

LIQUID CERAMIC FOAM 2300°F

Pourable High Temp, Light Weight, Ceramic Shapes



Rescor™ 740 Base and Activator



Removing 740 Insulating Plate From Mold



Placing Heater Coils in Insulating Disk

RESCOR™ 740 - 2300°F LIQUID FOAM

Easy to use "In House" Process Saves Time & Money

Just Mix, Pour and Harden Overnight For

Machinable, Thermally Insulating, Ceramic Parts

Rescor™ 740 Liquid Foam forms lightweight, high strength, machinable, thermally and electrically insulating parts usable to 2300°F.

Easy to use "In House" process.

Just mix the ceramic powder with its liquid activator and pour into non- absorbent molds.

Hardens overnight to produce high strength, insulating prototypes and parts.

Can be used up to 2300°F with high temp. structural stability and excellent resistance to oxidizing and reducing atmospheres.

Resistant to molten non-ferrous metals, steam most chemicals and solvents.

Suitable for near net shape processing which involves casting a ceramic blank into a shape that requires minimal or no machining to final shapes.

Post curing Rescor™ 740 improves its machinability.

Applications include high temp. thermal and electrical insulators, heating element supports, hot pressing dies, processing boats, heat shields, fixtures, induction heating, etc.

User Reports

- Crucible supports, cast with Rescor™ 740, are used for glass melting furnaces replaced expensive custom made parts.
- Rescor™ 740 is used for pre-heater crucible liners in furnaces operating to temperatures as high as 1200°C.

Rescor Castable Ceramics are also available in Shock Resistant Liquid Silica, Ultra-Temp. Liquid Zirconia Oxide, Thermally Conductive Silicon Carbide and General Purpose, High Purity Liquid Alumina. See Pages 60 and 61 for details.

Physical Properties	740
Max. Use Temperature	2300°F
Mixed Density (lb./ft. ³)	54
Shrinkage ((%) 1000°F)	1.00
Modules of Rupture (psi)	900
Compressive Strength (psi)	1500
Specific Heat (BTU / # °F)	0.24
Dielectric Strength (volts/mil.)	100
Dielectric Constant (@ 1 0 ⁸ cps)	1.61
Thermal Expansion (x 10 ⁻⁶ / °F)	4.50
Thermal Conductivity (BTU in/Hr °F ft. ²)	
@ 500°F	1.00
@ 1000°F	1.50
@ 1500°F	1.80
Mix Ratio (by wt.) Powder	100 parts
Liquid	62 parts
Color	Tan
Shelf Life (Months)	6

Cat. No.	Description	Price
Rescor™ 740-1.....	10 pound kit.....	120.71
Rescor™ 740-2.....	50 pound kit	525.77
Rescor™ 740-3.....	100 pound kit	949.55

See pg 62 for Mold Making Materials & Mold Releases

Cat. No.	Description	Price
Replicast™ 101-1.....	Mold making material Gallon Kit.....	109.18

Replicast™ 101MR.....	12 oz. Spray Mold Release	24.75
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Quantity Prices Available Upon Request

PRECISION MOLD MAKING MATERIAL

REPLICAST™ 101

**Just Mix, Pour and Cure at Room Temp.
No Vacuum Degassing Required**



**Pouring Replicast
Around a Model**



**Replicast Mold
Ready For Casting**

Replicast 101	
Max Service Temp.	200°F
Mixed Density (gm/ cc)	1.39
Mixed Viscosity (cps)	4000
Hardness (Shore "A")	40
Tensile Strength (psi)	700
Tear Strength (psi)	90
Shrinkage (%)	0.05
Elongation (%)	700
Dielectric Strength (volts/mil)	200
Volume Resistivity (ohm-cm)	10 ⁹
Porosity	0.00
Color	Tan
Components	2
Cure Hrs (@ R.T.)	8 -16

Low cost, highly detailed, precision molds are easily produced with this simple mix and pour process.

Replicast 101 is non-toxic and virtually odor free.

No more vacuum degassing.

Just mix and pour.

Replicast 101 cures at room temperature.

Forms flexible, durable molds with high tear strength, dimensional stability, abrasion resistance and excellent mold life.

Ideal for mold making, tooling, components, coatings, seals, gaskets, tools, shock resistant parts, rollers, etc.

Use Replicast 101 with all of Cotronics' Ceramic and Epoxy Materials, Gypsum, Urethane, and Polyester Resins.

Users Report:

- Molds lasted for thousands of cycles when used to cast an intricate High Alumina welding and positioning fixture.
- Soft Rubber like parts and forms were easily cast to replace custom molded parts, eliminating costly time delays.

REPLICAST™ 101

**No-VOC'S - Non-Toxic - Non-CFC
Non - Combustable Mold Release**

Replicast	101MR	102MR	103MR
Max Temp.	625°F	100°F	150°F
Form	Spray Can	Paste	Pump Spray
Mixed Viscosity (cps)	500	250,000	50
Porosity	0.00	0.00	0.00
Color	Clear	White	Clear
Components	1	1	1
Package	18 oz.	1 Pint	16 oz.
Cure (Mins. @ R.T.)	10-20	N/A	15-20

Replicast 101 MR mold release is a non-greasy, non oily, film forming compound that can be used to 550°F.

Just spray on a lite coat.
Dries in minutes.

A super thin coating of 0.001 inch is all that is required even for the most demanding applications.

This ultra thin film allows for exceptional accuracy including the finest details of your parts.

Replicast 101 MR dries quickly for production applications. Use with most Epoxies, Urethane, Ceramics and Heat Curing Systems.

101 MR should be used when casting molds with Replicast 101 Liquid Rubber insuring the finest details.

Replicast 102 MR is a smooth creamy paste for use with ceramics. Just wipe on a thin layer. Ideal for large castings.

Replicast 103 MR is specially designed for use when casting ceramics. Creates a smooth surface in the final ceramic parts.

Not for use with Epoxies.



Availability:

Cat. No.	Size	Price
Replicast 101-1.....	1 Gallon Kit.....	109.18/kit
Replicast 101MR.....	12 oz. Spray Mold Release...	24.75/can
Replicast 101MR-CP....	Case pack 12 - cans.....	257.57/case
Replicast 102MR.....	Mold Release Grease Pint..	23.39/pint
Replicast 103MR-1.....	16 oz. Spray Mold Release	29.76/bottle

INSTRUCTIONS FOR ADVANCED CERAMIC CASTABLES

740, 750, 760, 770, 780, 310LF, RTC60 & RTC70

MOLDS

Replicast 101 Liquid Rubber is ideal for molds (see page 63, see below for directions for use).

If metal molds must be used, then design them with sufficient draft so that the cast ceramics can be removed.

Before casting apply a light coat of Spray on Mold Release 101MR. Can also use a thin coat of Paste Mold Release 102MR.

SHRINKAGE

Normal shrinkage will be very small and must be taken into account for all critical applications. See below for typical shrinkage values. (Actual values will vary with individual systems and mix ratios).

Cure (Temperature)	Typical Shrinkage (Percent)	Typical Strength (Modules of Rupture)
Room Temperature	0.1 to 0.5	800 - 1200 psi
1000°F (535°C)	0.3 to 1.3	1000 - 2000 psi
1700°F (910°C)	0.5 to 2.0	1500 - 3000 psi
2500°F (1350°C)	1.0 to 2.5	3000 - 7000 psi

CERAMIC CASTING

Follow the detailed instructions on the product label. Use the specified base to activator weight ratio.

- Using the weight ratio as specified on the product label, thoroughly mix the powder portion with its activator to form a thick paste-like consistency. For fine details 1% or 2% extra activator (by weight) can be used to increase fluidity. Working time is approximately 10 to 20 minutes.
- Pour the ceramic mixture into the mold and work it into the corners. Overfill the mold slightly.
- Vibrate the mold to remove air bubbles. (2-10 minutes should be sufficient).
- After 20 minutes, remove any excess material with a trowel.
- Cover the mold with a thin sheet of plastic and cure for 16-24 hours at room temperature.
- After the room temperature cure, heat the ceramic casting for 2 hours at 225°F (110°C). This will remove any excess water and will provide additional strength.
- A post cure at 1750°F (950°C) will increase the strength 2- 3 times. For parts under 1" thick heat the ceramic casting at a rate of 200°F per hour.
- For thick castings (over 4" thick) request a special, slow curing instruction sheet.
- HINT: Make a trial casting in a drinking cup (as a mold) before making the actual part. A trial part 2" dia. x 1" high is ideal. Heat treat the disc to check product shrinkage and strength before making critical parts.
- NOTE: A thick paste like consistency is recommended for optimum strength and minimum shrinkage. A thick paste will flow when vibration is applied to the mold and container.
The Ceramic Castings will not out gas after it is fully cured.

Mold Making and Ceramic Casting Instructional CD's Available for \$14.95

INSTRUCTIONS FOR 101 MOLD MAKING MATERIAL

REPLICAST 101 can be used to make or repair flexible parts.

- Machine an aluminum, plastic or other suitable pattern for use as a master. The pattern should be an exact duplicate of the part you wish to make. A good surface finish is desired.
- Prepare a suitable container approximately ½" to 1" bigger than the master on all sides.
Coat the master and its container with Replicast 101 MR Mold Release. (Petroleum jelly may be used if 101MR is not available).
- RE-STIR Replicast 101, some settling can occur in storage. **Use only metal stirring tools.**
- Carefully weigh out 100 parts of Replicast 101 Resin to 10 parts of Replicast 101 Hardener.
HINT: The component's weight = total weight - weight of empty container.
- Stir slowly and thoroughly, carefully scraping the side walls and bottom of the mixing container.
- Hold the container of 101 (approximately 18" from the container holding the master) and pour the mixture in a thin stream.
- Pouring slowly, in a thin stream, will allow the liquid rubber to de-gas and produce a void-free casting.

REMEMBER:

Mix slowly and thoroughly. (Do not whip air into mixture). Pour in a thin stream.

Do not introduce moisture into the un-mixed system.

Use REPLICAST 101 Mold Release for the best results.