Standex ENGRAVING MOLD-TECH

TEXTURE TECHNICAL DATA SHEET

TECHNICAL ASSISTANCE

One of the most valuable services available to you by the Standex Engraving Mold-Tech organization is our technical assistance. Members of the Standex Engraving 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. We're available to help you.

TEXTURE DESIGN DEVELOPMENT AND GRAPHIC ARTWORK

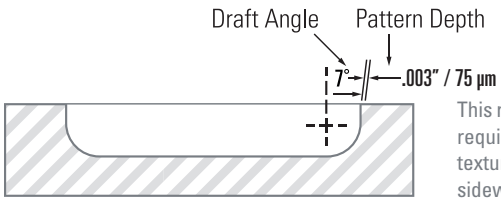
Standex Engraving Mold-Tech has the largest texture library in the world, with over 500,000 textures globally. But even with that vast library, a specialized texture is always a good idea; something to set your products apart. Our Design Studio is constantly designing and developing new textures, building on trends and bringing new ideas to the market. With the most advanced 3D digital scanning technology, digital imaging, and rendering capabilities, we can quickly create new artwork or modify existing graphic artwork and texture designs to meet your appearance, performance, and functional requirements.

RENDER-TECH

Render-Tech seamless texturing is an exclusive technology developed by Standex Engraving Mold-Tech to digitally wrap textures onto complex contoured surfaces without seamlines and with controlled movement of pattern, and then digitally apply the texture to the mold surface for engraving. This technology is useful for geometric and linear patterns.

TEXTURE DEPTH AND DRAFT CONSIDERATIONS

With new molding materials, molding parameters, and complex mold design elements, the typical 1.5 degrees of draft per 0.001'' / 25 µm of texture depth is no longer a valid guideline. **Our recommendation is 1 degree of draft per .0005'' - .0006'' / 12.5 - 15 µm of texture depth.**



This rule is specific to shrink-away sidewall applications. Areas in the tool that will shrink-on to steel will require 2 to 3 times the amount of draft. Lifters, slides, and other tooling components should have their texture draft evaluation based from their angle of action in the tool. Shut-off conditions on textured sidewalls will require additional draft or special work to release parts cleanly.

Texture depth can be reduced in specific areas, without a visual hardline, to proactively preclude part ejection issues. If parts do exhibit drag / scuff after texturing, specialized work can be accomplished to alleviate such conditions.

Part design, part size, molding materials, texture construction, and molding parameters all have impact on ejection of part from the mold. Standex Engraving Mold-Tech has the largest team of technical advisors in the industry, available for early involvement in your project to assure your decoration design ideas are successfully realized on your product.

TOOLING MATERIAL

To assure your molds are successfully textured, Standex Engraving Mold-Tech has successfully formulated the largest selection of advanced 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, and both forged and cast aluminums have all been textured successfully. Advanced etch testing is currently being conducted on new 3-D printed / laser sintered metals.

Since tooling material choices can significantly affect texture appearance, Standex Engraving Mold-Tech advisors are always available to review and test your specific material preferences.

MOLD SURFACE FINISH REQUIREMENTS

To ensure your texture pattern show cleanly without surface flaws, we recommend the following surface finish on all areas to be textured:

- 500 emery finish for textures less than .0008" / 20 µm in depth.
- 400 emery finish for textures between .0008" / 20 µm and .004" / 100 µm in depth.
- 320 emery finish for textures greater than .004" / 100 µm in depth.

NOTE: *Surfaces must be completely free of EDM to ensure quality etching. Cutter marks / burns and EDM scale on areas to be textured should be completely removed.*

GLOSS

Gloss on a part is typically measured with a 60° gloss meter, with the gloss number representing a percentage of light that is reflected off the surface. Gloss on a molded part is established by many factors, including: molding material, tool temperature, pack pressure, material temperature, venting, cycle times, wall stock thickness, material flow, texture pattern, mold coatings, etc. Standex Engraving Mold-Tech utilizes a full spectrum of engineered blast medium to set the gloss on the mold surface.

With many gloss targets being pushed lower, Standex Engraving Mold-Tech have developed several techniques to assist with lowering gloss and maintaining gloss richness and consistency, including: MicroMatte, laser matte, and Release Coat. Each application has its own set of variables to consider, so please contact us to discuss your specific requirements.

WELD

If welding on a cavity surface to be textured is required, proper weld procedures should be closely followed to achieve the best post-texture result possible. Both traditional welding and laser welding are possible. If the correct option is traditional welding, the mold should be pre-heated, welded when hot, and annealed after welding. We recommend contacting the steel supplier for proper welding procedures and weld rod material.

If you are unsure of the direction to proceed with welding, Standex Engraving Mold-Tech can help. With decades of experience to draw from within our global facilities, as well as established relationships with steel manufactures and welders, we can consult with you regarding the latest technology to achieve the best results.

Standex ENGRAVING MOLD-TECH

THE WORLD LEADER IN TEXTURING

We have the technologies, advanced development initiatives, and skilled craftsman technicians, with worldwide capacity to deliver quality texturing.

You can count on Standex Engraving Mold-Tech.

TEXTURE DAMAGE

Texture damage is never a good thing, but we can make it right. If you damage a textured mold, please do not try to fix the impairment, but rather call us immediately with as much of the following information available: overall picture of mold, close-up picture of damaged area, steel type, texture number, name of part, date textured, and texture location. This information will give us the opportunity to consult with you as to the appropriate corrective action.

Standex Engraving Mold-Tech has the largest and most experienced team of specialized repair technicians that can accomplish your repair, delivering the best results possible. The preferred option is always to ship the mold to one of our nearest locations as this gives us the best opportunity for a perfect repair, however when that is not possible, we do have on-site repair capabilities and can come to your facility to repair the damage.

PREPARING YOUR MOLD FOR TEXTURING

1. Completely disassemble the mold, and only ship components to be textured.
2. Ensure all flat seal-offs (shut-offs) are accurately and clearly scribed.
3. Remove all EDM scale and cutter marks, polished with a proper emery finish.
4. Carefully package the mold / inserts / components to ensure no damage during shipment.
5. We encourage you to contact your closest Standex Engraving Mold-Tech facility to personally review your job, ensuring the best options are realized.

Please visit our website to find the closest location.
www.mold-tech.com