

Duralar WearGuard Coating

In Duralar WearGuard coatings the metal component provides toughness, the diamond component provides exceptional wear resistance, and the combination delivers extraordinary overall performance. These Duralar coatings can be significantly thicker than conventional coatings, and they contain molecular diamond structures within the matrix to create an exceptionally durable material for numerous applications.

Applications: Bearings, wrist pins, reciprocating parts, firearms, all parts requiring wear protection.

Thickness - μm	1 - 6
Hardness - GPa	15 - 20+ (adjustable to the application)
Comparison Hardnesses - GPa	Stainless 304: Typ <1, Stainless 17-4: Typ <5, Inconel 718: Typ <3, Chrome on Steel: Typ <10
Wear Rate - mm^3/nm	Typical 1.00E-07 (dry)
Comparison Wear Rates - mm^3/nm	Stainless 304: 1.00E-03, Stainless 17-4: 4.00E-03, Inconel 718: 6.00E-04, Chrome on Steel: 3.00E-04
Coefficient of Friction	<0.1 (dry)
Deposition Method	PVD + PECVD
Deposition Temperature	150-250°C (substrate dependent)
Deposition System	Duralar Centurion
Applicable Substrates	Carbon Steel, Stainless Steel, Al, Inconel, Ti Alloys, Ni/Ni Alloys, SiC
Deposition Rate	Typical >2 μm / hr