

Choosing and Using the Right Mold Cleaners

Cleaning molds is a key part of running a successful injection molding operation. There are two situations when mold cleaning is required: on-line when the mold is warm and is still in the press and off-line when the mold is on the bench and is cold [room temperature].

Because of temperature differences, the solvents may have different degrees of effectiveness. Solvents that work well on the bench and evaporate at a convenient rate are usually flashed off very rapidly on a hot mold and aren't in contact long enough to do much cleaning. Solvents that work well at higher temperatures are much less aggressive [effective] at room temperature. They take longer to evaporate or may even have to be wiped off. **Using the wrong cleaner may result in poor cleaning or excessive time to accomplish the job.**

The requirements of off-line cleaners are primarily to dissolve resins, grease, oil, mold release and sometimes rust, as well as drying quickly. The best cleaners for this are chlorinated hydrocarbons, but some non-chlorinated hydrocarbons and naphthas are also good. They can readily dissolve greases and oils by merely flushing the mold with a heavy spray from top to bottom. Mold releases and resin build up may require scrubbing the mold with a cloth saturated with the cleaner.

On-line cleaners are generally used to remove mold release build up, "plate out" of resins and light rusting of the mold.

Sometimes molds get "plate out" which is due to adherence of resins [acetals such as Delrin™ or Celcon™ have been common offenders in the past] **or fire retardant materials.** See our information sheet, "*Resin Remover to the Rescue*" for the procedure to deal with this problem.

Knowing the needs of molders, **Slide Products** offers an array of cleaners that work at different temperatures as well as for different materials. **This includes bulk formulations which are usually the most cost effective, but require spraying equipment.**

Selector Chart for Slide Mold Cleaners

	Cold molds [Room temp.]	Warm molds [100-150 °F]	Hot molds [200-300 °F]
Quick Non-Chlorinated [40910]	X		
Mold Cleaner Plus [45920]	X		
Econo-Spray Mold Cleaner. [45612]	X	X	
On/Cycle Mold Cleaner [44212]		X	
Resin Remover [41916]			X

When evaluating mold cleaners, remember that cost per can is not the whole story; speed of cleaning and press down time are usually of greater significance.

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“SLIDE” Resin Remover to the Rescue

Resin Remover™ [41916T], known to many molders as “**Stripper,**” is a unique product. It is a real boon when there are problems with resin build up [plate out] on mold surfaces or when internal vents are plugged [very common when molding nylon]. DuPont and Celanese recommend it for removing “plate out” acquired when molding their acetal resins. Borg Warner [now G.E.] has recommended it for removing “plate out” from its KJB™ and KJW™ fire retardant resins. It works with many other materials, also.

The big advantage is that **cleaning** can be accomplished **while the mold is on-line.** The solvents in Resin Remover create a solvent weld with the surface residue. When the part is ejected, the residue is torn away. The procedure is as follows:

1. Spray the “plate out” area fairly heavily with Resin Remover. Lightly spray a mold release on the entire mold. This prevents parts from sticking to the mold except where there is residue [very important on core side of mold where there are no ejector pins].
2. Close mold, [mold should be warm for best effect] and allow to sit for a few seconds. Start regular molding operation and discard parts until residue is no longer being removed. This is usually accomplished in four or five shots. Repeat the procedure if build up is particularly heavy.

With a little experimentation, a regular schedule for use of the “Stripper” will maintain quality production with a minimum of rejects. Applying “Stripper” on a cold mold is useless. Do not leave Resin Remover on a cold mold over night. It is a slow evaporating, hygroscopic material and will absorb moisture from the air. This can result in rusting of the mold. To remove Resin Remover from a cold mold, wash it off with water, alcohol, or acetone . [Acetone is very flammable; be very cautious anytime you use it.] A clean mold is subject to immediate rusting; be sure to protect it promptly with an anti-rust material such as **SLIDE Mold Shield™ [42916T]** or **NoRust™ [40212]**.

In the case of plugged internal vents, the procedure is to force “Stripper” through the vents, dissolving the plugging material as it goes. This is also an **on-line procedure** as follows:

1. In the internal vent areas, spray the mold fairly heavily with Resin Remover.
2. Close the mold, then inject a short shot of resin into the mold. This will vaporize the “stripper” and insure vent cleaning.

Slide Products, Inc. specializes in chemical products for molders. Let us know if you have molding problems that you think might be solved with chemistry.