



PLASTICS RESEARCH LABORATORIES, INC.
MOLD RELEASES & PROCESS ADDITIVES

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Technical Data Sheet



W-5016

Product Description

Water-based, semi-permanent mold release. A proprietary resin emulsion comprising modified polymers which crosslink and form a release film upon evaporation of the water carrier.

Composition

Aqueous emulsion of proprietary resins and cross-linkers with various surfactants in a water carrier.

Handling

Keep this water-based product from freezing and store below 100°F / 39°C. Mix well before using.

Features

Water-based carrier
Spray or wipe on
No HAPS , No odor

Uses

Specifically designed for thermoset resins, such as: epoxy, vinyl-ester, or polyester; as well as thermoplastics, and rubber processed at temperatures up to 1000°F/537°C.

Typical Properties

Solids	6.0 – 9.0%
pH	2.5- 4.5
Color	White
Specific Gravity	1.005 @25°C
Viscosity	<15cps @25°C
Flash Point	Non Flammable
Shelf Life	12 months in original unopened package

Mold Preparation

Mold surfaces should be clean and free of previously used mold releases and other surface contaminants. Previous mold release can be removed with WCX Water-based Mold Stripper or CX-200HS Mold Stripper. Resinous build-up should be stripped using either AXEL CX-525 or CX-530 Mold Strippers for heated metallic molds, or CW-10NC for composite tools. After stripping the mold surface, AXEL CX-500, CX-501, or CX-502 should be used to remove any remaining residue from the mold surface.

For molds with a previous semi-permanent mold release on the surface the W-5016 can be used directly over the top of the previous semi-permanent as long as the surface is acceptably clean and free of build-up.

Application Instructions – By Hand

Apply using a clean, woven, lint free cloth, such as the Scott Shop Towels On A Roll®, Kimberly-Clark WorkHorse® rags or WypAll Wipes®, or even a good, heavy-duty plain white paper towel. AXEL also recommends 100%, bleached white, cotton cloths.

Wet the cloth with release until it is saturated but not dripping and wipe onto the mold surface using smooth even strokes until the film is uniformly applied without wiping marks. Application by hand to molds over 180°F/82°C should be avoided as the W-5016 will start to cure in place and leave a build-up on the mold surface. For temperatures over 180°F/82°C the W-5016 should be spray applied.

2 – 4 coats are recommended when applying for the first time. Allow the coating to dry between applications. The longer the cure, the better. However, it is not necessary for long cure times due to the chemistry of the W-5016. 30 minutes of final cure at process temperature is recommended when trying to achieve a high number of molded parts prior to reapplying. Shorter cure time is acceptable for when re-applying every time, or for when only a few parts will be molded between reapplication.

Application Instructions – By Spray

W-5005 can be sprayed. Spraying on molds over 180°F/82°C should only be done with quality spray equipment that properly atomizes the W-5016 in to a finely atomized film on to the mold surface. Plastic spray bottles or other lower quality spray equipment should only be used for lower temperature application (poor atomization on hot molds can result in a milky white build-up and dried drip or run marks which will then be difficult to remove). A cotton cloth or paper towel should be kept handy to wipe off any excess spray. HVLP type spray guns should be used for tools over 180°F/82°C

Touch-up coats (reapplication), when applied, should be cured for about 5 minutes at elevated temperature prior to restarting production. The W-5016 should, at a minimum, always be dry to the touch prior to molding.

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