

Choosing and Using the Right Mold Protectants

The fastest way for a molder to go broke is to allow his tooling to rust. If rusting is not quickly corrected, parts will not pass customer's requirements and expensive repairs will be necessary. It is not uncommon to spend several thousand dollars in repairing a rusted mold.

Using an inexpensive material that is not designed for industrial applications [such as WD40] may be a real loser. Typically, these products are designed for water displacement [WD] and not for neutralization of fingerprints or acid residues. In addition to neutralization a good anti-rust product will provide a film that gels over and will flow back in place if nicked or scratched. It will not have wax or other material that builds up on the mold surface requiring extra cleaning. It should also have the capability of displacing micro droplets of water that may have condensed on the mold surface, leaving a barrier to prevent direct water/steel contact. All of the SLIDE anti-rust products listed below have these basic criteria, so that your tooling is well protected. Many products on the market do not provide all of these features.

Using materials, such as WD40, for protection or lubrication of molds that are operating over 250°F [such as most compression molds] will result in their degradation into a "varnish" that makes parts stick as well as causing ejector pins to seize.

The most reliable way to protect injection molds is to spray the proper antirust material on the mold immediately after the molding run is over and the mold is still warm. This will protect it until the mold gets to the tool room where it is cleaned and then immediately coated with the proper protectant [see "Choosing and Using the Right Mold Cleaner"]. Often it is hard to tell whether the mold is properly coated. When in doubt add extra coating. You are gambling a few cents against big bucks if the job isn't done right. One way to improve coverage is to cover the mold with left to right spray strokes and then repeat with forward and backward strokes at right angles to the first coat. The SLIDE EconoSpray Rust Preventative [45512T] has a light blue dye that helps show if any of the mold has been missed.

Although the interior of the mold surfaces are the most critical for protection, don't forget to protect the sprue bushing. If that rusts, it will be tough to get a seal with the barrel nozzle. The entire exterior of the mold should be coated to insure protection. Rusting of the bases where they clamp against the platens may cause problems with keeping the mold halves parallel. This can result in flash or excessive clamp pressure being required.

Bleed out of solvents and anti-rust compounds is a production problem resulting from the type and method of applying materials used to clean and protect molds. At its worst, bleed out can result in marking parts with oil/grease/antirust material for hours during the start of molding. If the mold protectant does not mold off promptly, a solvent cleaner is typically used to remove it. During this removal process, some solvent usually penetrates back past the ejector pins and contaminates the lubricant in the pin box. This results in thinning of the ejector pin lubricant which then oozes out past the pins, marking the molded parts.

Anti-rust compounds that penetrate and seal off injector pins are a minor source of solvents that can cause bleed out. Using a protectant, such as SLIDE Mold Shield [42916T] that goes on dry, prevents bleed out. The down side is that it will have a shorter protective life than other types as it does not seal off the ejector pins. For most situations, protection of about a year is not a problem and using "dry" anti-

rust products is a real winner in eliminating bleed out during start up.

Selector Chart for Slide Mold Protectants

	Length of Protection	Bleed Out	Neutralizer Amount	Blue Dye?
NoRust [40212]	5 years **	Some	Normal	No
Mold Shield [42916T]	1-2 years **	No	Normal	No
Acid Vapor [44016T] Neutralizer	5 years *	Some	5 x Normal	No
EconoSpray Rust Preventative [45512T]	3 years**	Some	Normal	Yes

*Depends on amount of acid vapors to which mold is exposed. This product was designed to protect against acid vapors coming from molding PVC and fire retardant resins.

** Under normal indoor plant conditions

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.