

Inert Surface Treatment

For Aluminum, Steel or Polymer Molds

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Polyurethane molding presents many challenges due to the aggressive ability of isocyanates to react with and bond to chemically active surfaces. Mold cleaning often exposes fresh, highly active surfaces and in the case of polyurethane molding can lead to an initial sticking issue of molded parts until the mold reaches a steady state on the surface, also known as the mold becoming seasoned. This problem affects a broad range of polyurethane molders and many techniques aim to prepare molds to be returned to service effectively. Heavy application of wax or mold release, followed by one or more cycles of baking may be performed prior to returning the mold to service. Stoner Inc. offers our XK-22 as an effective and faster method to condition or season freshly cleaned molds prior to a return to service. The goal of the treatment is to provide a surface less reactive with isocyanates to reduce sticking and build-up. This technique is in use with flexible molded foam customers as well as with MDI cast elastomer customers and saves time and money in the conditioning process.

The Stoner process begins with a mold that is clean and free of residual mold release and polyurethane build-up. A thin wet layer of Stoner XK-22 is wiped over the surface with a clean, lint free wipe or cloth. The mold should ideally be under 120 °F or 40 °C for best results. The XK-22 should be applied as long, slightly overlapping stripes, avoiding circular or buffing motions. After 5 minutes, the surface can be lightly buffed with a soft wipe or cotton cloth if a class A finish is required on cast parts. A second light wet coat of XK-22 should be applied in long strokes at a 90 degree angle to the initial coat. This coat can also be buffed if a class A finish is required. Additional coats can be applied if desired, flowing the same pattern. After the final coat, the surface is ideally allowed to cure for one hour, then is coated with normal mold release and the mold is put back in service.

The mold surface should have a smooth, low friction surface and should feel dry prior to application of mold release. The XK-22 process does not need to be repeated until the next time the mold is thoroughly cleaned.



Recommended Procedure

1. Clean mold making certain to remove all mold release and built up urethane.
2. Apply XK-22 in a thin wet coat with even strokes.
3. Buff lightly after 5-10 minutes.
4. Reapply XK-22 at a right angle to the initial coat.
5. Buff lightly at 5-10 minutes.
6. Repeat if desired.
7. Allow to cure for one hour if possible, longer if possible.
8. Apply the normal mold release (XK-22 does not replace mold release).
9. When needed, clean mold and repeat the process

Technical Assistance

Call: 800-227-5538 or 1 (717) 786-7355
Email: TimeSaver@StonerMolding.com
Visit: StonerMolding.com

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1070 Robert Fulton Hwy. • Quarryville, PA 17566 • 1-800-227-5538 • 1-717-786-7355

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