DYNALOY™

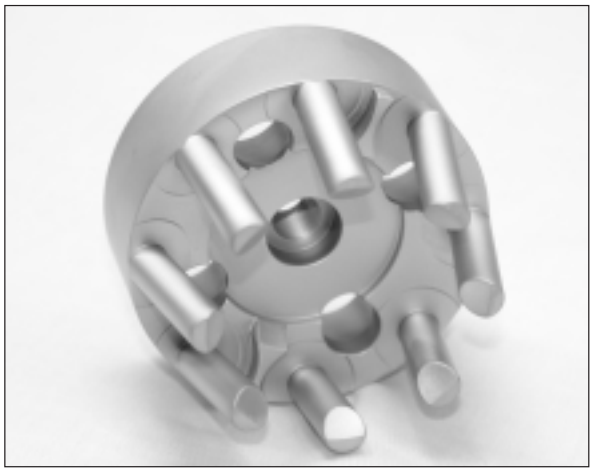
Enhanced Proprietary Chrome Process Produces A Thin, Dense, Uniform Coating That Features Superior Adherence And No Edge Buildup

- Reduces wear and friction on sliding surface contacts
- Provides enhanced erosion and corrosion resistance
- Eliminates the need for undersize design calculation
- Excellent abrasion resistance
- No micro cracks to affect performance
- Meets requirements of BAC 5709 CL4
- Insures design reproducibility
- Eliminates galling, seizing and high friction over a broad range of applications
- Recommended as a finishing process eliminating costly secondary operations such as grinding
- Processing does not adversely affect base material properties
- Compatible with most ferrous and non-ferrous metals
- Quality is consistent for any given base metal
- High temperature resistance — to 926°C (1699°F)
- Allows flexibility of design and metal choice

The DYNALOY enhanced proprietary chrome process protects base metals against wear, galling, friction, and corrosion. This specially developed surface enhancement creates a micro-surface that aids in lubricant dispersion. It eliminates friction over a wide range of applications and environments.

Because it is an extremely thin coating, it permits design engineers to specify a friction-resistant surface enhancement without affecting the tolerances in their designs. The coating provides for even further design possibilities because it was developed to adhere to any base metal.

Engineering Data and Performance Characteristics



Corrosion Resistance

DYNALOY resists attack by most organic and inorganic compounds with the exception of sulfuric and hydrochloric acids. Base metal porosity, surface hardness, and other factors affect basic corrosion resistant properties.

Wear Resistance

DYNALOY has rewritten the specifications of leading machine tool builders by establishing new standards for increased life and extended serviceability of machine guides.

Hardness

DYNALOY has a hardness in excess of 67 Rc.

Thickness

DYNALOY coatings are uniform in thickness and range from 0.0001" – 0.0003".

Heat Resistance
DYNALOY's operating temperature range is between 204°C (399°F) to 926°C (1699°F). At elevated temperatures above 704°C (1299°F), it will react with carbon monoxide, sulfur vapor, and phosphorous. At bright red heat, oxidation occurs in steam or alkali hydroxide atmospheres. Hardness and wear resistance will reduce to some degree at temperatures above 371°C (699°F).

Surface Qualities
DYNALOY coatings reproduce, with precise detail, the surface morphology of the original metallic substrate. It can be uniformly applied to the existing surface. Parts after processing exhibit an attractive silver matte finish.

Materials and Processing
DYNALOY may be applied to all ferrous and non-ferrous metals with the exception of magnesium. Bath processing temperatures are maintained at 54.5°C (130°F) to 57.8°C (136°F). This ensures the base material's tensile, yield and fatigue properties are not adversely affected during processing. Thermal distortion is also minimized at these low temperatures.

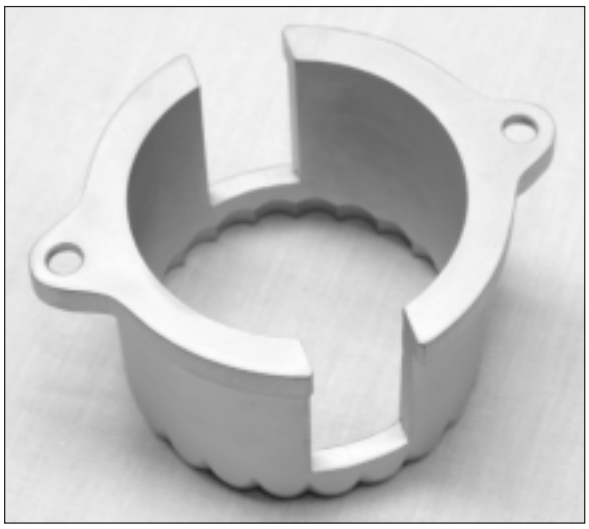
FRICTION COMPARISON TEST

Top Plate Material	Vs.	Bottom Plate Material	COF Static	COF Kinetic
DYNALOY		Hot Rolled Steel	0.218	0.188
Aluminum		Aluminum	0.42	0.34
DYNALOY		Stainless Steel	0.317	0.249
Steel		Aluminum	0.47	0.38
DYNALOY		Aluminum	0.236	0.218

Engineered Applications
Engineers responsible for product performance are specifying DYNALOY as a solution to increasingly difficult challenges involving exacting design, production and service requirements. Dramatic results are being obtained through improved performance of machine tools, rolls, hydraulic powered equipment, computers, and space components — anywhere accuracy and long life are essential.

Performance and Maintenance
DYNALOY-coated processing rolls are an example of the coating's ability to improve performance while extending the roll's operating life. The thin, uniform nature of the coating enhances the surface finish without affecting the design tolerances. Therefore, parts can be processed at any stage of their service life without the need for expensive machining operations to follow. Eliminating this requirement for post processing greatly reduces turnaround time and saves money.

Manufacturing and Processing Economies
Application of DYNALOY coatings is practical and economical for any size order from individual components to high volume production quantities.



Typical Applications

- Automated equipment devices
- Bearings
- Blades
- Clamps, misc.
- Conveyors
- Mailing equipment
- Molds (release)
- Molding equipment
- Nuclear applications
- Packaging equipment
- Pistons
- Processing rollers
- Pumps
- Punches & discs
- Tooling, tool holders
- Valves
- Wear plates

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