

Technical Tip #35 – Tap Coatings

Below are Kennametal's current recommendations for taps in various materials. They are listed in order of preference. Those in parentheses should be viewed as alternatives, but are **not** in order of preference. Maxi #1 is Kennametal's designation for nitride. Remember to increase SFM by 50% for TiN and TiCN, and 100% for TiAlN.

- Carbon steels 1010, 1045: TiCN, TiN, (oxide, oxide over nitride)
- Alloy steels 4140, 8620: TiCN, TiN (oxide, oxide over nitride)
- Tool steels A2, D2, H13: TiCN, TiN (TiAlN, oxide, oxide over nitride)
- 300 Stainless 304, 316: TiCN, TiN (oxide, oxide over nitride)
- 400 Stainless 414, 440: TiCN, TiN (oxide, oxide over nitride)
- PH Stainless 15-5PH, 17-4PH: TiCN, TiAlN (TiN, oxide, oxide over nitride)
- Cast iron, ductile: TiCN, TiN (oxide, oxide over nitride, Maxi #1)
- Cast iron, gray class 20-50: TiCN, TiN (oxide, oxide over nitride, Maxi #1)
- Aluminum, wrought 1100, 2024: CrN, Maxi #1
- Aluminum, silicon cast 319, 360, 380: (TiCN, Maxi #1) TiN, CrN
- Copper, brass, bronze, zinc, magnesium: CrN, Maxi #1
- Titanium, pure CP Ti: Maxi #1, CrN
- Titanium, alloy Ti-6AL-4V: Maxi #1, (TiN, TiCN, TiAlN, CrN)
- Nickel-based alloy monel, Inconel: TiCN, (TiN, TiAlN, CrN) (Maxi #1, oxide, oxide over nitride)
- Iron-based alloy A-286, Incoloy: TiCN, (TiN, TiAlN) (Maxi #1, oxide, oxide over nitride)
- Cobalt-based alloy haynes: TiCN, (TiN, TiAlN, CrN) (Maxi #1, oxide, oxide over nitride)
- Plastics, soft and abrasive: TiCN, (TiN, Maxi #1) CrN
- Graphite: TiCN, (TiN, Maxi #1) CrN