

TIALN COATING

Sputtered Deposition: Titanium Aluminum Nitride

TIALN is a hard, abrasion resistant coating with high temperature resistance developed specifically for high speed and dry machining applications. It is recommended for the machining of work hardening stainless steels, cast iron and hardened die steels up to approximately 60 HRC.

Features and Benefits

Extreme Service Temperature	Superior tool life when dry machining
Low Thermal Conductivity	Reduced thermal tool stress
High Toughness	Resistant to chipping and cracking

Properties

○ Coating Chemistry:	Titanium Aluminum Nitride (TiAlN)
○ Composition:	Single Layer
○ Color:	Grey/Black

Specifications

○ Typical Thickness Range:	2.0 - 5.0 Microns (.00008 - .0002 Inches)
○ Micro-Hardness:	3600 Vickers
○ Temperature Stability:	850 °C (1562 °F)
○ Coefficient of Friction	.45

Applications

- High Speed Machining
- Dry Machining
- Gear Cutting
- Metal Routing

Work Piece Materials

- Carbon Steel
- Stainless Steel
- Aluminum Alloys < 12% Silicon
- Super Alloys (Inconel, Hastelloy)
- Cast Iron
- Hardened Materials

Tooling Materials

- High-speed Steel
- Solid Carbide
- Brazed Carbide
- Powdered Metal



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