OFFERING A WIDE VARIETY OF COATINGS

There are several ways to increase the life of a tool. One of the most common ways is coating. Coating can help with performance and maintaining the life of a tool by increasing wear resistance and reducing friction by providing a thermal barrier between the tool and workpiece. Coating allows the tool to tolerate significantly higher cutting speeds and feeds which reduces machining time and costs.

M.A. Ford® offers a wide variety of coatings. In our new coating area we can coat tools from .015 to 1 inch. We have several in-house coatings we run through our new coating area such as our ALtima®, ALtima® Blaze and ALtima® Q high performance coatings. Our R & D department is constantly testing new coatings always looking to improve tool life and performance. Our new XV7, XV7CB and XV5CB high performance end mills use our new ALtima® Q coating for optimal performance. Any M.A. Ford® uncoated standard tool can be coated if requested.

COATINGS GUIDE

ALtima®

Aluminum Titanium Nitride (AlTiN). ALtima® is the original high performance coating. This coating allows tools to be run at higher speeds and feeds in a wide array of materials. Also, it allows the option of running tools dry due to the high oxidation temperature of the coating.

Tool Number Designation: A
Microhardness (HV): 3100
Maximum Service Temperature: 1100° C / 2012° F
Friction Coefficient: 0.42

Gem+

Recommended for aluminum and aluminum alloys up to 12% Si, non-ferrous metals and composites. Gem+ provides excellent wear resistance and maintains sharp cutting edges.

Tool Number Designation: GP
Microhardness (HV): 4710
Maximum Service Temperature: 500° C / 932° F
Friction Coefficient: 0.30

ALtima® Plus
The Aluminum Titanium Nitride (AlTiN) multi-layer coating has optimized coating structure with pre and post treatment of the coating for optimized highperformance drilling in any ferrous material.

Tool Number Designation: AP
Microhardness (HV): 3200
Maximum Service Temperature: 1100° C / 2012° F
Friction Coefficient: 0.25

GemX
A CVD diamond coating for composites and aluminum that offers the maximum hardness and wear resistance of any of our coatings.

Tool Number Designation: GX
Microhardness (HV): 10000
Maximum Service Temperature: 600° C / 1100° F
Friction Coefficient: 0.10

ALtima® 52
Aluminum Titanium Nitride (AlTiN). ALtima® 52 is specially designed for milling hardened steels 52 Rc and above. It has very high hardness and the oxidation temperature of the coating makes this the absolute best choice for hardened steel milling. ALtima® 52 is designed to allow for dry machining.

Tool Number Designation: A or AH
Microhardness (HV): 3600
Maximum Service Temperature: 1200° C / 2192° F
Friction Coefficient: 0.40

TiN
Titanium Nitride (TiN). TiN coating has shown good results in low carbon steels and many iron-based applications. It is a very popular coating used in the industry today.

Tool Number Designation: T
Microhardness (HV): 2300
Maximum Service Temperature: 600° C / 1112° F
Friction Coefficient: 0.40

ALtima® Blaze
Aluminum Chromium Nitride (AlCrN). ALtima® Blaze is designed to allow higher material removal rates. This coating has a higher oxidation temperature than a typical TiAlN coating. It has shown very good results in nickel alloys, titanium, and other difficult to machine materials. Tools coated with ALtima® Blaze can be used in dry machining.

Tool Number Designation: B
Microhardness (HV): 3200
Maximum Service Temperature: 1100° C / 2012° F
Friction Coefficient: 0.35

TiCN
Titanium Carbonitride (TiCN). TiCN is a multi-layer coating. Because of the multi- layer composition, TiCN is tougher than TiN, even though TiCN is harder. The added toughness of the TiCN coating makes it a good choice for mechanically stressed edges like in end mill applications. The higher hardness makes TiCN a good choice for abrasive applications where higher wear resistance is required.

Tool Number Designation: C
Microhardness (HV): 3000
Maximum Service Temperature: 400° C / 752° F
Friction Coefficient: 0.40

ALtima® Micro
An ultra thin, nano structured AlCrN coating developed specifically for micro tool applications.

Tool Number Designation: AM
Microhardness (HV): 3300
Maximum Service Temperature: 900° C / 1652° F
Friction Coefficient: 0.30-0.35

CERAedge®
CERAedge® is a unique coating that provides excellent performance in High Si Aluminum, Copper, and other abrasive non-ferrous materials.

Tool Number Designation: CE
Microhardness (HV): 3400
Maximum Service Temperature: 1100° C / 2012° F
Friction Coefficient: 0.25

ALtima® Xtreme
Designed for high speed and dry machining.

Tool Number Designation: AX
Microhardness (HV): 3800
Maximum Service Temperature: 1100° C / 2012° F
Friction Coefficient: 0.30-0.50

ALtima® Q
A proprietary coating designed to allow for extreme metal removal rates in a broad range of materials such as steels, stainless steels, titanium, & exotic alloys.

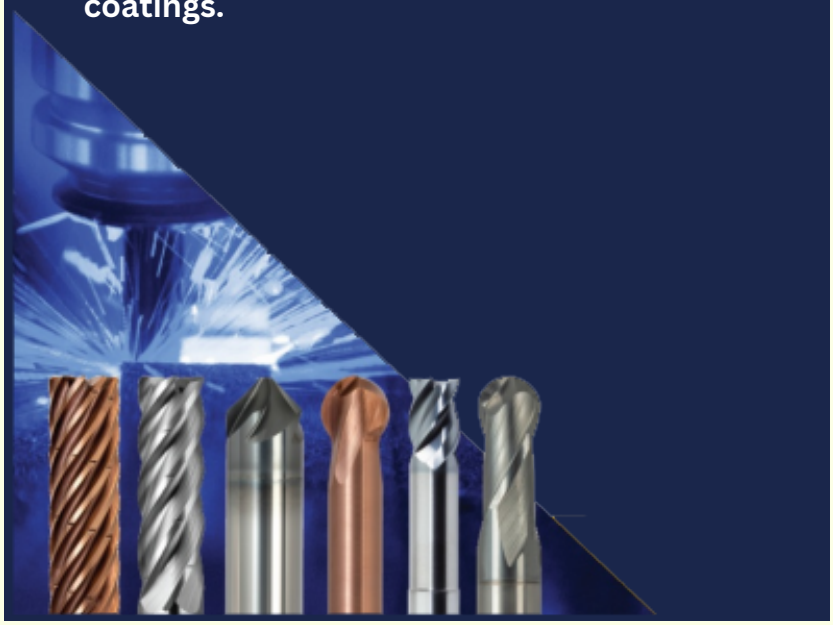
Tool Number Designation: AQ
Microhardness (HV): 4500
Maximum Service Temperature: 900° C / 1652° F
Friction Coefficient: 0.4

Fordlube
Titanium DiBoride (TiB_2) is a unique coating with a low aluminum affinity, smooth surface finish and high hardness. It is ideal for aluminum and magnesium alloys as it prevents build-up on cutting edge, provides superior chip flow along with extended wear resistance.

Tool Number Designation: F
Microhardness (HV): 4000
Maximum Service Temperature: 700° C / 1292° F
Friction Coefficient: 0.30

Any standard uncoated tool can be provided with coatings if requested.

Contact Customer Service at sales@maford.com to inquire about our tool coatings.



M.A. FORD®
High Performance Cutting Tools