

188 Orange Tooling Gel Coat



Overview: #188 Orange Tooling Gel Coat is an orange, abrasion resistant gel coat for making molds where gloss retention, superior hardness, exceptional craze resistance and minimum distortion are paramount. The life of a good polyester mold may be extended considerably by the use of tooling gel coat. For best results, build the film thickness to 20 -25 mils. #1040 Hi-Gloss Additive can be added to further upgrade the gloss. Requires 2% MEKP

Available in quarts, gallons and 5 gallon pails as well as resin/hardener kits

Features & Benefits:

- High gloss achievement and retention
- Excellent abrasion resistance
- Superior hardness
- Exceptional craze resistance
- Minimum Distortion
- High Heat Distortion Temperature

Typical Cure Schedule:

HAPS	36-38%
Gel Time @ 77°F 2% MEKP	16-21 minutes
Gel to Peak	5-10 minutes
Peak Exotherm	320-350 F
Film cure @ 77°F	30-60 minutes
Hide @ 15 mils (wet)	80 sq. ft/gal*
Sag resistance	20-25 mils

*Actual transfer efficiency affected by overspray, shrinkage, and heat transfer

Typical Product Properties (Uncured):

Viscosity@77° (LVF 3460rpm-cps)	1500-2500
6 rpms-cps	11,000-16,000
Thix index (6/60)	6.0-7.0
Weight per gallon	9.7-10.2 lbs
Stability	3 months @77°F unopened
Hegman grind	4 minimum
Coverage @20mils, wet	80 sq ft/gal*
Patchability	Good

*Actual transfer efficiency affected by overspray, shrinkage, and heat transfer

Typical Product Properties (Cured):

Flex elongation ASTM D790	1.6-2.2%
HDT ASTM D648	200-215°F
Tensile Elongation ASTM D638	0.6-0.8%
Tensile Strength ASTM D638	3300-4300
Flexural Strength ASTM D790	10,000-12,000 psi

Mixing Directions: Shake well before using. To initiate hardening add PART #69 MEKP HARDENER in a ratio of 2%. For easy measure, use 2 teaspoons of hardener per pint (pound) of resin or 4 teaspoons per quart. For very small quantities use 25 drops of hardener per ounce of resin. Measure the components, do not guess at them.

At a temperature of 77°F the resin will begin to harden in about 10 minutes and be ready for applying reinforcements in about one hour. At cooler temperatures the mixture will take longer to harden and at warmer temperatures it will take less time. The ratio of hardener may be adjusted to compensate for temperature extremes; add up to 50% more hardener when cooler and correspondingly less when warmer.

Do not apply when temperatures are below 60°F. Mix only small quantities when the temperature is about 85°F as hardening will occur very rapidly. Never apply in direct sunlight. Mix in clean glass, paper, plastic or metal containers. Do not use foam containers. Mix no more than you can use before the resin will begin to harden, and thereafter let your experience guide you. Do not return mixed (catalyzed) gel coat to container. Clean tools with #9 PURE VIRGIN ACETONE or lacquer thinner.

Surface Preparation: A previously gel coated surface must be clean and free from dirt, oil or other foreign materials and then lightly sanded prior to repairs. Mold surfaces should be prepared as instructed by the mold release manufacturer.

Gel Coat Repairs: Small spot repairs are best done by dabbing the gel coat onto the area with a small brush and then covering with a piece of plastic to make sanding easier. In 4-6 hours the area can be sanded and the process repeated as many times as necessary until the damage is filled. Large repairs are best achieved by spraying the material through automotive siphon or HVLP spray equipment which provides excellent material control. #188 Orange Tooling Gel Coat should be reduced with #1040 Hi-Gloss Gel Coat Additive to be sprayed through this type of equipment. To ensure a tack-free surface, wait 30 minutes after spraying gel coat and then spray on a layer of #13 PVA Parting Film. This will form a barrier to the air and prevent the tackiness problem. Wash film off with water in 4-6 hours before polishing.

Problems:

- Dullness: Dull mold surface, insufficient catalyst.
- Slow Gelatin: Cold mold surface, insufficient catalyst, gel coat too thin.
- Pinholes: Initial pass too heavy, insufficient atomizing pressure.
- Wrinkling: Cold mold, insufficient catalyst, insufficient gel coat thickness.
- Glass Pattern Print-Through: Gel coat too thin, cold mold, insufficient catalyst.
- Sagging: Excessive gel coat, insufficient atomization.
- Lifting of Gel Coat From Mold: Too much catalyst, mold too warm, gel coat applied too thick.

Safety & Handling: #188 Orange Tooling Gel Coat contains ingredients which could be harmful if mishandled. Contact with skin and eyes should be avoided and necessary protective equipment and clothing should be worn. Individuals should wash with soap and water before eating, or drinking. Individuals should observe conditions of good industrial hygiene and safe working practice. For more detailed instructions on handling please see the MSDS Sheet.

All containers should be properly labeled to prevent accidental ingestion or improper disposal. Individuals should reseal any partly used material back in the container. Store # 188 Orange Tooling Gel Coat at 73°F, in dry conditions away from open flames and high temperatures. For more detailed instruction on storage please see the MSDS Sheet.