



## PRODUCT DATA SHEET

# FORMULA FIVE® Matte Top Coat Semi-Permanent Mold Release

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### General Product Information

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FORMULA FIVE® Matte Top Coat semi-permanent mold release is a proprietary blend of cross-linking polymers in a solvent carrier that bond to the mold surface to protect the mold and preserve fine detail. A high slip external mold release that produces very little mold build up and yields multiple releases per application. Ideal for applications where transfer of release agent to finished part must be avoided. FORMULA FIVE® Matte Top Coat may be used as a one-step semi-permanent mold release system for non-cosmetic parts.

A very robust and chemically resistant semi-permanent that is especially suited to non-gelcoated applications, with primer gelcoats, with heavily filled matrices such as cast polymer and polymer concrete, aggressive resin systems such as DCPD (dicyclopentadiene resin), and in many non-cosmetic applications such as rotocasting, male molds and "B" sides of closed molding operations. Ideal for challenging mold surfaces such as "non-skid" and can replace flange, edge or hat wax with the advantage of eliminating risk of wax contaminating cosmetic mold surfaces.

FORMULA FIVE® Matte Top Coat is also suitable for the release of both gelcoated and non-gelcoated fiberglass (FRP/GRP<sup>1</sup>), phenolic, epoxy, polyester and vinylester resins, rubber and many polyurethane foams and elastomer parts from most substrates, including metal and gelcoated mold and plug surfaces. FORMULA FIVE® Matte Top Coat also extends life of silicone rubber molds.

This product will maintain a matte finish on parts made from matte finish molds. Recommended for most molding processes including contact molding, hand lay up, spray up, filament winding, cast polymer (cultured marble/solid surface), rotational molding, closed molding (RTM, compression, injection), polymer concrete (polycrrete/GRC<sup>2</sup>), and with in-mold coatings. Easy wipe-on leave-on or spray-on-wipe application, no polishing required. Suitable for use with mold process temperatures up to 500 °F (260 °C). FORMULA FIVE® Matte Top Coat may be applied over other semi-permanent releases without stripping.

NOTE: The cross-linking resins used in FORMULA FIVE® Matte Top Coat cure by hydrolysis (interaction with moisture in the atmosphere) and temperature. Recommended storage is in original containers tightly sealed avoiding extreme temperatures. Decant the amount of material expected to be used into HDPE containers with a positive closure just before use. Do not return air exposed release back into original container. For more robust mold releasing use over FORMULA FIVE® Mold Sealer-S.

<sup>1</sup> FRP/GRP = Fiber Reinforced Polymer or Plastic / Glass Reinforced Plastic or Polyester

<sup>2</sup> GRC = Glassfiber Reinforced Concrete

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### Preparing Mold Surface

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FORMULA FIVE® Matte Top Coat is ready to use as received with no mixing or agitation necessary. Do not mix with other chemicals or dilute. Clean mold thoroughly with FORMULA FIVE® Mold Cleaner or, if necessary, by compounding followed by warm water/detergent wash and followed by FORMULA FIVE® Mold Cleaner. For new, reconditioned, porous, or damaged molds, apply FORMULA FIVE® Mold Sealer or FORMULA FIVE® Mold Sealer-S according to instructions prior to using FORMULA FIVE® Matte Top Coat.

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### Directions for Use

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FORMULA FIVE® Matte Top Coat performs very well at application temperatures of 70 °F (21 °C) but curing at higher temperatures such as 120 - 150 °F (49 - 66 °C) makes a more durable release coating. Multiple coats and longer curing times between mold release coats before first part being made will also make a more durable coating. Must be applied to a clean surface to perform properly. Use tape test at several places on molding surface to verify cleanliness. Spray application is recommended for mold surfaces at or above 130 °F (55 °C) because of the rapid evaporation rate of the carrier solvents.

Consult Material Safety Data Sheet (MSDS) prior to use. FORMULA FIVE® Matte Top Coat should always be used in a well-ventilated area with appropriate personal protection equipment, including solvent resistant gloves.

Using a clean dry lint-free cloth or high quality paper towel, wet but not dripping with FORMULA FIVE® Matte Top Coat, gently wipe mold surface covering up to 5 square feet (0.5 meter<sup>2</sup>) at a time. Never pour mold release directly on mold. Wipe away any pooling, do not over wipe or apply excess material. Reapply FORMULA FIVE® Matte Top Coat to cloth frequently during application. No buffing or polishing is necessary. Repeat on neighboring areas, overlapping to ensure complete coverage, until mold surface is completely covered and allow to cure.

At temperatures above 100 °F (38 °C) allow 15 minutes for mold release to cure. At ambient temperatures allow 30 minutes for mold release to cure. Using a fresh clean applicator repeat previous steps two more times for a total of three protective coats. Durability of mold release will be improved by allowing final film to cure longer and/or by heat curing at temperatures above process or part resin exotherm temperature. Reapply one coat of FORMULA FIVE® Matte Top Coat as described above after first part has been de-molded and when molded parts begin to hesitate or stick upon release.

If resin scum is observed after demolding a part, clean area using FORMULA FIVE® Matte Top Coat and wipe away residue. Continue molding parts. If scumming persists, lightly clean area with FORMULA FIVE® Mold Cleaner and a Scotch-Bright® type pad, wiping away residue and reapply one to two coats of mold release as described above. Continue molding parts. If scumming is chronic use FORMULA FIVE® Wax Stripper and then buff the mold. Proceed by applying FORMULA FIVE® Matte Top Coat (and FORMULA FIVE® Mold Sealer or FORMULA FIVE® Mold Sealer-S as required) again as described above from first step. If streaking is observed after applying a coat of mold release, polish off with clean cloth after cure. Streaking can be caused by applying too heavy of a coat of mold release or by applying with a cloth containing partially or fully cured release or other contaminants.

If pre-release is experienced on parts made with gel-coat it may be due to the high-slip properties of FORMULA FIVE® Matte Top Coat. A very light wiping of problem areas with FORMULA FIVE® Mold Cleaner will increase surface tension and reduce gel-coat pre-release.

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1 GALLON (3.79 LITER) JERRICAN AND 55 GALLON (208.2 LITER) DRUM

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