ACCUPRO™
High Performance Metalworking

# HIGH PERFORMANCE METALWORKING PRODUCTS

MSC® Industrial Supply Co.

# Accupro tools deliver the reliability and durability high performance metalworking demands.

ACCUPRO™ High Performance Metalworking

## High Performance Toolholders

Accupro High Performance End Mill Holders and Collet Chucks are manufactured to the tightest tolerances to insure industry-leading accuracy. CAT40 holders are balanced to 20,000RPM; CAT50 holders are balanced to 15,000RPM and each toolholder is supplied with a Balanced Certificate. Traverse ground throughout; DIN coolant thru the flange and through-spindle coolant; AT3 taper; Maximum TIR 0.0002" OD to ID.

**Accuracy is guaranteed**.

## Colour Band Drills & Taps

Accupro Colour Band Drills and Taps are manufactured from vanadium high speed steel and feature distinctive colour bands that easily identify the material to be machined.

- Green Band Taps for Stainless Steels
- White Band for Cast Iron
- Yellow Band Taps for Steels
- Red Band Taps for Titanium
- Blue Band Taps for Aluminium

## Progressive Helix End Mills

Accupro's Progressive Helix End Mills have been specially designed to maximise productivity, improve workpiece quality and minimise machine downtime. They feature a helix design that changes from the front of the end mill to the end of the flutes, creating a sheering action in the material that reduces chatter and vibration.

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# A great deal on Accupro Solid Carbide End Mills for Aluminium

**Benefits:** Accupro's Carbide End Mills, manufactured from micrograin tungsten carbide, outperform conventional end mills. They offer advanced tool geometries with improved chip shearing and clearing, all of which can reduce chatter.

## Optimum Milling Geometry Cutters

The solid carbide end millers cutters of the AccuKutter product range can be universally applied for milling grey cast iron, steel, cast steel, chrome and nickel material, high temperature steels, titanium and titanium alloys, non-ferrous metals, graphite and plastics. In the universal product range the roughing, finishing and HPC end milling cutters stand for very high cutting parameters and maximum profitability. The unequal deviation of the solid carbide aluminium end milling cutters ensures absolutely smooth running during machining. Specially polished grooves prevent sticking of chips and at the same time, ensure optimised chip removal. For steel machining, the unequal deviation of the HPC end milling cutters ensures absolutely smooth running during the machining process. Both higher cutting speeds and larger feed rates are easily possible.

## 2 Flute

- Specially for milling aluminium alloys, plastics, copper alloys and non-ferrous metals
- Shank Form: HA (DIN 6535)
- Uncoated
- 2 flutes, 1 cutting edge over centre
- Specific geometry
- 45° Helix Angle

## 3 Flute

- Specially for milling aluminium alloys, copper alloys and non-ferrous metals
- Shank Form: HB (DIN 6535)
- Uncoated
- 3 flutes, right hand helix groove, 1 cutting edge over centre
- Specific geometry
- Similar to DIN 6527
- 42-43° Helix Angle
- Unequal deviation, grooves polished, design with neck

## Additional End Mills also available

**Ball End Mills**

**Progressive Helix End Mills**

**Universal End Mills**

**Roughing/Finishing End Mills**

# Solid Carbide End Mills for Aluminium

| | | Cutting Dia. (mm) | OAL (mm) | Flute Length (mm) | Ordering Code |
|---|---|---|---|---|---|
| 2 Flute |  | 2 | 57 | 6 | AOM-10090M |
| | | 3 | 57 | 8 | AOM-10091J |
| | | 4 | 57 | 11 | AOM-10092D |
| | | 5 | 57 | 13 | AOM-10093A |
| | | 6 | 57 | 13 | AOM-10094K |
| | | 8 | 63 | 19 | AOM-10095E |
| | | 10 | 72 | 22 | AOM-10096B |
| | | 12 | 83 | 26 | AOM-10097L |
| | | 16 | 92 | 32 | AOM-10098H |
| | | 20 | 104 | 38 | AOM-10099C |
| 3 Flute |  | 3 | 57 | 8 | AOM-10100D |
| | | 4 | 57 | 11 | AOM-10101A |
| | | 5 | 57 | 13 | AOM-10102K |
| | | 6 | 57 | 13 | AOM-10103E |
| | | 8 | 63 | 21 | AOM-10104B |
| | | 10 | 72 | 22 | AOM-10105L |
| | | 12 | 83 | 26 | AOM-10106H |
| | | 16 | 92 | 36 | AOM-10107C |
| | | 20 | 104 | 41 | AOM-10108M |

| | | | | Cutting Speed $v_c$ (m/min) | | | $F_z$ (mm/tooth) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Material | Tensile Strength | Examples | Roughing | Finishing | HPC | ø 2-4 | ø 4-6 | ø 6-8 | ø 10-12 | ø 16-20 |
| P | Unalloyed Carbon Steel, Cast Steel | ≤ 600 N/mm² | St37, St42, C22, GS38 | 140-180 | 200-230 | 180-200 | 0.02-0.04 | 0.04-0.05 | 0.05-0.07 | 0.09-0.11 | 0.14-0.18 |
| | | ≤ 700 N/mm² | St50, St60, C45, GS62 | 120-170 | 160-180 | 140-190 | 0.02-0.04 | 0.04-0.05 | 0.05-0.07 | 0.09-0.11 | 0.14-0.18 |
| | | >700 N/mm² | St70, C70 | 100-140 | 160-180 | 140-160 | 0.02-0.04 | 0.04-0.05 | 0.05-0.07 | 0.09-0.11 | 0.14-0.18 |
| | Alloyed Steel | ≤ 900 N/mm² | 16MnC5, 90MnCrV8 | 100-120 | 140-160 | 120-140 | 0.02-0.03 | 0.03-0.05 | 0.05-0.06 | 0.08-0.09 | 0.12-0.15 |
| | | ≤ 1000 N/mm² | 100Cr6, 42CrMo4 | 70-90 | 120-140 | 120-140 | 0.02-0.03 | 0.03-0.05 | 0.05-0.06 | 0.08-0.09 | 0.12-0.15 |
| | | > 1000 N/mm² | X210Cr13, 34CrAlNi7 | 60-80 | 100-120 | 100-120 | 0.02-0.03 | 0.03-0.05 | 0.05-0.06 | 0.08-0.09 | 0.12-0.15 |
| M | Inox | | X5 CrNi 18 9 (V2A), X10 CrNiMoTi 18 10, G-X40 CrNi 27 4 | 60-80 | 90-110 | 80-100 | 0.01-0.02 | 0.02-0.04 | 0.04-0.05 | 0.06-0.07 | 0.10-0.12 |
| | Stainless & Acid-resistant steel (Cr-Ni-Alloys) | | | 60-80 | 90-110 | 80-100 | 0.01-0.02 | 0.02-0.04 | 0.04-0.05 | 0.06-0.07 | 0.10-0.12 |
| K1 | Grey cast iron, alloyed grey cast iron | <200 HB | GG10, GG15 | 120-150 | 200-230 | 140-180 | 0.02-0.04 | 0.04-0.06 | 0.06-0.08 | 0.11-0.13 | 0.17-0.21 |
| | | <250 HB | GG20, GG25, GTW40 | 120-150 | 200-230 | 140-180 | 0.02-0.04 | 0.04-0.06 | 0.06-0.08 | 0.11-0.13 | 0.17-0.21 |
| | | >250 HB | GG30, GG40, GTS70 | 120-150 | 180-200 | 130-170 | 0.02-0.04 | 0.04-0.06 | 0.06-0.08 | 0.11-0.13 | 0.17-0.21 |
| K2 | Spheroidal graphite cast iron, vermicular graphite cast iron, malleable cast steel | <600 N/mm² | GGG40, GGG50 | 110-140 | 160-180 | 120-160 | 0.02-0.04 | 0.04-0.05 | 0.05-0.07 | 0.09-0.11 | 0.14-0.18 |
| | | >600 N/mm² | GGG60, GGG70, GGV | 110-140 | 160-180 | 120-160 | 0.02-0.04 | 0.04-0.05 | 0.05-0.07 | 0.09-0.11 | 0.14-0.18 |
| N | Aluminium (Si content 0.5-10%) | <400 N/mm² | GD-AlSi9Cu3, AlSi7mG0,6 | 350-500 | 400-500 | 450-560 | 0.03-0.06 | 0.06-0.09 | 0.09-0.12 | 0.15-0.18 | 0.24-0.30 |
| | Aluminium (Si content 10-15%) | <400 N/mm² | GB-AlSi12(Cu), AlSi17Cu4Mg/Alusil | 300-400 | 400-500 | 400-500 | 0.03-0.06 | 0.06-0.09 | 0.09-0.12 | 0.15-0.18 | 0.24-0.30 |
| | Copper, Brass, Bronze | <300 HB | G-CuZn15, CuZn37, CuSn8 | 200-250 | 230-300 | 300-350 | 0.02-0.04 | 0.04-0.06 | 0.06-0.08 | 0.11-0.13 | 0.17-0.21 |
| S | Titanium Alloys | | TiAl6V4, Ti-6Al-2Sn-4Zr-2Mo | 60-80 | 120-140 | 80-100 | 0.01-0.02 | 0.02-0.04 | 0.04-0.05 | 0.06-0.07 | 0.10-0.12 |
| | Nickel Alloys | | Inconel, Hastelloy, Waspaloy | 30-40 | 60-80 | 40-60 | 0.01-0.02 | 0.02-0.04 | 0.04-0.05 | 0.06-0.07 | 0.10-0.12 |
| H | Chilled cast iron | 350-450 HB | | | 60-80 | | 0.01-0.02 | 0.02 | 0.02-0.03 | 0.04-0.05 | 0.06-0.08 |
| | Hardened steel (50-65 HRC) | 50-65 HRC | | | 50-60 | | 0.01-0.02 | 0.02 | 0.02-0.03 | 0.04-0.05 | 0.06-0.08 |

The machine values shown are guidelines. The optimum data for a particular machining process should be determined in trials or during machining.

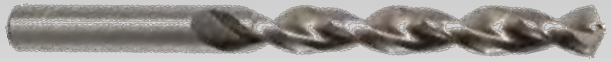
# Get the performance you need from tools that last with Accupro

## Holemaking

**Our drills cover a wide range of applications and are made from the highest quality material with special point geometries to improve the quality of the finished hole.**

Green Band Drills for Stainless Steels
Yellow Band Drills for Steels
Red Band Drills for Titanium
Blue Band Drills for Aluminium
White Band for Cast Iron
Parabolic Drills
Solid Carbide Coolant Fed Drills



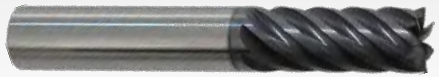


## Milling

**With advanced tool geometries and superior coatings, our end mills outperform conventional ones.**

Solid Carbide Square End Mills
Solid Carbide Ball End Mills
Solid Carbide End Mills for Stainless Steels
Solid Carbide End Mills for Aluminium
Solid Carbide Progressive Helix
Solid Carbide Variable Index End Mills
Solid Carbide Corner Radius End Mills
Solid Carbide End Mills for Die & Mold






## Threading

**Manufactured from HSSE-Vanadium, our taps are designed for specific material groups to improve the quality of finish and increase tool performance.**

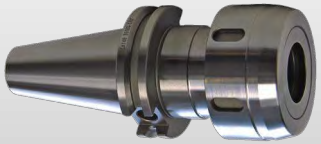
Green Band Taps for Stainless Steels
Yellow Band Taps for Steels
Red Band Taps for Titanium
Blue Band Taps for Aluminium
White Band for Cast Iron
Multi Application Taps
Powdered Metal Taps
Threadmilling

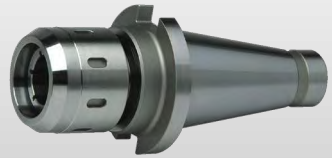



## Toolholding

**For all your Toolholding applications, we have a diverse assortment of products made with quality and precision**

Collets
Collet Chucks
End Mill & Shell Mill Holders
Hydraulic Toolholders
Milling Chucks
Drill Chucks & Arbors
Tapping Adapters & Chucks
Shrink Fit



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