

DYNA-GLOSS™ a DYNA-BLUE® process for textured molds

DYNA-GLOSS® is a proprietary process developed for textured molds to maintain/restore gloss levels after DYNA-BLUE® by eliminating the oxide layer produced during DYNA-BLUE.



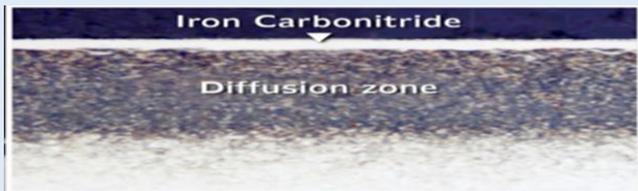
Textured surfaces require protection. The peaks of the textured surfaces are the first areas of mold detail to experience wear.

What is DYNA-BLUE®?

DYNA-BLUE® is a low temperature, (typically 950° - 1060 °), thermal-chemical diffusion process that yields two metallurgical characteristics:

1) Epsilon Iron Carbonitride Compound layer that is composed of Nitrogen & Carbon and has a hardness of up to 75HRC. The layer can be produced from .0001" - .002" depending upon the application and properties needed. Mold applications are generally .0003"-.0008"

2) A nitrogen enriched diffusion zone 60+ HRC that supports the compound zone. This layer can be produced from .001" to greater than .015". Most mold applications are .005"-.010"



Texture wear usually results from additives such as glass or mineral fillers or outgassing.

It will first affect the micro-texture, causing the corners of these very fine, shallow profiles to become rounded.

This may be noticed on the part as an increase in glossy appearance.

Texture problems that occur during the run of a part generally are caused by a wear-related issue that may have developed over an extended period of time, or because a tool is damaged and can no longer produce acceptable parts. To properly approach both of these scenarios, an understanding of texture finish levels is necessary:

Level one is the main texture pattern—the profiled details we see and feel. These can be a leather grain, stipple, wood grain or geometric pattern. They are the texture specifications on the part or tool prints, and they typically range from 0.0005 inch deep to 0.012 inch deep.

Level two is the micro-texture. This is applied over the main texture pattern and is typically sandblasted in the final step. There are many sizes and types of blast media, which are often mixed and blended to contribute to very specific gloss results on the part. These micro-textures have depths that range from 0.0001 inch deep to 0.0015 inch deep.

In most cases, micro-textures can be placed directly over the original texture; however, it is important to understand that every time a main texture is sandblasted, it has a wear effect. This means that there are limits to the amount of re-sandblasting a texture can withstand before it is worn down.

DYNA-BLUE® protects the textured surfaces and extends the life of the mold 2-10x longer than ion nitriding and chrome plating as both are line of sight processes.



The DYNA-BLUE® process is not a line of sight process as the fluidized bed particles carry the DYNA-BLUE® process uniformly thru holes, bores, ribs, even thru the water lines to provide corrosion resistance.