



MAGNAPLATE

COATINGS ENGINEERED **FOR YOUR SUCCESS**

BENEFITS

- A superior alternative to common industry coatings such as thermal spray, plasma spray, HVOF, metalizing, twin arc, wire arc or thermal powder deposition
- Features excellent resistance to wear
- Can be applied in thick or thin layers
- Available with a release (non-stick) or gripping surface
- Ideal for protecting or restoring metal parts
- Many coatings are USDA and FDA compliant
- Some coatings have exceptional mold release characteristics
- With the addition of our proprietary polymers, some Plasmadize coatings seal all surface voids, eliminating porosity and creating superior corrosion resistance

Plasmadize®

Enhanced Composite Coatings for Most Base Metals

Unlike conventional, single component thermal spray coatings which can be extremely brittle and porous, PLASMADIZE® coatings are true composites made up of a matrix of materials including metals, ceramics, polymers and/or dry lubricants. These components are applied either simultaneously or in as many as three sequential process steps. Our technicians customize each PLASMADIZE coating, selecting the appropriate combination of materials to suit the application for chemical resistance or dry lubricants to reduce friction and increase wear resistance and provide excellent non-stick and release properties. The substrate's surface is a primary element in the effectiveness of the coating. Therefore, we have developed proprietary pre-deposition surface cleaning techniques to prepare the parts for coating.

PLASMADIZE coatings' main advantage over conventional plating processes is that they can be applied cost-effectively to very large surfaces or parts, such as large rolls. These coatings can be applied in thicknesses of .003 to .005 inch – but this can be modified, thinner or thicker depending on the application requirements. The new surface can be precision-ground or machined back to specific, close tolerances. This is an ideal solution for rebuilding worn parts and restoring them to even "better-than-new" condition.



PLASMADIZE is an ideal, cost-effective choice for very large surfaces or parts requiring excellent lubricity, wear resistance or mold release.





Seal bars can be coated with PLASMADIZE to increase wear life and prevent packaging films from sticking during heat sealing operations.

CORROSION

Resists acids, alkalis, as well as, most organic solvents, chlorides, sulfites, thiosulfates and bleaching chemicals. Their non-stick, contamination-free surfaces permit quick, easy cleanup, with just water, eliminating the need for harsh cleaning chemicals. Where cleaners or detergents must still be used, PLASMADIZE has the ability to resist the wide pH range encountered in washdown solutions making them even more desirable. Because of their superior resistance to attack by acids, alkalis and a wide range of chemicals, PLASMADIZE coatings are being used to protect all types of parts in chemical, pulp and paper, fertilizer, paint and printing ink processing and manufacturing plants.

WEAR AND ABRASION RESISTANCE

Most PLASMADIZE coatings exhibit lower coefficients of friction than typical thermal spray tungsten carbide or ceramic surfaces. Long-term wear resistance is exceptional for all the coatings in the PLASMADIZE family. Their wear resistance exceeds that of chrome plating or heat-treated electroless nickel.

Temperature. Infused proprietary polymers can maintain their performance characteristics at a $\leq +500^{\circ}\text{F}$ ($+260^{\circ}\text{C}$) continuous operating temperature.

Friction. Plasmadize coatings exhibit lower COF than typical thermal spray tungsten carbide or ceramic-coated surfaced. Appropriate selection of the infused polymer or the application of another surface polymer provides a highly lubricious non-stick surface.

Thickness. Can be applied in substantial thicknesses, starting at .002 to .010 inch, extending service life. PLASMADIZE is not recommended for tiny parts or where coating thicknesses of less than 0.002 inch are required.

Hardness. Exact hardness measurements not available due to composite nature. Hardness of matrix materials used surpasses Rc scale.

Release and non-stick. Exhibits superior release properties against glue, tape and other sticky substances with addition of infused proprietary polymers. Coatings can be customized for the type of sticky residue coming into contact with the surface.