



# SOFT PLASTIC FISHING LURE MAKING GUIDELINES

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**SAFETY:** Molten plastisol for making soft plastic fishing lures has a melting point of between 320° F and 350° F. Spilling or splashing can cause serious skin burns.

- Always wear heat resistant gloves (mill gloves).
- Always wear eye and face protection.
- Always wear fully closed shoes or boots.
- Always wear long pants and a long sleeve shirt.
- Always work in a well ventilated area.
- Always keep children out of the work area and away from materials.
- Always protect molten plastisol from water & moisture. It will splatter.

**WARNING!**

Molten Plastisol is **HOT** and will cause **SEVERE BURNS** if proper safety precautions are not taken.

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**NOTE: LIQUID PLASTISOL MUST BE MIXED VERY THOROUGHLY PRIOR TO EACH USE & DURING USE. IT WILL SEPARATE DURING STORAGE AND TRANSPORT. IF RESIN IS VERY SOFT AND WILL NOT CURE PROPERLY AFTER HEATING IT IS LIKELY IT WAS NOT MIXED WELL ENOUGH PRIOR TO HEATING.**

## MATERIALS:

**\*Plastisol** – Plastisol is a thermoplastic resin used for making soft plastic fishing lures.

It can be re-melted and poured numerous times with no negative impacts to material properties. Plastisol has a melting point of between 320° F and 350° F. Plastisol is very sensitive to overheating and will scorch, turn brown, and become unusable if overheated. Overheated plastisol can give off unpleasant fumes that can be harmful. Frequent stirring is required when heating plastisol to avoid overheating. Plastisol will begin to yellow and lose coloring and/or scent if it is kept at elevated temperatures for long periods of time. Finished lures are not edible and should be kept out of reach of children and pets. Plastisol originally starts as a thin milky white liquid (X-cubes & Plastix products have already been heated once to get past the gel stage). Upon heating the plastisol will begin to gel, turn clear, and then thin out to a consistency similar to syrup. If the liquid plastisol is not heated hot enough and long enough past the gel stage it will stay soft and gummy and not setup properly. The melt viscosity of the plastisol will change with temperature and with the firmness of the resin being used. The hotter the thinner and the softer the thinner. Please note the hotter the resin is and the softer the compound being used the more the resin will shrink during cooling. This can result in defects in lures being made. When injection molding softer compounds of plastisol may result in sink areas on the finished lures.

**CAUTION:** Some soft plastic fishing lures are **not** made of plastisol and can not be reheated and poured. They can be made from silicone, thermoset plastics, or bio-plastics. Test lures for compatibility before trying to re-melt.

**\*Additives** – Many additives are available to alter the properties of plastisol. These can include: hardeners, softeners, colorants, pearl effects, glitters (must be high temperature polyester), salt, scents/flavors, oils. Please note some of these additives come with their own potential hazards (ex. Silica containing pearl powders) and the safety precautions for those items followed.

**\*Safety** – Gloves, Safety Glasses, Apron, Long Pants, Long Sleeve Shirt, Face Shield, Protective Shoes

**\*Melting & Pouring Pans** – Aluminum Pouring Pan, Tempered Glass Measuring Cup, Tempered Glass Pouring Beaker. (Fusion X recommends lab grade Pyrex pouring beakers (50-200 ml) as they have a fine pouring spout that makes them the easiest to pour intricate detail with. For best results heat a large amount (8-16 oz) of resin in a glass measuring cup and use to refill a pouring beaker as lures are made.

## X-CUBE STARTING POINT (Microwave 700 watts) – Heat 60s – Stir – Heat 30s -- Stir – Heat 30s

**NOTE: LIQUID PLASTISOL MUST BE HEATED AND MAINTAINED ABOVE 320 DEG F IN ORDER TO PROPERLY FUSE. FAILURE TO REACH THIS MINIMUM TEMPERATURE WILL RESULT IN A PRODUCT THAT IS VERY SOFT AND TEARS EASILY.**

## HEATING:

Plastisol may be melted over a stove/range/open flame or in a microwave oven. The melting point can vary with color, manufacturer, additives, and hardness so experimentation is needed to find the right temperature. Plastisol will burn and care must be taken during heating to avoid direct exposure to open flames. Plastisol should be heated VERY slowly with VERY frequent stirring. Plastisol does not transfer heat well and can scorch/burn very easily if heated above 350° F. Plastisol that is overheated will quickly turn brown, develop a nasty smell, and must be discarded. Overheated plastisol can give off potentially harmful fumes, so care must be taken. Plastisol should be heated until a viscosity similar to syrup or slightly higher than water is achieved. When using virgin plastisol (milky white liquid) the plastisol will slowly gel and turn clear then it will begin to thin out again. The plastisol must go through the complete gel stage before pouring or it will not harden. X-Cubes/Plastix have already been fused and will not need to go through the liquid to gel stage. The harder the version of plastisol being used the higher the pouring viscosity will be. Soft resin should be used when pouring small or intricate lures. Repeated heating and keep at a high temperature for long periods of time may degrade the color and scent of the plastic.

**Microwave Oven** – Use a microwave safe glass pouring cup to heat plastisol. Melting times will vary with microwave size and power as well as the amount and type of plastisol used. Start heating in 30 second intervals while stirring at the end of each interval. Melt times will vary with plastisol color and hardness.

**CAUTION:** Heat plastisol in a well ventilated area. Plastisol may give off unpleasant fumes during heating and especially when overheated. Plastisol will burn so use caution around open flames.

## Intellectual Property Notification

Fusion X Fishing reserves rights to the Fusion X Fishing Name, X-Cube name, Fusion X Kit names, as well as all Fusion X lure names. By purchasing a mold from Fusion X Fishing customers of Fusion X have full use of the Fusion X lure mold for recreational or commercial uses. Replication of molds or lures without the consent of Fusion X Fishing may violate copyright, patent, and trademark laws. Fusion X Fishing holds no responsibility for copyright, trademark, patent, or other intellectual property violations committed by customers using Fusion X Fishing products. It is the responsibility of customers of Fusion X Fishing to understand and adhere to all applicable intellectual property laws.

**PROPOSITION 65 WARNING:** FusionX Fishing products can expose you to chemicals, including silica, which are known to the State of California to cause cancer. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

FusionX Fishing Lures Assumes NO responsibility for injury and/or property damage from the use of FusionX Fishing products.



## MOLD PREPARATION

Molds should be kept clean and dry. Clean molds with warm water and mild detergent if needed. Dry thoroughly. Molds must be completely free of any water prior to pouring molten plastisol into them. Molten plastisol and water do not mix. If water comes into contact with the molten plastisol it will cause the hot plastisol to splatter and may cause injury. If needed apply mold release to molds (silicone molds require no release agent). Premium spray mold releases are available from FusionX Fishing. Good Low cost alternative mold releases are vegetable oil, worm oil, or spray cooking oils. If molds have small intricate detail that do not want to fill fully during pouring the mold can be preheated to 150° F prior to pouring. Resin molds need to be stored with mold halves together and on a clean flat surface. Do not store molds with clamps installed. Care should be taken not to overheat resin molds as this may cause them to warp. If resin molds warp they may be repaired by placing the two molds halves together in an over on a flat surface and with a flat weighted object on top. Heat the oven to 150 degree for 15 minutes. This will allow the molds halves to relax to their normal shape. If this is accomplished with the matching mold halves together they will reshape to match each other and eliminate any flash issues during molding. Warped resin molds may also be sanded flat using sandpaper placed on a flat surface (ex. glass pane). Cavities on resin molds may be polished to improve surface finish. Hand polish only using a fine polishing compound and finish with automotive or marine wax. Do not machine polish.

**DO NOT FLEX SILICONE MOLDS TO REMOVE LURES. THIS MAY CAUSE THE MOLD TO TEAR. SIMPLY BRUSH TIP OF FINGER OVER HEAD OF LURE TO RELEASE LURE FROM MOLD THEN GENTLY REMOVE LURE FROM MOLD.**

## POURING

Prior to pouring make sure the plastisol is heated to a viscosity between water and syrup. Remember, the hotter the easier it is to pour but there will be more shrink during cooling. Stir very well to mix in any flake, salt, and color thoroughly and evenly. Pour plastisol slowly starting with the tail, appendages, and any small areas of the mold and working toward the larger sections. Fill mold to the desired level to control the lure thickness while avoiding overfilling the mold. Use a small aluminum pan, tempered glass measuring cup, or tempered glass lab beaker to pour. Make sure a good well defined pour spout is on the pouring device. Plastisol will begin to thicken very quickly once removed from the heat source. If pouring becomes difficult reheat the plastisol. Keep pour spout clean by wiping with a paper towel or rag between pours. Stir frequently during pouring as flake and salt will settle to the bottom of the pouring pan quickly. When pouring epoxy closed pour molds the mold cavity must be filled before filling the riser. Otherwise the cavity will under fill. We recommend using a microwave safe glass pouring beaker with a fine spout for epoxy molds. Cold plastisol will not adhere to itself. When making multi-color lures the colors must be poured while the previous color is still very warm.

**CAUTION:** Molten plastisol is very hot and can cause severe burns. Gloves, arm protection, an apron, close toe shoes, eye protection, and full face protection are strongly recommended. Molten plastisol will stick to exposed skin making the burning more severe.

## INJECTING

Every injection mold and every lure will have its own personality and will require some level of trial and error to get optimal results when molded. Every type and brand of resin will react differently and will require changes to the molding procedure. Experiment with resin temperature, injection pressure and hold time to find the right molding parameters. Softer resins will cause more issues with injection molding as they shrink more during cooling. Keep the resin as cool as possible while getting a good fill to reduce shrink.

## COOLING

Plastisol should be allowed to cool to near room temperature in the mold. Early removal will result in distortion of the lures. Once removed from the mold it is recommended to place the lures in a shallow pan of cool water to finish curing. The water will allow the lures to retain their original shape while cooling. It may take up to 24 hours for the plastisol to fully cure and reach its final hardness as well as color. During this time period the lures can take a permanent set if not kept in their original shape. Once cool the lures should be thoroughly dried and are ready for use or packaging.

## TRIMMING

Some lures may require trimming or cutting after molding. This should be done carefully with a sharp razor knife or razor blade on a plastic cutting board. Some trimming may also be done with sharp scissors. Using a few drops of worm oil on the cutting utensil can help with cutting.

## PACKAGING

Once cooled and trimmed lures can be placed in plastic bags, tackle boxes, or in plastic clamshell containers. Add a few drops of worm oil, salt, or your favorite fish attractant oil to the lures. If lures come into contact with any hard plastics care must be taken to insure compatibility between the two plastics. Some hard plastics, especially those containing styrene, will react with cured plastisol and will begin to attack each other creating a messy blob of soft uncured plastic.

## STORAGE

Lures should be stored in a cool and dry area. Avoid areas of excessive heat, cold, and moisture. Some colors may absorb moisture and turn milky after prolonged exposure to water. Care **MUST** be taken to keep colors separate. Some colors will bleed onto each other if stored together. Use only worm oil on lures during storage. Other types of oils (olive oil, mineral oil, vegetable oil) may cause the plastisol to become hard over time.



### LURE MAKING SUPPLIES AND ACCESSORIES

- SOFT PLASTIC LURE MAKING KITS
- SILICONE OPEN POUR MOLDS
- CAST RESIN CLOSED POUR MOLDS
- MACHINED RESIN INJECTION MOLDS
- LIQUID PLASTISOL RESIN
- COLORED PLASTISOL RESIN
- PLASTISOL COLOR
- LURE MAKING EQUIPMENT & ACCESSORIES

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