

# TEXTURE Technical Data Sheet



## TECHNICAL ASSISTANCE

One of the most valuable services provided to you by the Mold-Tech organization is our technical assistance. Members of the Mold-Tech Sales and Engineering team receive continuing education on the latest output from our Research and Design group to provide you with the most effective solutions for your product. We're available to help you.

## GRAPHIC ARTWORK / TEXTURE PATTERN DEVELOPMENT DESIGN STUDIO

Every Mold-Tech facility throughout the world has the capacity to create new artwork or modify and refine existing graphic artwork and texture patterns to meet your requirements.

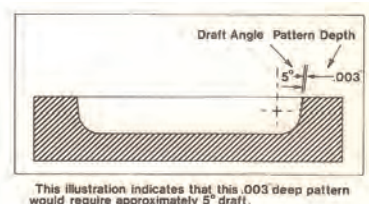
Mold-Tech's Design Studio has a team of technicians that are dedicated specifically to developing new customized textures. With the most advanced 3-D digital scanning technology, digital imaging system to replicate and manipulate textures, and rendering capability, we can quickly give you textures that will Bring Your Plastic to LIFE! Ideas are endless.

**RENDER-TECH SEAMLESS TEXTURING®** is Mold-Tech's exclusive advanced technology that gives the ability to digitally wrap a digital part surface file with any texture for design review. The texture can be orientated to suit exacting specifications, including complex contours, and then laid into the mold surface seamlessly. This technology is especially valuable for geometric or graphic texture patterns.

## TEXTURE DEPTH AND SIDEWALL DRAFT CONSIDERATIONS

To assure clean ejection of your part, we suggest using a simple rule for determining draft:

**1.5 – 2 degrees of draft per .001" in texture depth**



This rule is for sidewalls of the tool that the part will shrink away from. Areas in the tool that the part will shrink toward will require more draft. Lifters, slides, cams, and other tooling components should have their texturing draft requirements evaluated based on their action as they move away from the part. Shut-off conditions on textured sidewalls may also be affected by the texture depth / tool draft relationship.

Texture depth can be reduced in specific areas and/or the texture pattern can be 'softened' on surfaces where there are ejection concerns.

Part design, part size, molding materials, texture construction, and other molding factors have a significant impact on ejection issues. Mold-Tech has the largest staff of technical advisors in the industry. We are available for early involvement in your project to assure that your decorating ideas are realized on your product.



## WHAT TOOLING MATERIALS CAN BE TEXTURED?

To assure that your molds are successfully textured, Mold-Tech has formulated the largest selection of mold etchants in the industry. Standard tool materials such as P-20, H-13, S-7, 01, A1, A2, A6, 420 stainless, beryllium copper, kirksite, forged, wrought and cast aluminums have all been textured successfully.

Since your tooling material choices can significantly affect the texture appearance, Mold-Tech's Technical Advisors are always available to discuss and test your specific material preferences.

## WHAT FINISH IS REQUIRED ON THE MOLD SURFACE FOR TEXTURING?

To assure that your texture pattern shows clean and without any surface flaws, we recommend the following surface finishes:

- 400 paper (SPI B-2) for textures less than .001" deep.
- 400 stone (SPI C-2) for textures between .001" and .003" deep.
- 320 stone (SPI C-3) for textures over .003" deep.

## HOW DO I SPECIFY GLOSS?

Gloss on a part is typically measured with a 60 degree gloss meter. The gloss number represents the percentage of light that is reflected off of the part. The gloss on a part is the result of many factors coming together: molding material, tool temperature, material temperature, venting, cycle time, wall stock thickness, texture patterns, mold coatings, etc.

Mold-Tech uses a variety of blast media to help set the final gloss on the mold surface. Each part has its own factors to consider – contact us to discuss specific needs, factors and expectations.

With many gloss targets being pushed lower, Mold-Tech has developed a laser-generated micro overlay texture called MicroMatte – lowering gloss and giving a rich and realistic appearance to textures.

## WHAT ABOUT WELDING ON A SURFACE THAT WILL BE TEXTURED?

If you are considering welding on a surface that is to be textured, proper welding procedures will greatly increase the final outcome of the texture appearance.

- The mold should be pre-heated prior to welding, welded while the mold is hot, and annealed after welding. Contact the steel supplier for proper welding procedures and weld rod material.

Any difference in hardness, composition or texture structure in the welded area when compared to the parent metal tends to produce an irregularity in the texture appearance after etching. When proper welding procedures are followed, differences can be minimized and welds become easier to blend-in and repair to a very acceptable level.

If you are unsure of the direction to proceed with welding, Mold-Tech can help – with decades of experience to draw from as well as relationships with the steel manufacturers and welders, we can help give you the latest information you need to achieve the best results.

## HOW DO I PREPARE MY MOLD FOR TEXTURING?

1. Completely dis-assemble mold – only send components to be textured.
2. Make sure that all seal-off (shut-off) areas are properly scribed.
3. Remove all EDM scale from areas to be textured.
4. To avoid shipping damage, please take care in packaging your shipment.



**MOLD-TECH IS THE WORLD'S LEADER IN TEXTURING.**

***We have the technology, advanced development initiatives, and worldwide capacity to deliver quality texturing, on time, and cost effectively.***

***You can count on Mold-Tech.***

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