

EXPERIENCE • TECHNOLOGY • PERFORMANCE • PRODUCTIVITY



AEROSPACE

2015

High Performance End Mills



MELIN

FOR USE ON TITANIUM ALLOYS

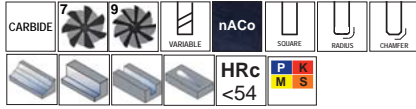
HP CARBIDE END MILLS

VARIABLE FLUTE

*Available in Metric

7 & 9 FLUTE- SQUARE, RADIUS, OR CHAMFER

Series: VXM7 & VXM9



> For chatter less, universal machining in multiple types of operations on **Titanium Alloys, Stainless Steel, Alloyed Steel, & All Ferrous Materials**

- > VXM7-Additional flutes enable more metal removal in fewer passes
- > VXM7 & VXM9-Provides over 40% higher metal removal rate than even a 5 flute tool
- > VXM9-Ideal for finishing tight tolerance walls - when trying to hold tight perpendicularity tolerances on your wall, this is the perfect choice to finish the part FAST and keep the straightness
- > VXM9-Takes a radial depth of cut of 5% of diameter at full flute length

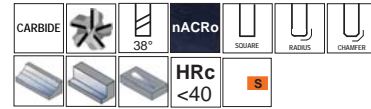


VARIABLE FLUTE - TITANIUM CUTTING END MILLS

4 & 5 FLUTE

*Available in Metric

Series: VXM4T & VXM5T



> Specifically designed for aggressive machining in **Titanium Alloys**

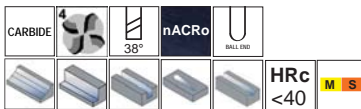
- > Eccentric relief form provides an exceptionally strong cutting edge. Melin's additional "Feather Edge" Grind Technology substantially increases tool life at elevated speeds & feeds
- > Unique nACRo coating assists in achieving maximum metal removal rates & extreme production gains
- > Available from 1/8" to 1-1/4" with choices of radii in stub, regular, medium, long and extended neck lengths
- > Thru-hole coolant style, available upon request



VARIABLE FLUTE - TITANIUM CUTTING END MILLS

4 FLUTE-BALL END

Series: VXM4T-___-B



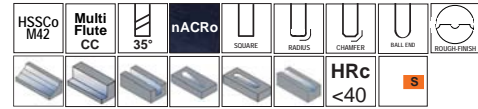
- > Designed for aggressive machining in **Titanium Alloys**
- > Unique titanium focused geometry with increased rake into the ball radius reduces cutting forces enabling higher chip loads and freer cutting action
- > Unique nACRo coating allows for doubling or tripling SFM in many applications
- > Available 1/8" to 1-1/4" in stub, regular, long and extended neck lengths
- > Thru-hole coolant style, available upon request



ROUGHER-FINISHER - TITANIUM CUTTING END MILLS

MULTI FLUTE

Series: CCRFT



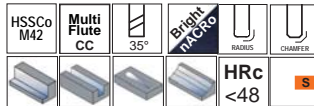
- > Full eccentric relief with chip breaker designed for heavy removal titanium cutting. Capable of deep slotting and ramping even with 6 FL series
- > Geometry designed to reduce cutting pressure and at the same time produce a chip large enough not to recut in deeper pockets
- > Available from 1/2" to 2" with choices of radii in stub, regular, medium, long and extended neck lengths
- > Thru-hole coolant style, available upon request



AERO-CUT SERIES ROUGHING END MILLS

MULTI FLUTE

Series: CCAC4 or CCAC6



- > Designed for high volume removal of **Titanium Alloy** materials
- > Unique sinusoidal wave along flute provides ideal chip evacuation
- > Enables heavy cuts at high feed rates while eliminating tendency of chip nesting
- > Made from M42 Cobalt and provides outstanding tool life
- > Available from 3/4" to 2" diameter in standard, long and extra-long lengths



FINISHER - TITANIUM CUTTING END MILLS

MULTI FLUTE

Series: CC35



- > Titanium focused geometry, increased rake and cutting edge clearance allow for reduced cutting pressure compared to conventional 30° end mills
- > Enhanced heat treatment process reduces premature chipping in Gantry cutting situations
- > Compliant with *NAS 986 T46 & T66 specifications*
- > Variable flute technology reduces chatter and allows for heavier chip loads in any machining process



HP HSSCo M42 END MILLS

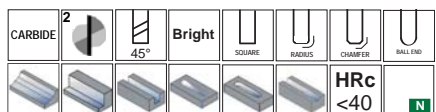


FOR USE ON ALUMINUM ALLOYS

ALUMINUM CUTTING END MILLS

2 FLUTE- 45° HELIX

Series: AXMG45

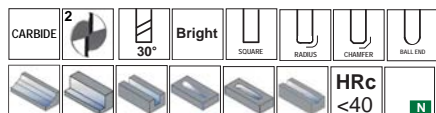


- > For aggressive machining on lighter duty CNC machines with 5-20 HP
- > Produces superior surface finishes on both walls and floor
- > Geometry enables aggressive slotting capability
- > Geometry optimizes chip evacuation and eliminates chip nesting
- > Available from 1/8" to 1-1/4" with choices of radii in stub, regular, medium, long, and extended neck lengths
- > Recommended coatings are ZrN and TiCN

ALUMINUM CUTTING END MILLS

2 FLUTE - FOR HIGH VELOCITY MACHINING

Series: HVMG2

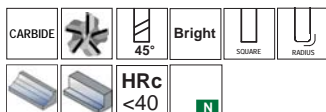


- > For aggressive machining on high power, high velocity CNC machines with >35 HP
- > Reduces cutting pressure and vibration when running at exceptionally high feed rates
- > Highly polished OD and flute face, prevents material from sticking to cutting edges
- > Provides maximum metal removal rates
- > Available from 1/8" to 1-1/4" with choices of radii in stub, regular, medium, long, and extended neck lengths
- > Recommended coatings are ZrN and TiCN

ALUMINUM CUTTING END MILLS

5 FLUTE - FOR ROUGHING AND FINISHING

Series: GXMG5



- > Designed for maximum metal removal rates when machining aluminum alloys
- > Designed for roughing using trichoidal toolpathing. Excels at finishing operations requiring high feed rates while still maintaining very good finishes
- > Used for profiling operations only...slotting is not recommended
- > Wiper flat insures excellent floor finishes. Edge prep for reduced chatter and longer tool life
- > Recommended coatings ZrN, TiCN and nACRo

ALUMINUM CUTTING END MILLS

3 FLUTES

Series: EXMG

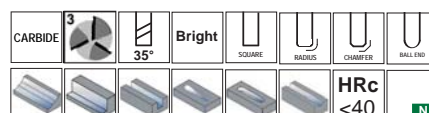


- > Designed to increase metal removal rates when machining Aluminum Alloys materials
- > Enables slotting up to 1-1/2 D axial depth
- > Outstanding performance in heavy slotting, deep profiling and pocketing operations
- > Capable of plunging and ramping operations
- > Recommended coatings are ZrN and TiCN

ALUMINUM CUTTING END MILLS

3 FLUTE - FOR HIGH VELOCITY MACHINING

Series: HVMG3

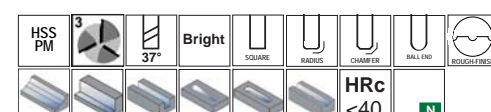


- > For aggressive machining on high power, high velocity CNC machines with >35 HP
- > Reduces cutting pressure and vibration when running at exceptionally high feed rates
- > Highly polished OD and flute face, prevents material from sticking to cutting edges
- > Provides maximum metal removal rates
- > Available from 1/8" to 1-1/4" with choices of radii in stub, regular, medium, long, and extended neck lengths
- > Recommended coatings are ZrN and TiCN

PM COBALT ROUGHER-FINISHER FOR HEAVY CUTS

3 FLUTE

Series: ERFPM



- > Powder metal roughing tool designed for aggressive roughing in aluminum, while still providing a good finish
- > Highly polished cutting geometry eliminates material from sticking to cutting edges
- > Truncated, ground profile enables optimum chip evacuation
- > Unique geometry enables heavy cuts at high feed rates while eliminating tendency of chip nesting
- > Recommended coatings are ZrN and TiCN



COATING INFORMATION



TiCN -
Titanium
Carbonitride

TiCN - Our unique Titanium Carbonitride coating has an exceptional high hardness and low coefficient of friction coating which provides excellent wear resistance. TiCN performs well cutting alloy steels, stainless steels, and in high speed cutting where moderate temperatures are generated at the cutting edge. The high lubricity of TiCN facilitates chip flow, prevents build up and reduces cutting forces and temperature. Provides an excellent surface quality on machined components. Also, excellent in applications which require high feed and speed rates.



nACRo -
Aluminum
Chromium Nitride +
Silicon Nitride

nACRo - Our unique Aluminum Chromium Nitride + Silicon Nitride coating is an excellent coating for high abrasive wear and heat resistance. A top layer with high hardness and toughness. Heat resistance of up to 1100°C before it starts to oxidize and break down. It has a wide application range and is good in super alloys applications. It has a very low coefficient of friction for less resistance (0.35). Best in very tough operations. Up to (1-7) µm thickness in coating layers. A premium coating for those difficult applications. This coating is currently available as a special. Call customer service or send your request to specials@melintool.com



ZrN -
Zirconium
Nitride

ZrN - Our unique Zirconium Nitride coating is the next generation of coating developed specifically for machining aluminum yet excellent when machining all non-ferrous materials. ZrN is also highly recommended for machining fiberglass, nylon and most polymer materials. The Maximum working temperature = 600°C/1110°F. It has a coating thickness of 1 to 2 microns. The coefficient of friction against steel (dry) is 0.55 and the micro hardness (HV 0.05) is equal to 3000.

MELIN - AT A GLANCE

Description
HIGH PERFORMANCE CARBIDE END MILLS
GENERAL PURPOSE CARBIDE END MILLS
SPECIAL USE CARBIDE END MILLS
HIGH PERFORMANCE POWDERED METAL END MILLS
COBALT & HSS ROUGHING END MILLS
GENERAL PURPOSE COBALT & HSS END MILLS
CARBIDE THREAD MILLS
HIGH PERFORMANCE CARBIDE DRILLS
GENERAL PURPOSE CARBIDE DRILLS
CARBIDE & HSS COUNTERSINKS
CARBIDE BURS

Maximize your Melin Experience Anywhere!

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At Your Desk: Order our full line catalog for your office.



Melin
Outperforms
The very best & welcome
testing to prove it!
Contact your local distributor
Ask for a Guaranteed
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