

injex

MACHINED RESIN LURE MOLDS

WARNING!

Molten Plastisol is HOT and will cause SEVERE BURNS if proper safety precautions are not taken. FusionX Fishing assumes no liability for personal injury or property damage resulting from the use of FusionX products.

FusionX Fishing Lures

INNOVATION THROUGH THE FUSION OF ART & SCIENCE
www.FUSIONXFISHING.com

About Injex Molds:

- Machined Resin Molds For Making Soft Plastic Fishing Lures
- Designed for low pressure hand injection
- Works with standard 5/8" injectors and FusionX 60 Degree Injectors
- Use only with plastisol resins designed for making soft plastic fishing lures.
- Maximum resin temperature of 360 Degree F. Overheating will damage mold.

Safety

Molten plastisol used to make soft plastic fishing lures has a melting point of around 320 Degree F. It can cause severe burns if not handled properly and safety precautions taken. The use of mill gloves, closed toe shoes, an apron, long sleeve shirt, long pants, and a face shield are recommended to cover any exposed skin. If molten plastisol comes into contact with any liquid water or moisture it can splatter. When injection molding lures, resin may unexpectedly ooze or squirt out of the mold. Understand and follow the safety precautions included with the particular resin you are molding with, as each resin has a unique formulation and its own safety risks.

Trial & Error

Thank you for your purchase of this lure mold from FusionX Fishing. Molding your own fishing lures can be a very exciting and rewarding process. Please keep in mind that injection molding fishing lures requires a good amount of patience and experimentation to find the right combination for each lure to work properly. Each mold, lure, injector, and resin will have its own unique molding characteristics.

Mold Maintenance & Repair

Polishing Molds – If an improvement to the surface finish of lures is desired the molds can be polished. We recommend a light polishing compound such as that designed for fiberglass boats. Finish with a good Carnauba wax. Polish only by hand as machine polishing will damage the mold.

Warped Molds – Molds that do not have a true surface can be repaired by lightly sanding the face of the mold using sandpaper placed flat on a pane of glass or other true surface. Lightly sand until the entire face of the mold shows signs of being sanded. A permanent marker can be used as a "bluing dye" to show areas that have not been sanded. Start with 220 grit paper and work up to 400 grit. It is recommended to use automotive type wet/dry paper. Sanding can be done wet or dry. Take caution not to sand away any air vents that are cut into the mold.

Mold Preparation & Use

Molds should be cleaned with soap and warm water as needed. Dish detergent works great. Use a soft bristle brush.

Avoid any harsh chemicals as they may damage the mold. Apply mold release after cleaning.

Molds **MUST** be thoroughly dry prior to use.

1. Make sure alignment pins are installed properly (each mold uses two pins.)
2. Apply mold release agent to mold halves (Not Required For Every Mold Cycle)
3. Align pins and place two mold halves together.
4. Clamp mold halves together (See attached images for proper clamping techniques)
 - Multiple molds may be clamped together
 - Do not overtighten clamps as this may damage molds
 - Only use clamps with wide and soft jaws to distribute the clamping forces.
 - If needed use a block of wood between clamp jaws and mold to protect mold.
 - Long molds will require the use of two or even three clamps.
5. Position mold with injection sprue at its lowest point and excess resin riser (if present) at the highest point.
6. Fill injector with resin (follow instructions provided with injector).
7. Purge air out of injector
8. Position injector into sprue with light pressure.
9. Slowly depress injector to fill mold (Fill slowly and steadily to allow air to escape mold ahead of plastic)
10. Fill until a fair amount of resin is in the riser (the resin in the riser is used to compensate for shrinkage during cooling). Molds without a riser are filled until moderate backpressure is felt (do not over pressurize as flash will occur).
11. Hold injector in place for at least 10-20 seconds to insure gate has time to solidify.
 - Removing the injector too early will allow resin to flow back out of the mold and cause molding issues.
12. Allow resin to cool for at least several minutes (cooling time will vary with lure size and resin used)
13. Unclamp mold, Open Mold, and remove lure.
14. Trim gate and riser from lure.
15. Allow lure to finish cooling in its "as molded" shape as it will take a permanent set if distorted for up to 24 hours after molding.
 - Lures can be floated in a tray of water to speed cooling.

Multi-Color Molding

Multi Color Molding can be achieved on certain molds by one of two methods. Method #1 is to hand pour a part of the lure before putting the two mold halves together prior to injecting the rest of the lure. Allow the first color to cool just enough to not flow freely before injecting the second color. Allowing the first color to cool too long will not allow the two colors to bond properly. Method #2 is to use an injector designed to inject two colors into the mold at the same time. Both of these techniques take a fair amount of practice and patience to perfect.

Intellectual Property Notification

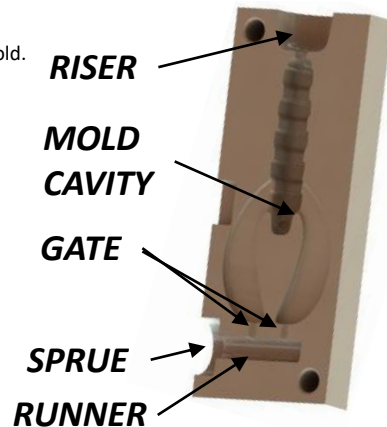
Fusion X Fishing reserves rights to the FusionX Fishing Name, X-Cube name, FusionX Kit names, as well as all FusionX lure names. By purchasing a mold from FusionX Fishing customers of FusionX have full use of the FusionX lure mold for recreational or commercial uses. Replication of molds or lures without the consent of FusionX Fishing may violate copyright, patent, and trademark laws.

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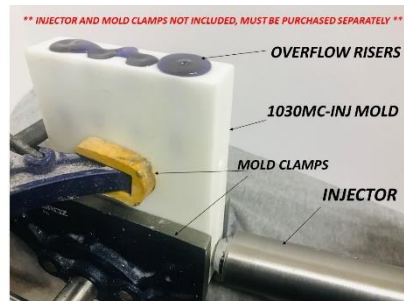
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Proposition 65 Warning

Fusion X Products **MAY** contain substances know to cause cancer, birth defects, or other reproductive harm in the state of California.





Lures Sticking to Mold — Lures sticking to the mold is generally a sign of needing to re-apply mold release on the mold or to polish & wax the mold surface. We recommend using the spray mold release offered through FusionX Fishing as it lasts for many mold cycles and is proven to not damage FusionX molds. Other release agents may be used including cooking sprays, worm oils, and automotive waxes. Test these items to make sure they do not damage the mold cavity before using.

Underfill — Underfill is generally caused by one of two situations. Either the gate is solidifying too early and not allowing resin to flow into the mold or air is being trapped in the mold during filling. Molds are designed with built in vents to allow air to escape, but are too small to allow resin to escape. Make sure to fill the mold slowly and steadily. Underfill is very common within the first couple lures being made each time the mold is used. Many times it takes a shot or two to get a mold and injector up to temperature to eliminate short shots. It is very important to make sure a fair amount of resin makes its way into the overflow riser during molding to make sure the mold is full. At times it may be beneficial to temporarily block off or restrict the riser (modeling clay or a properly gloved finger) during filling to provide backpressure in the mold cavity to help fill difficult areas in the mold. At the end of the fill remove the temporary restriction and continue to partially fill the riser as normal. Molds without an open riser are filled to pressure. It takes some practice to learn to feel what pressure works best for each mold. Flash indicates too much pressure and short shots indicate not enough pressure. Some molds will have small areas of underfill that can not be corrected simply due to the design of the lures. The only option may be to drill small air relief holes at those locations.

Short Shot — Short Shots are generally caused by the gate solidifying too early and not allowing resin to flow into the mold. Make sure that the resin is hot enough and that the lure is filled prior to the resin cooling too much. Short shots are very common within the first couple lures being made each time the mold is used. Many times it takes a shot or two to get a mold and injector up to temperature to eliminate short shots. It is very important to make sure a fair amount of resin makes its way into the overflow riser during molding to make sure the mold is full. Another possible cause of short shots is using large size glitter that plugs the gate of the mold. Look for an accumulation of glitter at the gate.

Hollow Voids — Hollow voids are a common indication that the injector was removed from the mold before the gate solidified, allowing resin to flow back out of the mold. Make sure to keep the injector in the mold long enough so that the gate fully solidifies.

Air Bubbles — Air bubbles are a very common molding issue and can have many causes. Some common issues to look for are moisture in the resin and over stirring of resin prior to pouring. Moisture can become an issue by keeping resin in unsealed containers. Heating resin to the high side of the melting point can also cause the resin to foam. Many times it is good to allow the resin to sit after stirring before pouring into the injector to allow air bubbles to be removed. Air can also be introduced while pouring resin into the injector and by not purging the injector properly. Pour resin slowly down the side of the injector when filling while holding the injector at an angle to reduce air bubbles. It is generally best to keep resin at the low side of the melting temperature range for injection molding to reduce air bubbles, flash, and shrinkage.

Flash — Flash is usually caused by either mold halves not fitting together properly or by low clamping pressure. First try making changes to the way the molds are clamped closed without causing damage from excessive clamping force. If flash is still present try repairing the face of the mold halves by sanding. Please note, these molds are not designed for high pressure injection. They are only designed for low pressure injection with an open riser or hand injector. High pressure molding requires much more complex and precise mold designs.

Flow Marks — Flow marks are created from the direction of flow as the plastic fills the mold and begins to solidify. Many times flow marks can be caused by filling a mold too fast or are an indication that the injector was removed from the mold before the gate solidified, allowing resin to flow back out of the mold. Make sure to keep the injector in the mold long enough so that the gate fully solidifies.

Shrinkage (Sink Marks) — Sink marks are caused by the physics of resin shrinking as it cools. Sink marks are different from underfill in that the details of the mold can be seen on the lure in the area of the sink mark. This is due to the fact that the resin was pressed against the mold wall initially. As the resin shrinks it will pull away from the mold wall. Sink marks generally occur in the thickest part of the lure as it is the last area to cool. With some lure designs sink marks are just a part of life and little can be done to fully remove them. There are some tricks to help minimize their occurrence and magnitude.

The cooler the resin is when injecting the less it will shrink.

The hotter the resin the more it shrinks

The harder the resin compound the less it will shrink.

The softer the resin the more it will shrink.

Fillers such as flour salt can reduce shrinkage.

Holding slight pressure longer with the injector during cooling can help.

Filling more resin into the riser can help.

Different brands and formulations of resins will shrink differently

Trapped air in the resin will cause more shrink to occur.

Temporarily blocking the riser during filling can help.

Warranty

FusionX Fishing Lures warranties this product to be free of defects in materials and workmanship for a period of 30 days from purchase. FusionX Fishing will replace defective product free of charge for qualifying warranty returns. FusionX Fishing assumes no responsibility for property damage or injury related to the use of FusionX Fishing products. It is the responsibility of the user to understand all safety and health risks associate with the product and its use including taking the appropriate safety precautions to protect property and health of the user as well as those nearby.

Warranty Does Not Cover The Following Items:

Mold Damage From Clamps, Mold Breakage From Dropping, Mold Damage From Prying Mold Open, Mold Damage From Overheating, Mold Damage From Using harsh Chemicals, Mold Damage From Not Using Mold Release