

THINLON

THIN-FILM, PROTECTION COATINGS

MBI's THINLON coatings are designed to be used on any rigid or semi rigid surface for dry lubricity, corrosion protection, release, thermal barrier, and a variety of other properties.

MBI Thinlon offers a nano-ceramic polymer formulation that promotes release and protection in surface-to-surface contact areas, thus reducing friction and wear between surfaces. The exceptional low resistant to shear enables the MBI Thinlon coated surface to operate with extremely low friction.

The coating thickness can range from less than a micrometer to few tens of micrometers depending on the solution and application. Normally, with a much thinner coating, it can perform comparable to or better than conventional release coatings, anodizing/conversion oxide or organic primer/paint-on coatings.

Typical Properties:

Thickness: .25 - 1 mil Stand-Alone (w/out HVOF or Plasma base)

Pencil Hardness: 6h (ASTM D3363)

Mandrel Bend: - \leq 1 mm coating loss at 180 degree rotation

Adhesion (Cross-Cut Tape): 5b (ASTM 3359)

5% Salt Spray: Up to 2000+ Hours (ASTM B117)

Impact Resistance: 80/60 inch-lbs

Temperature Resistance: Up to 2,000° F



MAIN FEATURES:

Low Friction w/ Built-In Lubricity

The very low friction properties of our Thinlon coatings make them suitable as **dry lubricants** like on slide valves, piston skirts, and gears etc.

Anti-Galling and Corrosion

MBI's Thinlon coatings are designed to create a corrosion barrier and a permanent self-lubricating surface to impede galling and the seizing of components

Wide Operating Temperature Range

Thinlon has the ability to retain physical properties through a huge range of temperatures, up to 1700°F in some cases.

THINLON as an ENGINEERING TOOL:

Cross-Bred Applications: MBI's Thinlon can be combined with carbide & other HVOF or Plasma spray materials to provide unique engineered coatings for a variety of applications. Such hybrid coatings dramatically increase wear resistance and durability and still enhance surface properties in terms of corrosion, release, slickness, non-slip, etc.

Meet Your Specs: Thinlon has a working thickness of only .00025" - .001", allowing us to meet the most demanding part specifications while still retaining the excellent properties of the coating.

More Than a Coating: Thinlon has the advantage of such small physical make-up, that it binds with even the smoothest of parts surfaces. The suggested application processes allow the coating to become an intrinsic part of the component rather than a coating on the surface.



Other advantages of THINLON coatings include:

- Low temperature cure and a no-bake version available
- Works in conjunction with thermal spray for permanent fusion bonding
- Nano-film deposit allows very tight tolerances
- Multiple properties are attainable in a compact coating
- Containment coatings for extreme chemical corrosion
- Multiple colors available for distinguishing parts of an assembly



Application examples:

Industries include: Firearms, Converting, Automotive, Tire & Rubber, Paper, Printing, Marine, Film, Laminating, etc.

Machine parts of all types where maximum self-lubricating and abrasion-resistant properties are required, such as:

Tooling	Cutting Discs
Rotors/Gears	Firearm Barrels
Piston Heads/Sleeves	Threading
Drill Bits	Pulleys
Idler Roller	High-Heat Surfaces
Blades	Knives, Rotary, Slitters
Die Cutting Rollers	Anvil Plates
Guide Surfaces	Pump Equipment

Typical Variations of Thinlon coatings:

THINLON 109 - High-heat-cured version of the Thinlon 110 offers slightly increased hardness and corrosion Resistance for the truly pesky applications that require lubricity. Temperature resistant up to 1200°F proves suitability for all types of applications and environments.

THINLON 110 - This coating is considered the most versatile among other thin film coatings. Thinlon 110 offers excellent corrosion protection along with great dry-lube properties. Thinlon 110 is able to withstand 350,000 psi of pressure and up to 2,000°F. Low-temperature cure.

THINLON 171 - This coating is a great thin-film thermal barrier coating. With stability and effectiveness to 1700°F, it also is resistant to repeated thermal shock. Great for quick, extreme and repeated temperature-changing environments. Used to protect hot metal components from degradation and as well as increase operating efficiency.

THINLON 209 - This variation offers some one the highest 5% Salt Spray ratings of a true thin-film coating. With 1,800+ hours and no sign of red rust, this coating is perfect for aggressive environments that need an intricate coating with minimal build-up.

THINLON 900 - Formulated to be an excellent electrical barrier, offering resistance of an amazing 3,000 volts per mil thickness! Great option for small and large parts, and can be combined with ceramics for absolute dielectric properties.

CUSTOM THINLON FORMULATIONS

Let MBI Coatings formulate a customer Thinlon coating specifically for your needs. We can take needed properties and stipulations based on your application and create a unique coating that will benefit you. We take into consideration temperatures, corrosion resistance, hardness, scratch and abrasion resistance, lubricity, anti-galling effect, thermal barrier/insulation, and much more. We can even incorporate these custom coatings with our Carbides, Ceramics, or others, for a true hybrid coating that no other company will be able to provide.