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 Temp.	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.

1. 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.
2. Pour the ceramic mixture into the mold and work it into the corners. Overfill the mold slightly.
3. Vibrate the mold to remove air bubbles. (2-10 minutes should be sufficient).
4. After 20 minutes, remove any excess material with a trowel.
5. Cover the mold with a thin sheet of plastic and cure for 16-24 hours at room temperature.
6. 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.
7. 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.
8. For thick castings (over 4" thick) request a special, slow curing instruction sheet.
9. 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.
10. 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.

1. 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.
2. 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).
4. RE-STIR Replicast 101, some settling can occur in storage. ***Use only metal stirring tools.***
5. 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.
6. Stir slowly and thoroughly, carefully scraping the side walls and bottom of the mixing container.
7. Hold the container of 101 (approximately 18" from the container holding the master) and pour the mixture in a thin stream.
8. 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.