insulated molds (i. e., plastic, plaster, wood), while a heat conducting molds metl will allow up to 4 inches to be cast at one time. RenCast® 3215-1 resin / Ren® 3215-3 hardener has a relatively long working time with a low exotherm. Curing is carried out at normal room or at elevated temperatures up to 150°F, with little shrinkage.

This casting system contains iron as a filler for added wear and chip resistance. Fillers contained will not hardpack in storage. When mixed, RenCast® 3215-1 resin / Ren® 3215-3 hardener is a low viscosity material, easy to work with and resistant to air entrapment.

**MIXING INSTRUCTIONS:**

Reaction Ratio	(weight) (volume)	<u>Resin/Hardener</u>		
		100/50	100/40	100/30
		100/95	100/76	100/57

**Mixing:** Stir each component thoroughly before use. Weigh each component accurately (± 5%) into clean containers. Thoroughly mix resin and hardener together (minimum 3 minutes) scraping container sidewalls, bottom and mixing stick several times to assure a uniform mix.

**TYPICAL MIXED PROPERTIES:**

Property	ASTM Test Method	Test Values <sup>(1)</sup>		
		Flexible (100/50)	Resilient (100/40)	Impact Resistant (100/30)
Gel time, 14 fl. oz.	D-2471	60 min.	65 min.	70 min.
Color (mixed)	Visual	Black	Black	Black
Viscosity (mixed)	D-2393	4,600 cP	5,400 cP	6,200 cP

<sup>(1)</sup> Tested @ 77°F (25°C)**TYPICAL CURED PROPERTIES:**

Property	ASTM Test Method	Test Values <sup>(1)</sup>		
		Flexible (100/50)	Resilient (100/40)	Impact Resistant (100/30)
Specific Gravity	D-792	1.48	1.51	1.54
Cubic inch per lb.	D-792	18.7	18.3	18.0
Hardness (Shore D)	D-2240	45	70	85
Ultimate Compressive Strength (psi)	D-695	Flexible	--	12,600
Ultimate Flexural Strength (psi)	D-790	Flexible	300	6,900
Flexural Modulus (psi)	D-790	Flexible	--	0.39 x 10 <sup>6</sup>
Ultimate Tensile Strength (psi)	D-638	300	1,200	4,300
Deflection Temperature (264 psi) (°F)	D-648	<77	<77	<77
Shrinkage (in/in) (cast) Mold #1	D-2566	0.0017	0.0011	0.0017

<sup>(1)</sup> Cure Schedule – 7 days @ 77°F (25°C), tested @ 77°F

**NOTE:** Typical Properties – These physical properties are reported as typical test values obtained by our test laboratory. If assistance is needed in establishing product specifications, please consult with our Quality Control Department.

**CURING INSTRUCTIONS:**

Although room temperature epoxies will normally set up to a rigid, demoldable state within 24 hours at room temperature (75°F ± 5°F), these systems reach their full cure after seven days at room temperature. A full cure can be accelerated by applying heat after the part has set rigid. We recommend a postcure of 150°F for a minimum of six hours. (Add to this adequate time to bring the part to the postcure temperature.) After cure, the part should be cooled at a slow rate so as not to shock the part thermally.

Uniform heat distribution is also required during postcure; concentrated heat, such as that directed from a lamp, can cause warp. An elevated temperature cure will slightly increase the shrinkage compared to a room temperature cure.

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**HANDLING :****RenCast® 3215-1 / Ren® 3215-3 System**

Store at 60-100°F in a dry place After use tightly reseal.

Work in a well ventilated area and use clean, dry tools for mixing and applying. For two component system, combine the resin and hardener according to mix ratio. Mix together thoroughly and use immediately after mixing. Material temperature should not be below 65°F (18°C) when mixing.

**RenCast® 3215-1 Resin**

Stir well before use. This material will separate.

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**STORAGE:**

RenCast® 3215-1(Resin) / Ren® 3215-3(Hardener) should be stored in a dry place, in the sealed original container, at temperatures between +2°C and +40°C (+35.6°F and 104°F). Under these storage conditions, the shelf life is 2 years. The product should not be exposed to direct sunlight.

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**First Aid!**

Refer to MSDS as mentioned above.

**KEEP OUT OF REACH OF CHILDREN****FOR PROFESSIONAL AND INDUSTRIAL USE ONLY**

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