



TASK™ 8

Heat Resistant Polyurethane Resin

PRODUCT OVERVIEW

TASK™ 8 is a heat resistant polyurethane resin system made specifically for prototyping / casting applications that require high thermal resistance (265°F / 130°C).

TASK™ 8 offers the convenience of a 1A:1B mix ratio and has a very low viscosity, so it is easy to mix and pour. Plastic cures quickly to a Shore 80D and exhibits good physical and performance properties. Post curing this material is necessary to attain optimal heat resistance.

Applications include making machine housings, thermo-forming and general prototyping / casting.

TECHNICAL OVERVIEW

Key Values: ~*Mixing Ratio:* 100A:100B by vol/120A:100B by wt. ~*Ultimate Shore Hardness:* 80 D
 ~*Pot Life:* 2.5 minutes. ~*Demold Time:* 10-15 minutes ~*Color:* Off-white

Properties	Viscosity	Density(g/cc)	Specific Volume (Cu. In./Lb.)	Shrinkage
Part A	80 cps	1.1	-	-
Part B	120 cps	1.2	-	-
Mixed	100 cps	1.0	27.7	.009in./in. (200 gm mass)
Tensile Strength: 7200 psi		Compressive Strength: 9,500 psi		Elongation/Break: 12%
Flex. Strength: 9320 psi		Flex. Modulus: 271,000 psi		
Heat Deflection Temp. (ASTM D-648):			After 1week @ room temp	4hrs. @212°F / 100°C
@66psi			194°F / 90°C	263°F / 129°C
@264psi			167°F / 75°C	214°F / 101°C

Preparation

Applying A Release Agent

Measuring

Preparation . . . Materials should be stored and used in a warm environment (72° F / 22° C). This product has a limited shelf life and should be used as soon as possible. All liquid urethanes are **moisture sensitive** and will absorb atmospheric moisture. Mixing tools and containers should be clean and made of metal, glass or plastic. Mixing should be done in a well-ventilated area. Wear safety glasses, long sleeves and rubber gloves to minimize contamination risk. **Because no two applications are quite the same, a small test application to determine suitability for your project is recommended if performance of this material is in question.**

Applying A Release Agent . . . A release agent is necessary to facilitate demolding when casting into or over most surfaces. Use a release agent made specifically for mold making (Universal Mold Release or Ease Release 200 available from Smooth-On or your Smooth-On distributor). A liberal coat of release agent should be applied onto all surfaces that will contact the plastic. **-IMPORTANT:** To ensure thorough coverage, lightly brush the release agent with a soft brush over all surfaces. Follow with a light mist coating and let the release agent dry for 30 minutes.

Most silicone rubber molds usually do not require a release agent unless casting silicone into the mold. Applying a release agent, however, will prolong the life of the mold.

Mixing . . . Shake or stir both Part A & Part B before dispensing. After dispensing equal amounts of Parts A and B into mixing container, **mix thoroughly.** Stir slowly and deliberately making sure that you scrape the sides and bottom of the mixing container several times. Be careful not to splash low viscosity material out of the container. **Remember, TASK™ 8 will set up quickly.** Do not delay between mixing and pouring.

Pouring

Curing

Performance

IMPORTANT: Shelf life of product is drastically reduced after opening. Remaining product should be used as soon as possible. Immediately replacing the lids on both containers after dispensing product will help prolong the shelf life of the unused product. **XTEND-IT Dry Gas Blanket** (available from Smooth-On) will significantly prolong the shelf life (up to 4 times longer) of unused liquid urethane products.

Pouring . . . For best results, pour your mixture in a single spot at the lowest point of the containment field and let the mixture seek its level. This will help minimize air entrapment.

Curing . . . TASK™ 8 will cure in 10-15 minutes depending on mass and mold configuration. Non-hazardous fumes, which may be visible as this product starts to “gel” and cure, will dissipate with adequate (room size) ventilation.

Heat Curing . . . For maximum physical properties and heat resistance, material should be heat cured according to the following cure schedule.

Temperature	Duration
Room Temp. (72°F / 23°C)	1 hour
150°F / 65°C	2 hours
212°F / 100°C	2 hours
265°F / 130°C	2 hours

Performance . . . Cured castings are rigid and durable. They resist moisture, moderate heat, solvents, dilute acids and can be machined; primed/painted or bonded to other surfaces (any release agent must be removed). If machining cured material, wear dust mask or other apparatus to prevent inhalation of residual particles. Castings can be displayed outdoors after priming and painting. Unpainted castings will yellow over time - more quickly when exposed to ultra-violet light. Because no two applications are quite the same, a small test application to determine suitability is recommended if performance of this material is in question.

Safety First!

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The material safety data sheet (MSDS) for this or any Smooth-On product should be read before using and is available on request. All Smooth-On products are safe to use if directions are read and followed carefully.

Be careful. Part A (Yellow Label) contains methylene diphenyldiisocyanate. Vapors, which can be significant if prepolymer is heated or sprayed, may cause lung damage and sensitization. Use only with adequate ventilation. Contact with skin and eyes may cause severe irritation. Flush eyes with water for 15 minutes and get immediate medical attention. Remove from skin with soap and water. Part B (Blue Label) is irritating to the eyes and skin. Avoid prolonged or repeated skin contact. If contaminated, flush eyes with water for 15 minutes and get immediate medical attention. Remove from skin with soap and water. When mixing with Part A, follow precautions for handling isocyanates. If machining cured castings, wear dust mask or other apparatus to prevent inhalation of residual particles.

Important - The information contained in this bulletin is considered accurate. However, no warranty is expressed or implied regarding the accuracy of the data, the results to be obtained from the use thereof, or that any such use will not infringe a copyright or patent. User shall determine suitability of the product for the intended application and assume all associated risks and liability.

Call Us Anytime With Questions About Your Application.

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