



DIE-SLIDE™
Superior Non-Stick Edge and Surface Treatment

How to Apply Die-Slide™

Application notes for Die-Slide™ and Die-Slide™ Renovate

Die-Slide™ requires one treatment—a one-step application to the edges and surfaces of dies and cutting tools. Remember, less is better when *Die-Slide* is applied! The *Die-Slide* linking period for initial treatment is five days, and is performed at room ambient temperature.

ALL EDGES AND SURFACES MUST BE CLEAN! Any existing adhesive, debris, oil or grease, etc. must be removed for the *Die-Slide* chemical-linking treatment to be effective. You may use denatured alcohol, acetone or MEK as necessary with a clean cloth or swab. Solvents must be allowed to flash-dry before application of *Die-Slide*. It will be quite evident that proper treatment was not achieved after application, if a spot on the edge or surface continues to attract residue.

WARNING! FLAMMABLE! CANISTER CONTENTS IN THEIR UNLINKED AND LIQUID STATE MAY BE HARMFUL OR FATAL IF INGESTED. SEEK MEDICAL ATTENTION IMMEDIATELY. CONTENTS MAY IRRITATE EYES AND SKIN. USE IN A WELL-VENTILATED AREA. PROTECTIVE EYEWEAR AND GLOVES ARE RECOMMENDED DURING APPLICATION. PLEASE REFER TO SAFETY DATA SHEETS FOR MORE INFORMATION.

Die-Slide may be applied to aluminum; glass: Invar (64FeNi); Molybdenum; stainless steel; steel; and many plastics. Other metals may be possible as well—try *Die-Slide* out and see! Please be sure to read all directions, since it may be useful to know how *Die-Slide* has been applied to another type of tool that can benefit your application.

- **Steel Rule Dies:** Apply *Die-Slide* by using a cotton swab. Be sure to apply to both sides of the blade. Dip the swab into the canister and twist and wring against the inside canister wall to remove excess liquid. Gently wipe on a light coat. The chemical linking period is five days at ambient room temperature.

If you are ordering a new steel rule die or a re-ruled board, ask your die maker to provide the tool already treated with *Die-Slide* for use. *Die-Slide* will affect the board surface for rubber application so it must be protected temporarily. The die maker can apply *Die-Slide* either before the rule is bent for insertion, or laminate a temporary pre-mask to the die board material prior to laser cutting the rule pattern. The rule may then be inserted and air-brushed with *Die-Slide* and allowed to undergo the linking process. Following the linking period, the pre-mask is removed, so that ejection rubber is able to adhere to the board.

- **Class “A”, Male/Female, Matched-Metal Tooling:** Apply *Die-Slide* to all cutting edges and surfaces which may be affected by unwanted residue. Depending on the intricacy of the tool, it may be applied by swab, or an air brush. Be sure to cover or protect areas where you don’t want the treatment to be applied.
- **Machined Flatbed & Rotary Dies and Flexible Dies:** *Die-Slide* may be applied using a swab to the cutting edge and down the blade slope as far as desired. If the tool is to be foamed or rubbered for use, be careful not to apply too far into a cavity. As with male/female tooling, *Die-Slide* may be applied to mechanical ejection plungers on rotary tooling.
- **Slitting Blades, Sheeting Knives, Guillotine-Style Shearing Knives, and Plotter Knife Blades:** No matter whether two knives shear or there is a single blade, *Die-Slide* may be applied with a swab, or air brushed. Be sure to remove excess accumulating liquid. Apply to shearing and crush-cut anvils as well as blades. It may be applied as far up the side of the blade as necessary when cutting through a layered thickness of material, as with log slitters.
- **Hot or Cold Needle Perforation Tools:** *Die-Slide* is best applied using an air brush, and fogged onto the needles. A new and clean unused tool will perform best.
- **Rotary Converting Idler Rollers and Anvils:** Apply to surfaces with an airbrush or cloth where exposed adhesives may be involved in the process.
- **Embossing Dies:** *Die-Slide* may be swabbed, air-brushed or wiped. Make sure that no excess liquid accumulates in deeper areas of either tool face.
- **Extrusion Dies:** *Die-Slide* may be air-brushed, swabbed or wiped, depending on accessibility and area to be treated. As with embossing dies, avoid and remove pooling. If possible, stand the tool on end, gravity downward, in agreement with the overall production material flow direction

Die-Slide™ Renovate. Since tooling wears over time due to use, **Die-Slide™ Renovate** may be required on previously treated, well-worn dies. The assessment for refurbishment will depend on the amount of use as well as the nature of the material that has been converted or processed. Treatment may be applied more than once, if a tool continues to be serviceable. *Die-Slide Renovate* may be applied successive times until the tool wears out. The standard ambient room temperature cure time is overnight, or approximately 10 hours.

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Die-Slide™ Renovate is food-contact safe. It is a non-toxic product following its chemical linking period and post-cleaning of the edges or surfaces to which it is applied as instructed. Its components pass the solvent extraction tests listed in the US CFR 21 175.300. All components conform to materials listed by the US Food and Drug Administration, and also contain no heavy metals.

Instructions for the Accelerated Cure of Die-Slide™ and Die-Slide™ Renovate

Accelerated Cure of Die-Slide™

The following guidelines may allow for 90-95% of the efficacy of *Die-Slide* that has been cured using the standard 5-day ambient, or room temperature protocol. For full effect, *Die-Slide Renovate* may be applied after stage (8.) below, using the normal instruction for its application. If this

procedure is started early in the business day, the treatment can usually be completed within a 24-hour period, including an additional *Renovate* application, if desired.

1. **Accelerated Die-Slide cure:**
2. Clean the tool completely as usual, using denatured alcohol, 100% isopropyl alcohol (IPA), acetone or methylethyl ketone (MEK), etc.
3. Apply *Die-Slide* as is usual—swab, cloth or air-brush.
4. Let the tool rest for at least one hour at ambient or room temperature (65° to 105°F (18° to 40°C)), in a well-ventilated area.
5. Pre-heat an oven to a 400°F (205°C) temperature.
6. Place the tool into the oven for a minimum of one hour. If the tool is a steel rule die or flexible die,

- the one-hour minimum time period should be sufficient. However, if the tool has some mass to it, such as a matched-metal die or rotary die, the time will be longer, as the tool will act as a heat sink until its temperature is equal to the oven temperature. This will be either a subjective or calculated determination of the user.
7. Remove the tool. Let it cool down to room temperature.
 8. Wipe off any excess, uncured *Die-Slide* material that remains, using the same solvent as was used to clean the tool.

Accelerated Cure of Die-Slide™ Renovate

The following guidelines may allow for 90-95% of the efficacy of *Die-Slide Renovate* that has been cured using the standard 10-hour or overnight ambient (room temperature) protocol. Physical properties may improve with this elevated cure cycle with an extended cure time, or by allowing a 5-day curing time at ambient (room) temperature.

1. **Accelerated Renovate Cure:**
2. Clean the tool completely as usual, using denatured alcohol, 100% isopropyl alcohol (IPA), acetone or methylethyl ketone (MEK), etc.
3. Apply *Die-Slide* as is usual—swab, cloth or air-brush.
4. Let the tool rest for at least one hour at ambient or room temperature (65° to 105°F (18° to 40°C)), in a well-ventilated area.
5. Pre-heat an oven to a 350°F (176°C) temperature.
6. Place the tool into the oven for a minimum of one hour. If the tool is a steel rule die or flexible die,

- the one-hour minimum time period should be sufficient. However, if the tool has some mass to it, such as a matched-metal die or rotary die, the time will be longer, as the tool will act as a heat sink until its temperature is equal to the oven temperature. This will be either a subjective or calculated determination of the user.
7. Remove the tool. Let it cool down to room temperature.
 8. Wipe off any excess, uncured *Die-Slide* material that remains, using the same solvent as was used to clean the tool.

