



Product Data

PROVISIONAL DATA SHEET

RenCast™ 3209-1/Ren® 3253

MASS CASTING SYSTEM

EPOXY IRON OXIDE FILLED THIN SECTION CASTING

DESCRIPTION: RenCast 3209-1(Resin)/Ren 3253(Hardener) is a general purpose, black, filled epoxy system suitable for rigid castings up to two inches thick when cast in non-conducting molds. RenCast 3209-1/Ren 3253 cures at room temperature and offers a long gel time and good resistance to high humid conditions.

MIXING INSTRUCTIONS: Reaction Ratio 100R to 6H by weight

Mixing: Stir each component thoroughly before use. Weigh each component accurately ($\pm 5\%$) 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.

APPLICATIONS:

- Foundry patterns
- Hammerforms
- Core boxes
- Stripper pads
- Holding fixtures
- Drop hammer dies
- Stretch press dies

TYPICAL MIXED PROPERTIES:

Property	ASTM Test Method	Test Values ⁽¹⁾
Gel time (14 fl.oz.)	D-2471	110 mins.
Color Mixed	Visual	Black
Viscosity	D-2393	11,000 cP

⁽¹⁾Tested @ 77°F (25°C)

TYPICAL MIXED PROPERTIES:

Property	ASTM Test Method	Test Values ⁽¹⁾
Specific Gravity	D-792	2.40
Cubic inch per lb.	D-792	11.5
Hardness (Shore D)	D-2240	90
Ultimate Compressive Strength (psi)	D-695	14,000
Ultimate Flexural Strength (psi)	D-790	11,000
Flexural Modulus (psi)	D-790	1.06×10^6
Ultimate Tensile Strength (psi)	D-638	6,700
Tg per DMA (°F)	D-648	190
Coefficient of thermal expansion (in/in/°F)	D-3386	1.97×10^{-5}
Shrinkage (in/in) Cast Mold #2	D-2566	0.007

⁽¹⁾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.

STORAGE/HANDLING INFORMATION:

RenCast 3209-1 and Ren 3253

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 3209-1

This product may crystallize upon storage. If crystallized, vent container and heat to 125-145°F until crystals dissolve. Stir well after product has liquefied.

Stir well before use. This material will separate.

SHELF LIFE: Provided materials are stored under the recommended storage conditions in their original containers, they will remain in useable condition for at least one year from date of shipping.

PACKAGING: This product is available in the following package size(s):

- Small preweighed units: 6 quarts resin with 6 preweighed hardener
- Pail units: Pail resin with appropriate hardener

Please call Customer Service (800-367-8793) for price and availability.

SAFETY/HANDLING PRECAUTIONS:

Do not use or handle this product until the Material Safety Data Sheet has been read and understood.

RenCast 3209-1

DANGER! Causes severe skin irritation. Causes eye irritation. May cause skin burns and allergic skin reaction.

Avoid contact with eyes, skin, or clothing
Avoid prolonged or repeated contact with skin.
Wash thoroughly after handling.

SAFETY/HANDLING PRECAUTIONS (continued)

Ren 3253

DANGER! CORROSIVE - causes eye burns and skin burns. Harmful if absorbed through skin.

Do not get in eyes, on skin, or on clothing. Avoid breathing vapor or mist. Avoid prolonged or repeated contact with skin. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Nuisance dust may be generated when sanding or sawing cured material.

FIRST AID: In case of contact with:

Skin: Immediately wash with soap and water. Remove contaminated clothing and launder before reuse. Destroy contaminated shoes.

Eyes: Immediately flush with water for at least 15 minutes. Call a physician.

Ingestion: If conscious, give plenty of water to drink. Do not induce vomiting. Call a physician.

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

Other: Referral to physician is recommended if there is any question about the seriousness of any injury.

PRECAUTIONARY NOTE: Thermosetting systems generate heat when curing. The amount of heat and the period of time in which heat is released vary significantly between systems. Additionally, ambient or compound temperature, amount of material mixed, and construction and shape of the mold or container can also be factors in the temperature profile of a mixed system. In some cases, the thermosetting reaction can be vigorous, generating heat sufficient to cause decomposition of the system with subsequent liberation of large volumes of acrid smoke.

A good rule of thumb is never mix more material than can be applied during the stated pot life or gel time. Also take care when using materials in applications other than stated on the Product Data Sheet, i.e., a laminating resin for casting.

Please feel welcome to call our Product Information Department or your local Ren representative for instructions before you start your job.

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