

Speeds & feeds are starting recommendations only. Factors such as machine type, fixture, tooling rigidity, available horsepower, coolant delivery method and others will affect the performance significantly.

COATINGS GUIDE

TIN

(TITANIUM NITRIDE)

- General Purpose coating for machining ferrous materials.
- Thickness: 2 - 5 microns
- Hardness HV .05: 2,300

TICN

(TITANIUM CARBON NITRIDE)

- Coating with hard, smooth finish. Offers improved wear and built up edge resistance.
- Durability for interrupted cuts
 - Low to medium cutting speeds
 - Thickness: 2 - 4 microns
 - Hardness HV .05: 3,000

TIALN

(TITANIUM ALUMINUM NITRIDE)

- High performance coating in ferrous materials.
- Heat resistance and medium hardness
- Good results in dry milling applications
- Medium to high cutting speeds
- Thickness: 2 - 4 microns
- Hardness HV .05: 2,800

ALTiN

(ALUMINUM TITANIUM NITRIDE)

- High performance coating for ferrous materials.
- High heat resistance and hardness
- Best results in dry milling applications
- Excellent at high speeds and feeds
- Thickness: 2 – 4 microns
- Hardness HV .05: 4,500

TIALN NANO

(TITANIUM ALUMINUM NITRIDE NANO)

- Extended tool life in difficult to machine steels and super alloys.
- Dry or MQL machining
- Improved chip flow due to lubricity factor.
- Reduced built up edge (BUE)
- Hardness HV .05: 3,300

HARD MILL

(HARDMILL)

- Proprietary coating blend designed specifically for extended life machining hardened materials
- Hardness HV .05: 3,300

AMORPHOUS DIAMOND

AD(AMORPHOUS DIAMOND)

- Amorphous Diamond is a smooth, hard, flexible, thin film coating
- Maintains sharper edge than CVD
- Excellent for machining graphite, carbon fiber and non-ferrous materials where machining forms a grit rather than a chip.
- Thickness: .5 - 2 microns
- Hardness HV .05: 5,000

CVD

(CRYSTALLINE DIAMOND)

- Crystalline Diamond grown directly on the cutting tool
- Excellent for machining graphite, carbon fiber, green ceramics and non-ferrous materials where machining forms a grit rather than a chip.
- Up to 50x the tool life as AD
- Thickness: 6 - 10 microns
- Hardness HV .05: 10,000

DLC

(DIAMOND LIKE COATING)

- Thin carbon based amorphous coating, best for non-ferrous materials.
- Increases tool life and ensures a more controlled wear process, while being resistant to edge build-up (BUE).
- Hardness HV .05: 2,800

PCD

PCD (POLYCRYSTALLINE DIAMOND)

- Non-ferrous applications
- Resists abrasion wear and dramatically extends the cutters tool life.
- PCD end mills run faster than conventional carbide end mills and provide better surface finish and longer tool life.
- Hardness HV .05: 10,000