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PT FLEX A+B

DESCRIPTION:

PT Flex Liquid Rubbers are flexible, fast-curing rubbers for use in prototyping and modeling applications. They are excellent for casting decorative objects, production parts, tools, models, patterns, duplicate masters and more. With the addition of synthetic resin pigments, PT Flex products can be used to cast parts of any color.

MODEL PREPARATION:

Porous models, such as wood, plaster, stone, pottery or masonry must be sealed. Multiple coats of release wax will seal most surfaces. Pottery soap can be used as a sealer for plaster. Lacquer, paint and PVA also work well as sealers for many surfaces. The well-sealed model should then be coated with a release agent (e.g. PVA). Porous models should be ventilated from below to prevent trapped air from forming bubbles in the rubber.

Models made from sulphur modeling clay should be sealed with PVA or shellac. [CAUTION: When shellac is used as a sealer, it must be thoroughly covered with release agent, as polyurethane rubbers adhere strongly to shellac].

Non-porous models (e.g. metals, waxes, glazed ceramics, fibreglass and polyurethane) should be coated with release agent such as PVA.

If there is any doubt about the compatibility between the liquid moulding rubber and the prepared model surface, perform a test curing on an identical surface to determine that full cure and proper release are obtained.

MIXING AND CURING:

Make sure parts A and B are at room temperature before use and that all tools are in place. Surface and air temperatures must exceed 60°F (15°C) during application and throughout the cure period.

Check the mix ratio. Shake or stir Part B if indicated on the product label. Weigh Part B into a clean metal or plastic mixing bowl, then weigh the appropriate amount of Part A into the same container. Mix thoroughly. Hand mixing with a spatula is best to avoid mixing air into the rubber. While mixing, scrape the sides and bottom several times to ensure proper mixing. Pour the rubber as soon as possible after mixing for best flow and air bubbles.

Allow the rubber to cure at room temperature, 77°F (25°C). Carefully remove from the mold after the stated "mold release time". Final curing properties are achieved in approximately seven days. Heat accelerates curing - low temperatures slow down curing. Avoid curing in areas where the temperature is below 60°F (15°C).

Both parts A and B react with humidity and should therefore be resealed or used up as soon as possible after opening.

PHYSICAL ATTRIBUTES:

	PT FLEX 20	PT FLEX 50	PT FLEX 60	PT FLEX 70	PT FLEX 85
Mixing ratio by weight	1A:1B	1A:1B	1A:1B	1A:1B	1A:1B
Mixing ratio in volume	1A:1B	1A:1B	1A:1B	1A:1B	100A:97B
Shore Hardness	A20	A50	A60	A70	A85
Colour part A	Bright yellow	Bright yellow	Bright yellow	Bright yellow	Bright yellow
Colour part B	Opaque Skin Color	Bright yellow / amber			
Potlife	5 min	8 min	5 min	5 min	5 min
Demoulding at 25°C	1,5 hour	1 hour	1 hour	1 hour	1 hour



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De-forming at 70°C	30 min	30 min	30 min	30 min	30 min
Specific gravity	1.00	1.03	1.03	1.05	1.06
Cured color	Skin color	Yellow/amber	Yellow/amber	Yellow/amber	Yellow/amber
Mixed viscosity (cP)	520	550	625	680	1600
Specific volume (mg/ml)	27.5	26.9	26.9	26.4	26.2
Linear shrinkage	0.0050	0.0020	0.0025	0.0041	0.0013
Tensile strength mPa	1.72	1.72	2.38	5.03	7.34
Elastic modulus	85	160	190	915	2.700
Stretch (%)	770	200	235	175	250
Tear strength (kN/m)	8.8	8.8	12.3	22.8	33.2

To obtain the physical properties listed above, the curing schedule is 16 hours at 140°F (60°C).

SOFTEN THE RUBBER:

Add Poly 74/75 Part C Softener to PT Flex products for a mixture with a lower viscosity and a softer cured rubber. When Part C is used, the curing time is longer and there is some loss of strength in the rubber and a greater tendency to shrink after repeated casting. Conduct small-scale experiments to determine the best amount of Part C to use.

ACCELERATE CURING:

Poly 74/75 Part X Accelerator can be added to increase the curing speed, but the working time can be drastically reduced. Heat also accelerates curing. It is recommended not to exceed 140°F (60°C). Conduct small-scale experiments to determine the best amount of Part X to use.

THICKEN TO MAKE IT IRONABLE:

Add PolyFiber II or Fumed Silica to the mixed parts A and B to thicken the liquid mixture into a gel that can be applied with a brush or trowel.

USE THE FORM:

Usually no release agent is needed when casting plaster or wax in PT Flex molds. For casting plaster: sponge, dip or spray the mold with PVA and then pour plaster onto the wet mold to reduce air bubbles in the plaster and help with release. For resin casting, first spray the mold with PVA or universal spray. Avoid solvent-based release agents, as they can cause distortion of the mold (i.e., shrinkage or swelling).

After repeated casting with certain resins, plaster and concrete, moulds may shrink slightly as these materials remove oils from the mould. The proper choice of release agent and/or barrier layer can minimize this effect.

PT Flex molds will last many years if stored undisturbed on a flat, non-porous surface in a cool, dry place away from direct sunlight. If occasional outdoor use is required, add 0.5% UV additive to the total weight of the mixture to reduce the characteristic surface degradation caused by sunlight. Never store PT Flex molds outdoors, as UV exposure will eventually degrade the rubber.

CLEANING:

Wipe tools clean before the rubber cures. Denatured ethanol is a good cleaning solvent, but is highly flammable and should be handled with caution. Coat work surfaces with wax, PVA or universal spray so that cured rubber can be easily removed.

SAFETY:

Read labels and safety data sheets before use. Follow safety precautions and instructions. Use only with adequate ventilation. Contact with uncured products may cause eye, skin and respiratory sensitization. Avoid contact with skin and eyes. If skin contact occurs, remove with a hand cleanser without water or alcohol and then with soap and water. In case of eye contact, flush with water for 15 minutes and consult a physician. PT



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Flex products must not be used in areas where food or body contact can occur. PT Flex rubbers burn easily when ignited.

MAINTENANCE:

For best results, store products in unopened containers at room temperature (60-90°F / 15-32°C). Use products within six months. Part B darkens with age, but product performance is not affected.