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TECHNICAL INFORMATION SHEET - POLY 74 SERIES RTV LIQUID RUBBERS

Description: Poly 74 Series rubbers consist of liquid Part A and Part B that, after mixing, cure at room temperature to flexible, high-strength, RTV mold rubbers. Poly 74 Series rubbers make durable, easy releasing molds for casting gypsum plasters, and waxes without release agents, but are also excellent for casting cement, epoxy, polyester, urethane and acrylic with proper release agents.

These products are safe to use if directions are followed. At room temperature, Part A is a clear liquid with a viscosity of 5000 cP and specific gravity of 1.02. Part Bs have specific gravities of 1.00. The Part Bs of Poly 74-29, 74-30 and 74-40 require stirring or shaking before use. Part B often darkens with age, but rubber properties do not change.

PHYSICAL PROPERTIES:

	Poly 74-20	Poly 74-29	Poly 74-30	Poly 74-30	Poly 74-40	Poly 74-44	Poly 74-45	Poly 74-55 Clear
Mix ratio, by weight	1A:2B	1A:1B	1A:1B	1A:1B	2A:1B	2A:1B	1A:1B	4A:1B
Hardness, Shore A	20	30	30	30	40	45	45	55
Pour time	30	30 min	30 min	30 min	20 min	20 min	30 min	15 min
Color	Yellow	Black or White to Amber	Clear Blue/Gray to Amber	Translucent Blue/Gray to Amber	Translucent Blue/Gray	Gray Yellow	Yellow	Clear
Mix viscosity (cP)	800	2,800	2,000	2,000	3,400	3,500	2,500	4,000
Cubic inches/pound	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
Shrinka ge during cure	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

MODEL PREPARATION: Porous models such as wood or plaster should be sealed preferably with wax or several coats of nitrocellulose lacquer, but petroleum jelly, paint, PVA (soap on plaster) and other coatings work well. If shellac is used as the sealer, it must be thoroughly coated with release agent as Poly 74 Series rubbers bond tenaciously to shellac. The sealed or non-porous model should then be coated with Pol-Ease® 2300 Release Agent or wax which should be allowed to dry. In every case where there is any question about the compatibility between the rubber and the prepared model surface, a test cure should be made on an identical surface to determine that complete curing and good release is obtained. Porous models must be vented from beneath to prevent trapped air from forming bubbles in the rubber.

MIXING AND CURING: Parts A and B are clear liquids for Poly 74-55 and Poly 74-30 Clear. Part Bs of other Poly rubbers are opaque. The Part Bs of Poly 74-29, 74-30 and 74-40 require stirring or shaking before use. Both Parts A and B tend to absorb atmospheric moisture, thus should be used up as soon as possible after opening. Poly Purge™ is a heavier-than-air dry gas which can be gently sprayed into open containers of A and B to displace moist air before resealing. Poly Purge™ will help to extend the storage life of the liquid components. Part A should be weighed into a clean metal or plastic container, then the appropriate amount of Part B may be weighed into the same container. Mix thoroughly. Hand mixing with a Poly Paddle is best to avoid mixing air into the rubber. While mixing, scrape the sides and bottom several times to insure thorough mixing of both components. Pour the rubber as soon as it is thoroughly mixed to obtain best flow and air bubble release. Cab-O-Sil® can be added to the mixed liquids to thicken the rubber to a gel for application by brush or trowel. See details of the Polygel Moldmaking Methods in Polytek's Manual & Catalog.

Vacuum degassing will help to provide bubble-free molds but is usually not necessary. Allow to cure at room temperature, 77° F (25° C). Ultimate properties are reached in about seven days, but molds may be used with care after curing for 48 hours. Curing in a warm location, up to 140°F (60° C) will greatly accelerate the curing speed while low temperatures slow the cure. Avoid curing in areas where the temperature is below 60°F (15°C). Clean tools with denatured alcohol before the rubber cures.

Part C for Softer Molds: Poly 74 Part C Softener can be added to the above products to soften the cured rubber and lower the viscosity of the mix. There will be a loss of strength, slower cure and increased tendency to shrink after repeated castings when Part C is used. To soften Poly 74-30 to Shore A~15, mix one part C to one Part A plus one Part B, by weight. Amounts required to soften different products will vary and should be determined by doing your own tests.

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