

TiB₂ COATING

Sputtered Deposition: Titanium Diboride

Titanium Diboride is a high performance coating developed specifically for high speed machining of aluminum and aluminum alloys. The coating chemistry has a low aluminum affinity, thereby eliminating edge build-up, the primary cause of failure during aluminum machining.

Features and Benefits

Low Aluminum Affinity	Prevents build-up on cutting edge
Smooth Surface Finish	Superior chip flow
High Hardness	Extended wear resistance

Properties

○ Coating Chemistry:	Titanium Diboride (TiB ₂)
○ Composition:	Single Layer
○ Color:	Light Grey/Silver

Specifications

○ Typical Thickness Range:	2.0 – 5.0 Microns (.00008 – .0002 Inches)
○ Micro-Hardness:	3000 Vickers
○ Temperature Stability:	850 °C (1562 °F)
○ Coefficient of friction:	.45

Applications

- Milling
- Tapping
- Aluminum Die Casting
- Drilling
- Turning

Work Piece Materials

- Aluminum Alloys
- Titanium Alloys
- Magnesium Alloys
- Copper Alloys

Tooling Materials

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



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