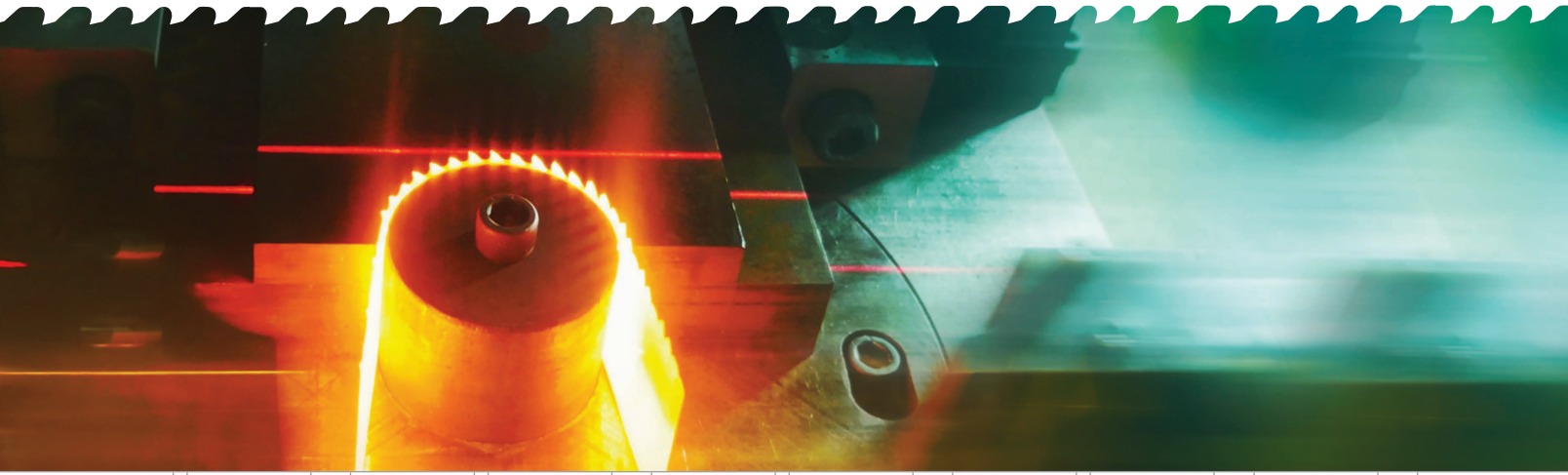
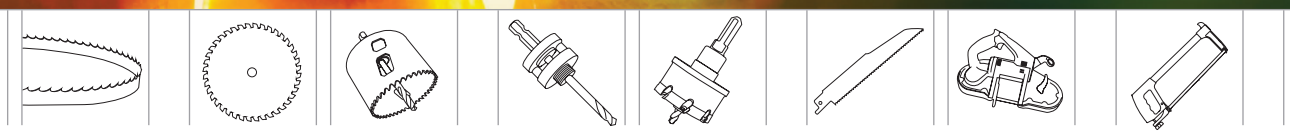
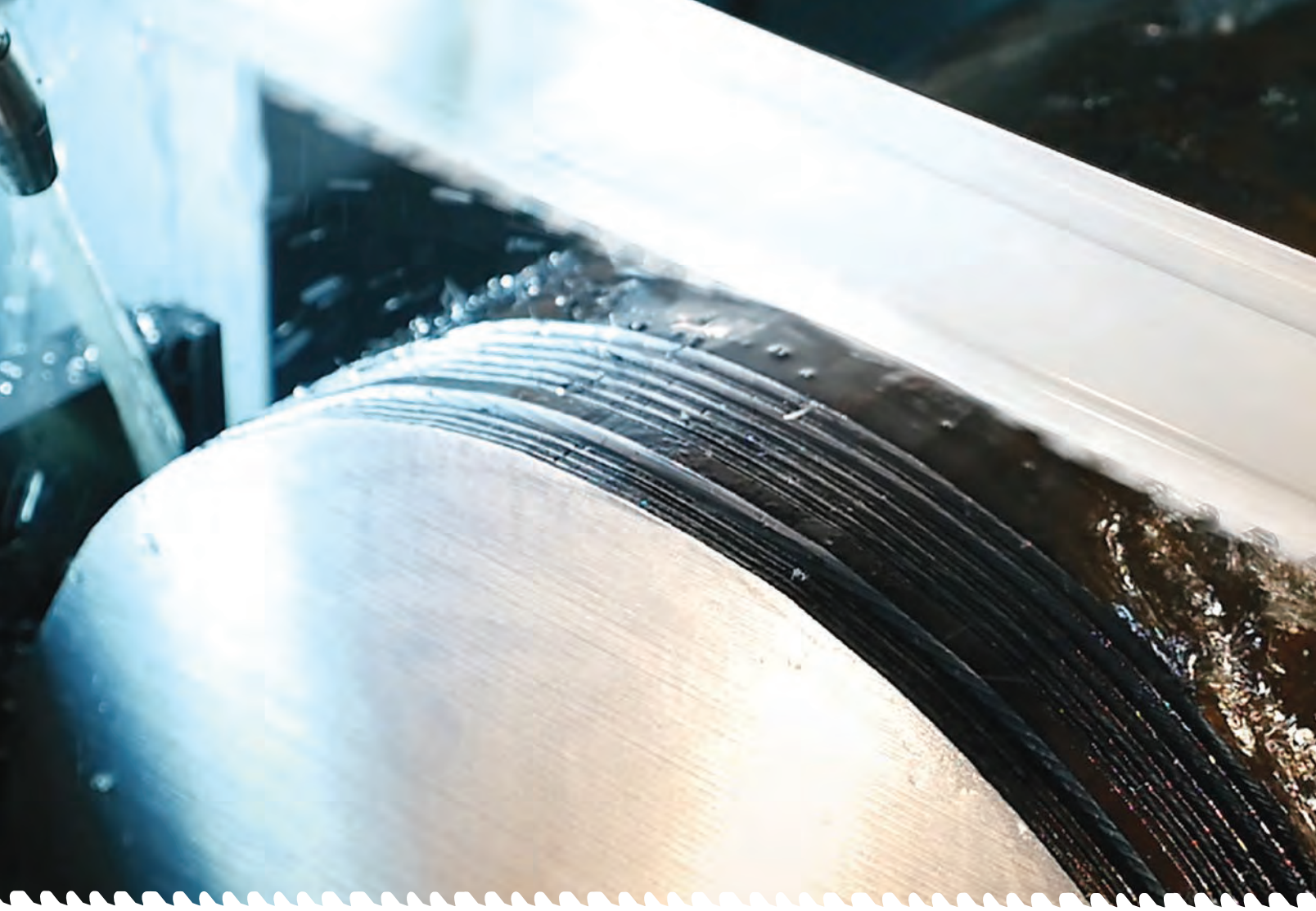
# MORSE®

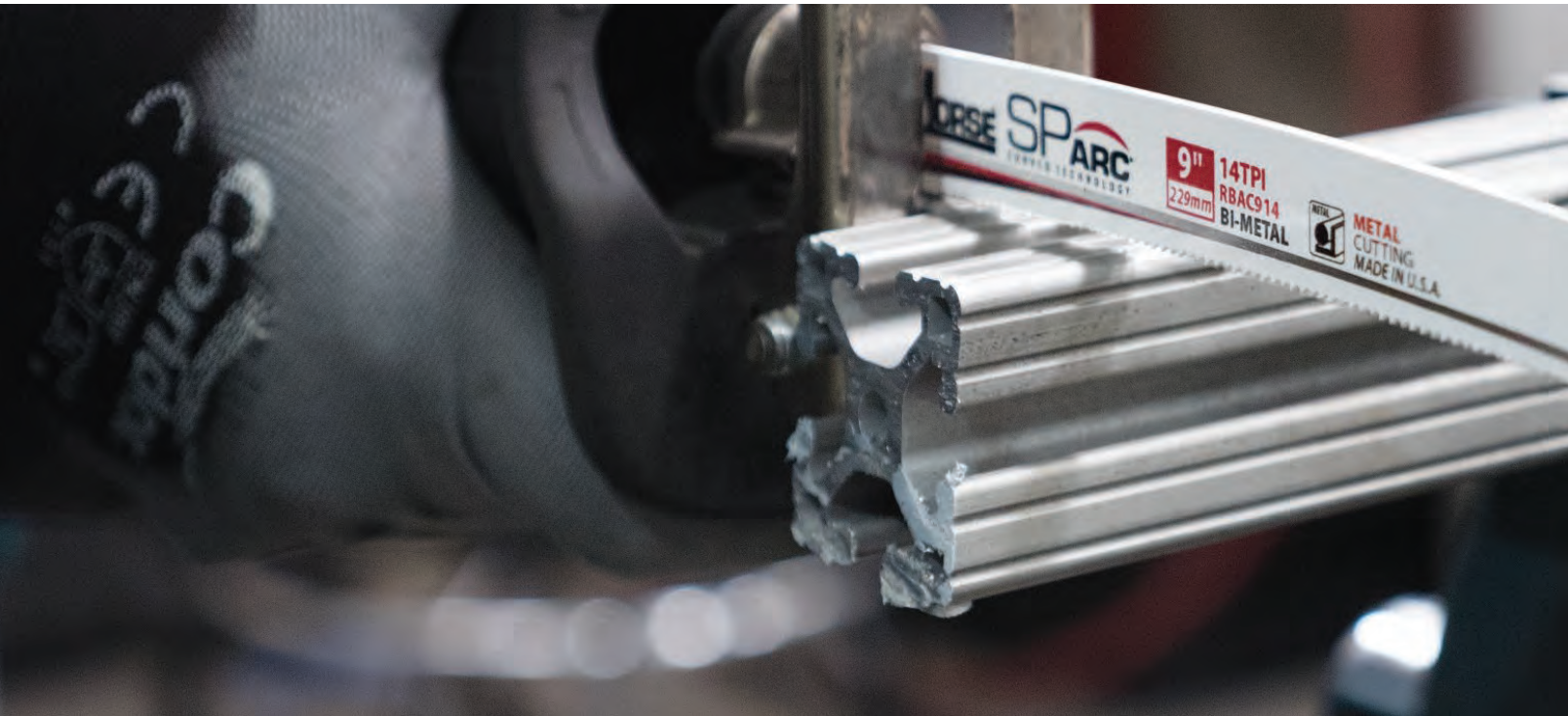
PRODUCT CATALOG







MORSE®


MORSE
SP ARC
9"
229mm
14TPI
RBAC914
BI-METAL
METAL
CUTTING
MADE IN U.S.A.

# TABLE OF CONTENTS

## Industrial Products



## Power Tool Accessories

# THE M. K. MORSE COMPANY

## OUR HERITAGE

For more than 50 years The M. K. Morse Company has been manufacturing and marketing a wide range of innovative cutting solutions. Our product performance is state of the art, but it's our unmatched service that makes us your best source for saw blades.

Whether you need to drill holes or cut metal on a job site, or saw metal in a factory, Morse has the right blade for the job. And our team of experienced field technicians can help you get the most from our blades on your equipment.

Available in more than 70 countries, nearly all Morse products are manufactured in Canton, OH, USA. Together with our distribution partners and weld centers we make sure that customers get the right product when they need it.

As a second-generation family-owned business, we take pride in providing solutions for our customers. Our team is focused on saw blades, and we work relentlessly to improve the design, manufacture, service and support for these products. Our primary goal is to succeed together, with you, our valued customers.

## NOT ALL BLADES ARE CREATED EQUAL

At Morse, we are inspired by the belief that there is always a better way to cut. Our team of researchers, including engineers and material scientists, is the best in the industry. They create and translate innovative ideas into advantaged solutions that deliver the best value for our customers. We apply the same discipline to improve the precision and efficiency of our manufacturing processes so we can deliver the consistency and reliability our customers demand.

We proudly support our customers, from steel service centers and forging operations serving the aerospace industry to contractors, fabricators, plumbers and electricians. And the innovations we create for one application provide insights that help us improve others. We accept the challenge to get better every day.

## EXPERIENCE THE MORSE DIFFERENCE

Innovative products are great, but they don't do you any good if you can't get them when you need them. Recognized for the highest levels of service in the industry, you can count on Morse to deliver. Offering next day/2-day shipment for weld-to-length band saw blades and same day/next day shipment for power tool accessories, Morse consistently delivers over 98% on-time and complete.

We also understand that the more you know about sawing and saw blades, the better we can work together. Over the years we have developed and refined product specific training programs that help our customers succeed. We regularly host groups from around the world for immersive, hands-on learning experiences. Participants walk away with the knowledge, tools and confidence they need to be even more successful.

Plus, technical support is available from Morse when and where you need it. On-site support is available through Regional technical experts in North America, Europe and Asia. And as always, phone support is available from our headquarters in Canton, OH.

If you've been a Morse customer for some time, we thank you for your business. If you're considering Morse, we look forward to working together with you to get the most out of your cutting operations.

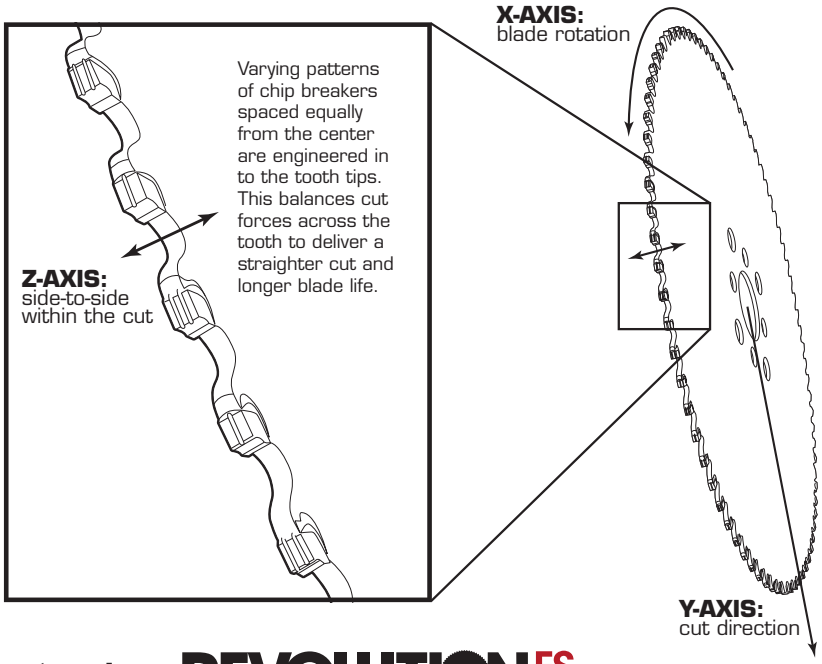
Thank you for the opportunity to serve you. And happy sawing!

# CUTTING TECHNOLOGIES

**At Morse, we believe there is always a better way to cut. We are committed to consistently offer leading-edge solutions to our customers. Our research team is focused on cutting improvements, with benefits that extend beyond the blade.**

## BALANCE

Cutting forces are generated from the cutting motion of the blade (x axis), the rate of the feed (y axis) and the side-to-side action of the teeth within the cut (z axis). Blades with Morse Z Balance Technology eliminate the side forces in the z axis. The effect is a straighter cut and reduced heat and wear, resulting in longer blade life. You can see the difference by the smaller chips produced by Revolution FS blades.

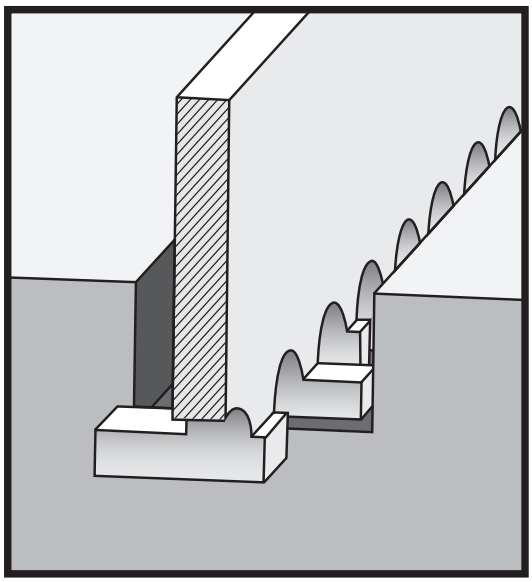



**Up to 30% Longer Blade Life**

**Morse Z Balance Technology is featured on: REVOLUTION FS**

## KERFLOCK™ TECHNOLOGY

Most band saw blades create the kerf by bending the teeth side to side. Premature tooth wear can result as the bend relaxes through the life of the blade. With dual-patented KerfLock technology, the teeth are not bent. The kerf is created by precision grinding the tips to a tolerance twice as tight as those used for set tooth blades. This results in a constant kerf that minimizes side-to-side forces, reducing tooth wear and extending blade life. It also prevents pinching that can occur as the blade moves through the material.

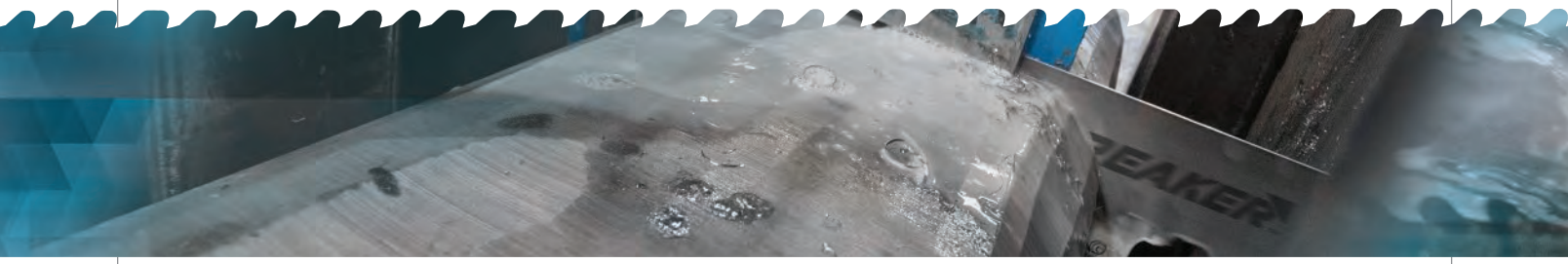


**Up to 25% Longer Blade Life**

**Morse Kerflock™ Technology is featured on:**

JAWBREAKER™ M FACTOR® GES

# CUTTING TECHNOLOGIES



SPARC®

Engineered in to the blade, SPARC® technology employs a vibration assisted cutting action. This technology creates a rocking motion so tips move from cutting the material to rising out of the cut and then back in to the material. This extends the size range a blade can cut when compared to the same blade without the technology. It also allows for higher feed rates, cutting faster to deliver higher production. Extended blade life is another benefit of this technology.

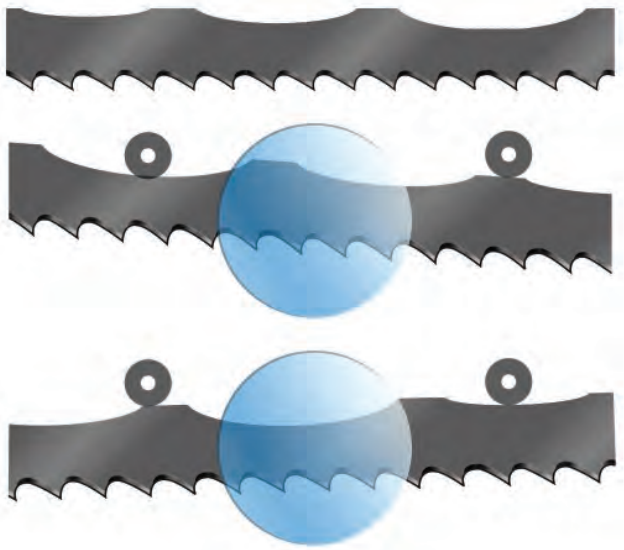
## Up to 25% Larger Material
**can be cut with the same blade**

## Up to 20% Faster Cutting

## Up to 20% Longer Life

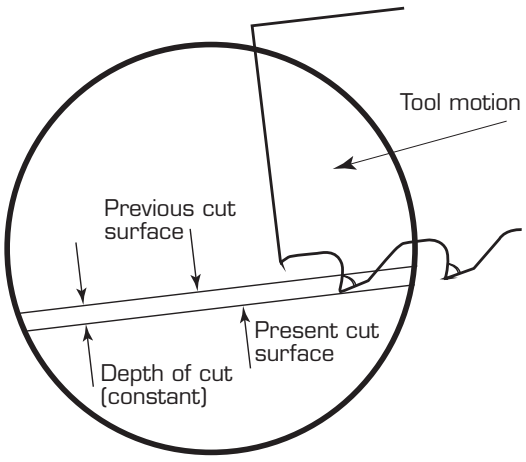
**Morse SPARC® is available as an option on the following band saw blades**

- M-Factor®
- Independence® EXS
- Independence® II
- Maverick™
- The Morse Achiever®
- M42

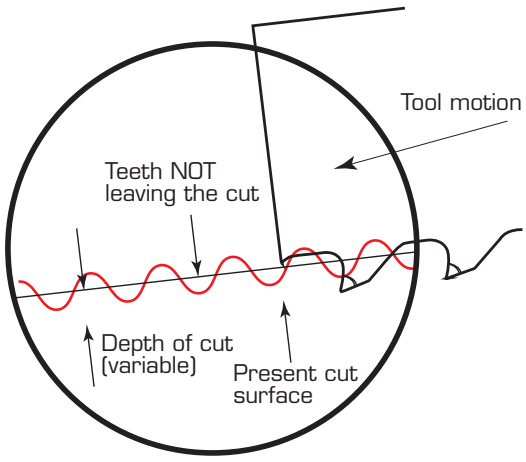


Exaggerated to illustrate blade feature and cutting action.

### NO BACK EDGE




### SPARC® CUTTING ACTION



MORSE® PLYOMETRIC™ CUTTING ACTION

Engineered in to the blade, patent pending Morse Plyometric Cutting Action employs vibration assisted cutting technology that is optimized for the specific tooth design of each blade. With this technology the tips stay engaged in the material while cut angles change dynamically. This allows higher feed rates for faster cutting and higher production, particularly in hard-to-cut materials. And by optimizing how each tooth engages the material being cut, it reduces wear, extending blade life. Finally, this technology is optimized for full speed cutting, so blades should not be broken in.

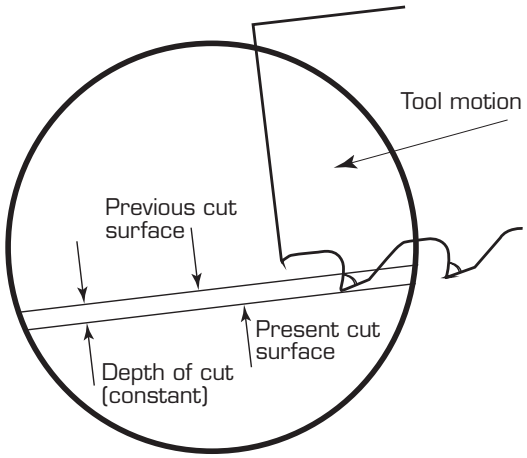
**Up to 50% Faster Cutting**

**Up to 50% Longer Blade Life**

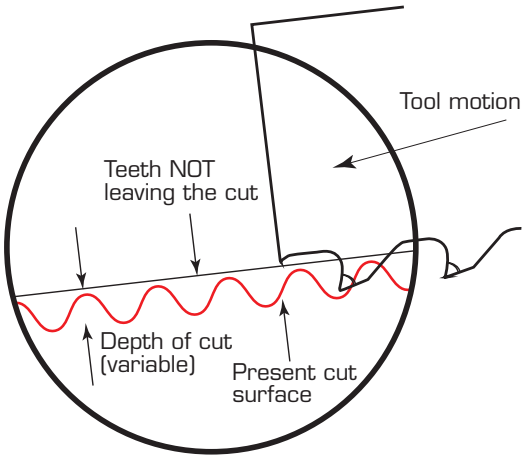
**Morse Plyometric™ cutting action is featured on:**

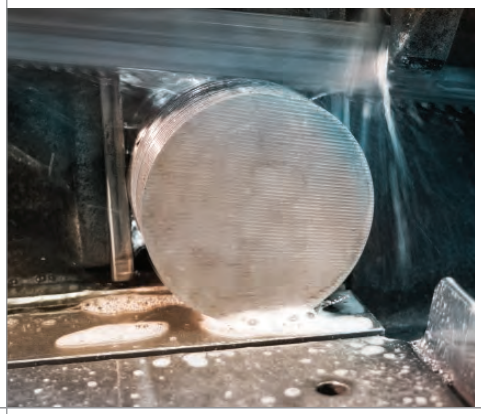
JAWBREAKER™

**NO BACK EDGE**




**PLYOMETRIC™ CUTTING ACTION**



# INDUSTRIAL BAND SAW BLADES

| Blade Type | Application |
|---|---|
| **Metal** | |
| Carbide Tipped | Blades optimized for fastest cutting and longest life cutting super alloys, stainless steels and alloy steel. |
| Bi-Metal | Highly fatigue resistant to eliminate premature breakage. Excellent in solid tool steels and small to medium stainless and nickel based alloys. |
| **Wood** | |
| Carbide Tipped | Specially designed for fine-finish wood cutting in applications such as hardwood flooring, millwork and musical tonewoods. |
| Bi-Metal | Ideal for timber, wood production cutting and general purpose cutting of low alloy/non-ferrous metals. |
| Carbon | Designed for production cutting of wood, wood composites and general purpose cutting of low alloy steel and non-ferrous metals. |
| **Specialty** | |
| Carbide Grit | Ideal for cutting ceramics and other materials that are too hard or abrasive for standard bi-metal blades, tungsten carbide grit blades provide superior wear resistance. |
| Pallet | Specially designed to cut through pallet nails and staples when used on pallet machines. |

# Blade Selection *for Metal Cutting*

| Category | Type | Carbide Tipped: Premium: Jawbreaker™ | Carbide Tipped: M-FACTOR®: GES | GP | CH | FB+ | FBS | Bi-Metal: Premium: Independence® EXS | Independence® II | Maverick™ | The Morse Achiever® 0° Rake | Bi-Metal: Structural: Challenger® | Bi-Metal: M42: Positive Rake | 6° Rake | 0° Rake | Straight Pitch – Raker | Straight Pitch – Wavy | Straight Pitch – Hook | Bi-Metal: Matrix II: Positive Rake | 0° Rake | Straight Pitch – Raker | Straight Pitch – Wavy | Straight Pitch – Hook |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ABRASIVE WOODS | Abrasive Woods | | ■ | ■ | | | | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | | | | | | | | |
| ALUMINUM | Castings | | | | | ■ | ■ | | | | | ■ | | | | ■ | ■ | ■ | | | | | |
| COPPER ALLOYS | Beryllium | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ |
| | CDA 220 | ■ | | | | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| | CDA 360 | ■ | | | | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| | 70-30 Copper Nickel | ■ | | | | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| CARBON STEEL | 1030 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 1035 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 1080 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 1095 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| BRONZE ALLOYS | 932 | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 937 | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | Aluminum Bronze 865 | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | AMPCO 18 | ■ | ■ | ■ | ■ | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | AMPCO 21 | ■ | ■ | ■ | ■ | | | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | | | | | | | | |
| | AMPCO 25 | ■ | ■ | ■ | ■ | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | Leaded Tin Bronze | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| BRASS ALLOYS | Cartridge / Red Brass (85%) | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | Naval Brass | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| CAST IRON | A48 (Class 20-20ksi) | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | A48 (Class 40-40ksi) | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | A48 (Class 60-60ksi) | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | A536 (120-90-02) | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | A536 (60-40-18) | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| CASE HARDENED | Case Hardened | ■ | ■ | | ■ | | | | | | | | | | | | | | | | | | |
| CHROME ALLOY STEELS | 5045, 5046 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 5120, 5135 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 5140, 5160 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 6117, 6120 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| CHROME MOLY STEEL | 4150H | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 41L50 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| COMPOSITES | Composites | | | ■ | | ■ | ■ | | | | | | | | | | | | | | | | |
| DIE STEEL | A10 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | D2, D3, D4 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | D7 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | O1, O2 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | O6, O7 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| FREE MACHINING STEEL | 12L14 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| GRAPHITE | Graphite | ■ | ■ | ■ | | ■ | ■ | | | | | | | | | | | | | | | | |
| HOT WORK STEEL | H-11,H-12, H-13, H-13 Mod, H-21 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | H-22, H-24, H-25 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| LOW ALLOY STEEL | L-6 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | L-7 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| NICKEL BASED ALLOYS | Hastelloy B | ■ | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | |
| | Inconel 625-x-750 | ■ | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | |
| | Inconel 718 | ■ | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | |
| | K-R-Monel | ■ | ■ | ■ | ■ | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | Monel | ■ | ■ | ■ | ■ | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | Waspalloy | ■ | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | |
| | Nimonic 75 | ■ | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | |
| | Nimonic 90 | ■ | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | |
| | NI-SPAN-C 962, Rene 41 | ■ | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | |
| | Nonel R | ■ | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | |
| | Rene 88 | ■ | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | |
| | 2317 | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | | |
| | 2330, 2345 | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | | |
| | 2512, 2517 | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | | |
| | Inconel 617 | ■ | | | | | | | | | | | | | | | | | | | | | |
| | Duranickel | ■ | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | |
| MOLD STEELS | P-20 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | P-3 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| NICKEL MOLY STEEL | 4640 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| TITANIUM ALLOYS | TI-6AI-4V | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 99% PURE TITANIUM | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | CP Titanium | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | MST-GAL 4V | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | TI-140 A 2CR-2MO, TI-150A | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | TI-4 AL-4 MO | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| WATER HARDENING STEEL | W1 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| STAINLESS STEEL | 15-5 PH | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 17-4 PH | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 201, 202, 302, 304 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 303, 303F | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 308, 309, 310, 330 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 314, 316, 317 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 321, 347 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 410, 420, 420F | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 416, 430F | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 430, 446 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 440 A, 440 B, 440 C, 440 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 440 F, 443 | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |

■ = PRIMARY USE

■ = SECONDARY USE

■ = MAY ALSO CUT


JAWBREAKER™

FEATURING EXCLUSIVE PLYOMETRIC™ CUTTING ACTION WITH KERFLOCK™ TECHNOLOGY

## JAWBREAKER™
### LARGE BILLET PRODUCTION CUTTING

Featuring patent pending Morse™ Plyometric™ cutting action together with patented Morse™ KerfLock™ technology, Jawbreaker sets a new benchmark for band saw blade performance. Designed for production cutting of large billets of superalloys and other very hard to cut materials, Jawbreaker™ delivers higher feed rates and longer blade life. And Jawbreaker blades should not be broken in, so there's no need to slow down after a blade change. If you need more capacity and higher production, Morse™ Jawbreaker™ is the answer.

Pat. No. 10, 279,408

**Users:** Forging, Steel Mills, Steel Service Centers, Machine Shops, Test Labs

**Application:** Alloy steels, Duplex alloys, Hardened Steel alloys, Nickel chrome moly steel, Stainless steels, Superalloys, Titanium alloys, Tool & die steels

| Feature | Benefit | Value |
|---|---|---|
| Patent Pending Morse™ Plyometric™ Cutting Action | Up to 30% faster cuts<br>Up to 2.5x longer blade life<br>Reduces work hardening | Increases cutting capacity<br>Lowers operating cost<br>No blade break in<br>Reduces blade inventory |
| Patented Morse™ KerfLock™ precision ground kerf | Consistent kerf through the life of the blade. | Prevents pinching<br>Extends blade life<br>Improved finish |
| Three optimized tooth designs | Cuts solids and thick wall shapes from 6" to 49" / 0.15 m – 1.25 m<br>Cut materials from 28 to 65 HRC | Performs in the hardest to cut materials and sizes |

| Width x Thickness | | TPI | |
|---|---|---|---|
| in | mm | .75/1 | 1.5/2 |
| | | Variable | |
| 2 x .063 | 54 x 1.60 | ▼ | ▼ |
| 2⅝ x .063 | 67 x 1.60 | ▼ | ▼ |
| 3 x .063 | 80 x 1.60 | ▼ | ▼ |


**Operating Parameters:**

- ▼ For optimal performance, Jawbreaker blades must be run at higher feed rates
- ▼ **DO NOT BREAK IN** Jawbreaker™ blades
- ▼ Please refer to the Morse Blade Wizard for recommended feeds and speeds for materials being cut

BladeWizard.com


M FACTOR® GES

KERFLOCK™ TECHNOLOGY

For optimal performance
**DO NOT BREAK IN** M-Factor® GES blades

## M-FACTOR® GES
### GENERAL EXOTIC SPECIALTY

Featuring patented Kerflock™ Technology this blade is designed specifically for exotic material and ferrous steel, with particular emphasis on thick wall and solid billet applications, for exceptionally long life.

Pat. No. 10, 279,408

**Users:** Steel service centers, forging operations, specialized manufacturing

**Application:** All stainless steels, difficult to cut alloy steels, tool steels, titanium, nickel based alloys, Hastelloy, Inconel, Monel

| Feature | Benefit | Value |
|---|---|---|
| Multi-chip tooth pattern | Reduces material build up on the tooth<br>Reduces blade stress | Blade longevity |
| Precision Ground Carbide Teeth | Reduced vibration, heat and noise<br>Energy focused on cutting | Greater efficiency in the workplace |
| High performance materials | Excellent fatigue life, wear life, and performance | Increased productivity |
| Patented Morse™ KerfLock™ precision ground kerf | Consistent kerf through the life of the blade. | Prevents pinching<br>Extends blade life |

| Width x Thickness in | Width x Thickness mm | TPI .75/1 | TPI 1.5/2 | TPI 2/3 | TPI 3/4 |
|---|---|---|---|---|---|
| | | Variable | | | |
| 1¼ x .042 | 34 x 1.10 | | | ▼ | ▼ |
| 1½ x .050 | 41 x 1.30 | | ▼▼ | ▼ | ▼ |
| 2 x .063 | 54 x 1.60 | ▼ | ▼▼ | ▼▼ | ▼ |
| 2 ⅝ x .063 | 67 x 1.60 | ▼▼ | ▼▼ | ▼ | |
| 3 x .063 | 80 x 1.60 | ▼▼ | ▼ | | |

▼ Wide Kerf


M FACTOR® GP

For optimal performance
**DO NOT BREAK IN** M-Factor® GP blades

## M-FACTOR® GP GENERAL PURPOSE

Specially designed for any small billet (<12", 30.5cm) ferrous steel applications for long life.

**Users:** Steel service centers, forging operations, general manufacturing

**Application:** Alloy steels, stainless steels (lower grades)

| Feature | Benefit | Value |
|---|---|---|
| Longer blade life than bi-metal | Fewer blade changes<br>Reduced downtime | Increased productivity<br>Reduced cost per cut |
| Versatility | Reduced downtime and blade changes | Greater efficiency in the workplace |

| Width x Thickness in | Width x Thickness mm | TPI .75/1 | TPI 1.5/2 | TPI 2/3 | TPI 3/4 |
|---|---|---|---|---|---|
| | | Variable | | | |
| 1 x .035 | 27 x 0.90 | | | ▼ | ▼ |
| 1¼ x .042 | 34 x 1.10 | ▼ | ▼ | ▼ | ▼ |
| 1½ x .050 | 41 x 1.30 | | ▼ | ▼ | ▼ |
| 2 x .063 | 54 x 1.60 | ▼ | ▼ | ▼ | |
| 2 ⅝ x .063 | 67 x 1.60 | ▼ | ▼ | ▼ | |
| 3 x .063 | 80 x 1.60 | ▼ | ▼ | | |

# METAL CARBIDE TIPPED


## M-FACTOR® CH CASE HARDENED

Designed for long life and fast, smooth cutting of chrome plated, case hardened hydraulic shaft specifications (<12", 30.5cm).

**Users:** Steel service centers, automotive parts makers, cylinder and bearing manufacturers

**Application:** Hydraulic shafts, case hardened shafts and shapes, heat treated thick wall tubing

For optimal performance
**DO NOT BREAK IN** M-Factor® CH blades

| Feature | Benefit | Value |
|---|---|---|
| Cuts hard to cut materials | Longer blade life | Fewer blade changes<br>Reduced downtime |
| Versatility | Reduced downtime and blade changes | Greater efficiency in the workplace |

| Width x Thickness in | Width x Thickness mm | TPI 2/3 | TPI 3/4 | TPI 3 |
|---|---|---|---|---|
| | | Variable | | Straight |
| 1 x .035 | 27 x 0.90 | | ▼ | ▼ |
| 1¼ x .042 | 34 x 1.10 | | ▼ | ▼ |
| 1½ x .050 | 41 x 1.30 | ▼ | ▼ | |
| 2 x .063 | 54 x 1.60 | ▼ | | |


## M-FACTOR® FB+ AND FBS FOUNDRY

Exceptional long life and fast cutting of abrasive and non-ferrous materials. Foundry blades available in Triple Chip and Set Tooth (FBS).

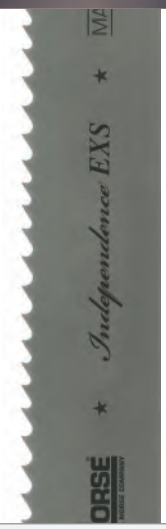
**Users:** Aluminum foundries, graphite manufacturers, furniture makers

**Application:** Aluminum castings (gates, risers, extrusions), Abrasive woods plywood

For optimal performance
**DO NOT BREAK IN** M-Factor® FB+/FBS blades

| Feature | Benefit | Value |
|---|---|---|
| Multi-chip tooth pattern | Reduces material build up on the tooth<br>Reduces blade stress | Blade longevity |

| Width x Thickness in | Width x Thickness mm | TPI 3 | TPI 3 SET |
|---|---|---|---|
| | | Straight | |
| ½ x .025 | 13 x 0.60 | ▼ | |
| ¾ x .035 | 19 x 0.90 | ▼ | ▼ |
| 1 x .035 | 27 x 0.90 | ▼ | ▼ |
| 1¼ x .042 | 34 x 1.10 | ▼ | ▼ |


## INDEPENDENCE EXS®

### HIGH PRODUCTION BI-METAL

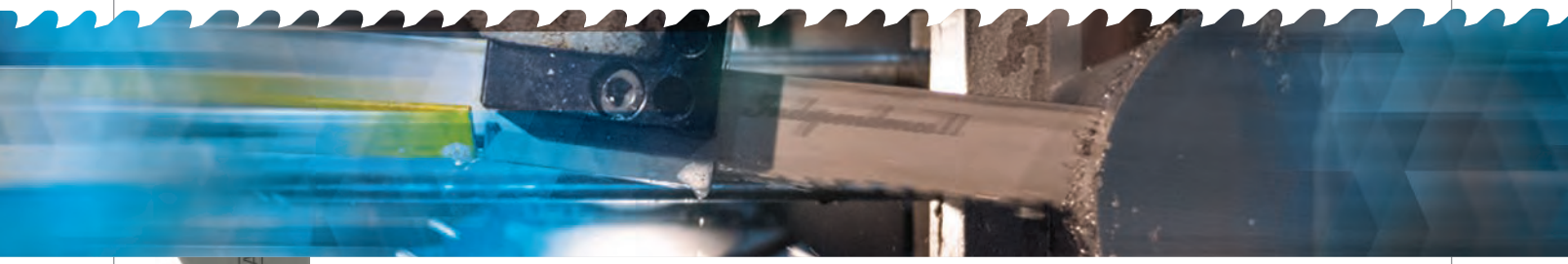
This premium blade is the best choice for high production solid applications.

**Users:** Steel service centers, production cutting fabrication shops, general manufacturing

**Applications:** High production cutting, large solids, stainless steels, exotics

| Feature | Benefit | Value |
|---|---|---|
| Unique tooth geometry | Superior wear, heat and shock resistance | Fewer blade changes<br>Reduced downtime |
| Premium materials – tooth edge and backer | Blade longevity | Increased productivity |

| Width x Thickness | | TPI | | | | |
|---|---|---|---|---|---|---|
| in | mm | 1/1.5 | 1.5/2 | 2/3 | 3/4 | 4/6 |
| | | Variable | | | | |
| 1 x .035 | 27 x 0.90 | | | ▼ | ▼ | ▼ |
| 1¼ x .042 | 34 x 1.10 | | | ▼ | ▼ | ▼ |
| 1½ x .050 | 41 x 1.30 | | ▼ | ▼ | ▼ | |
| 2 x .063 | 54 x 1.60 | ▼ | ▼ | ▼ | ▼ | |




## INDEPENDENCE II®

### HIGH PRODUCTION BI-METAL

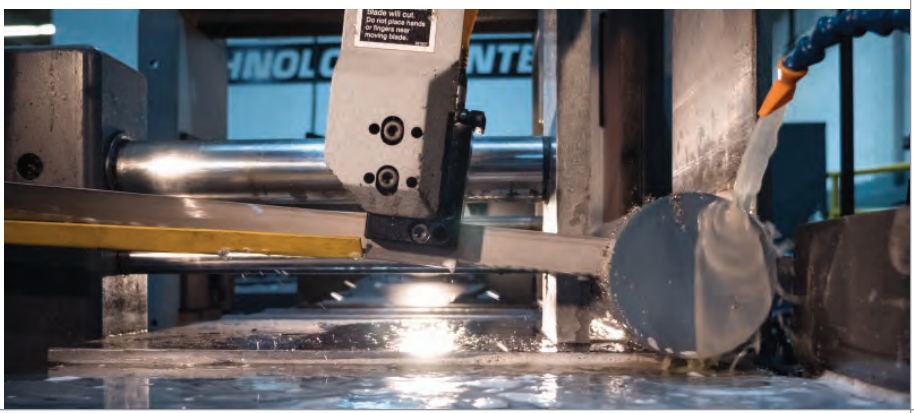
While cutting almost anything, this blade is highly fatigue-resistant to eliminate premature breakage.

**Users:** Steel service centers, production and job shops, fabrication shops, general manufacturing

**Applications:** High production cutting, solids of tool steel (A2, D2, S7, etc.), small to medium solids of stainless (304, 316, 17–4), nickel based alloys (Inconel, Monel), all machineable metals in single pieces or bundles

| Feature | Benefit | Value |
|---|---|---|
| Versatility | Cuts a variety of different materials to reduce blade changes | Increased production, efficiency |
| Premium materials – tooth edge and backer | Blade longevity | Increased productivity |

| Width x Thickness in | Width x Thickness mm | TPI 2/3 | TPI 3/4 | TPI 4/6 | TPI 5/7 |
|---|---|---|---|---|---|
| | | Variable | | | |
| 1 x .035 | 27 x 0.90 | ▼ | ▼ | ▼ | ▼ |
| 1¼ x .042 | 34 x 1.10 | ▼ | ▼ | ▼ | ▼ |
| 1½ x .050 | 41 x 1.30 | ▼ | ▼ | ▼ | ▼ |
| 2 x .063 | 54 x 1.60 | ▼ | ▼ | ▼ | ▼ |




MAVERICK™

## MAVERICK™ PRODUCTION

Featuring a patent pending blade design, Maverick performs in both production and job shop environments and is successful with the occasional structural workpiece.

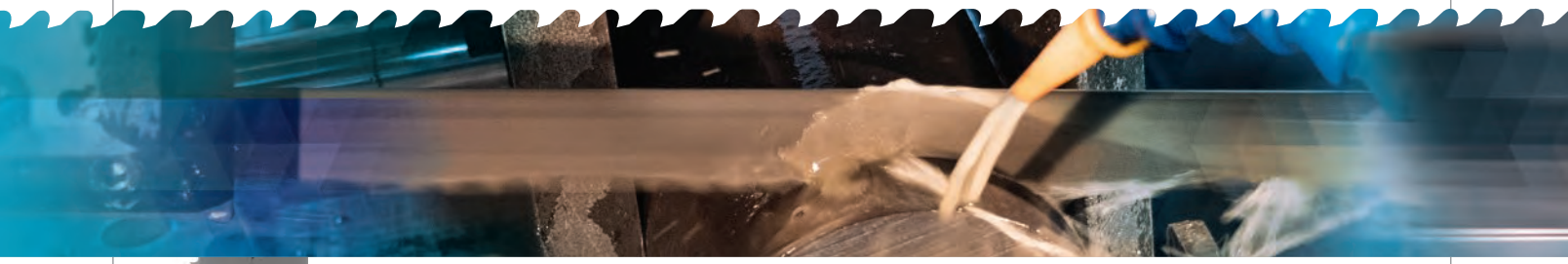
* Maverick is designed to optimize blade longevity at targeted speeds. Running Maverick at increased speeds may reduce blade life benefits.

**Users:** Production facilities, job shops, fabrication and steel service centers

**Application:** Mild steels, stainless steels, tool steels, occasional structural workpiece

| Feature | Benefit | Value |
|---|---|---|
| Longer blade life | Fewer blade changes<br>Reduced downtime | Increased productivity<br>Reduced cost per cut |
| Versatility | Reduced downtime and blade changes | Greater efficiency in the workplace |
| Blade harmonics | Energy concentrated on cutting | Reduced noise levels for operations<br>Better blade performance |

| Width x Thickness in | Width x Thickness mm | TPI .75/1.1 | 1.1/1.5 | 1.4/2.5 | 1.5/2 | 2/3 | 3/4 | 4/6 | 5/7 |
|---|---|---|---|---|---|---|---|---|---|
| | | Variable | | | | | | | |
| 1 x .035 | 27 x 0.90 | | | | | ▼ | ▼ | ▼ | ▼ |
| 1¼ x .042 | 34 x 1.10 | | | | | ▼ | ▼ | ▼ | ▼ |
| 1½ x .050 | 41 x 1.30 | | | ▼ | | ▼ | ▼ | ▼ | |
| 2 x .063 | 54 x 1.60 | | | ▼ | | ▼ | ▼ | | |
| 2 ⅝ x .063 | 67 x 1.60 | ▼ | ▼ | | ▼ | ▼ | ▼ | | |
| 3 x .063 | 80 x 1.60 | ▼ | ▼ | | | | | | |



THE MORSE ACHIEVER®

## THE MORSE ACHIEVER® PRODUCTION

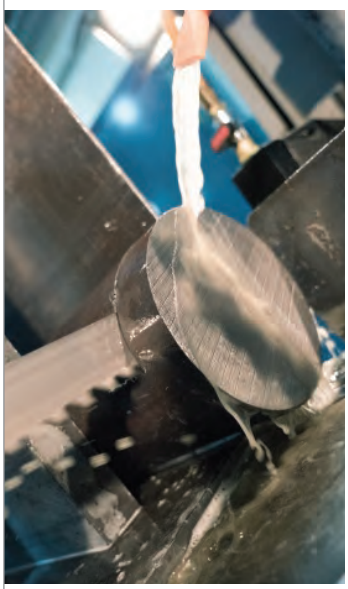
Consistently reliable with excellent durability in mild to difficult materials – layer and bundle cuts and large profiles and solids.

**Users:** Production and tool shops, fabrication

**Applications:** Production cutting, material range from carbon to stainless steel (1018, 4140, 4340, tool and stainless steels).

| Feature | Benefit | Value |
|---|---|---|
| 0° rake offering | Cuts structural applications/thin wall pieces | Handles vibration and interruptions; greater productivity |
| Finer tooth pitches | Cuts smaller diameter and thin walled materials | Product selection to match specific needs |

| Width x Thickness in | Width x Thickness mm | TPI 3/4 | 4/6 | 5/8 | 6/10 | 8/12 | 10/14 |
|---|---|---|---|---|---|---|---|
| | | Variable Pitch - 0° Rake | | | | | |
| 1 x .035 | 27 x 0.90 | | ▼ | ▼ | ▼ | ▼ | ▼ |
| 1¼ x .042 | 34 x 1.10 | ▼ | ▼ | | ▼ | | |




## CHALLENGER® STRUCTURAL

Long life and straight cuts with reduced vibration and noise when cutting structural material.

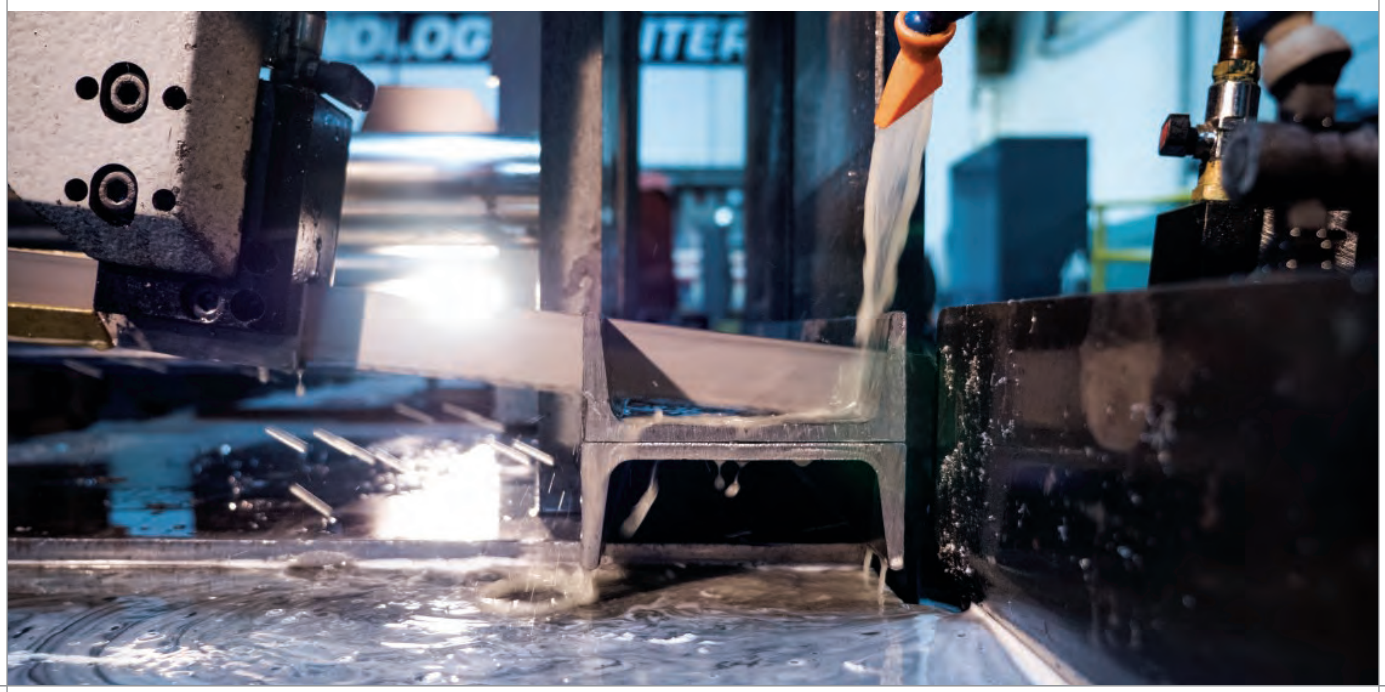
**Users:** Production and tool shops, metal service centers, steel structure fabricators

**Applications:** Bundle cuts, interrupted cuts, I-beams, low alloy steels, carbon steels (A36)

| Feature | Benefit | Value |
|---|---|---|
| Special tooth profile | Durability<br>Less tooth stripping | Blade longevity<br>Reduced blade changes |
| Increased beam strength | Straight interrupted and bundle cuts | No secondary operations |
| Less noise and vibration | Focused energy cutting | Increased productivity |

| Width x Thickness in | Width x Thickness mm | TPI 2/3 | 3/4 | 4/6 | 5/7 | 8/11 |
|---|---|---|---|---|---|---|
| | | Variable | | | | |
| ½ x .025 | 13 x 0.64 | | | | | ▼ |
| ¾ x .035 | 19 x 0.90 | | | | ▼ | ▼ |
| 1 x .035 | 27 x 0.90 | | ▼ | ▼ | ▼ | ▼ |
| 1¼ x .042 | 34 x 1.10 | | ▼▼ | ▼▼ | ▼ | ▼ |
| 1½ x .050 | 41 x 1.30 | ▼▼ | ▼▼ | ▼▼ | ▼ | ▼ |
| 2 x .063 | 54 x 1.60 | ▼▼ | ▼▼ | ▼▼ | | |
| 2 ⅝ x .063 | 67 x 1.60 | ▼▼ | ▼▼ | ▼ | | |

▼ Wide Kerf




## M42 PRODUCTION & MRO

Durability for higher production speeds on difficult to machine materials.

**Users:** Production, tool, fabrication, maintenance shops, specialty shops, steel service centers

**Application:** Solids, heavy walled structures, carbon steels, alloy steels, some stainless steels, medium-to-heavy production machines

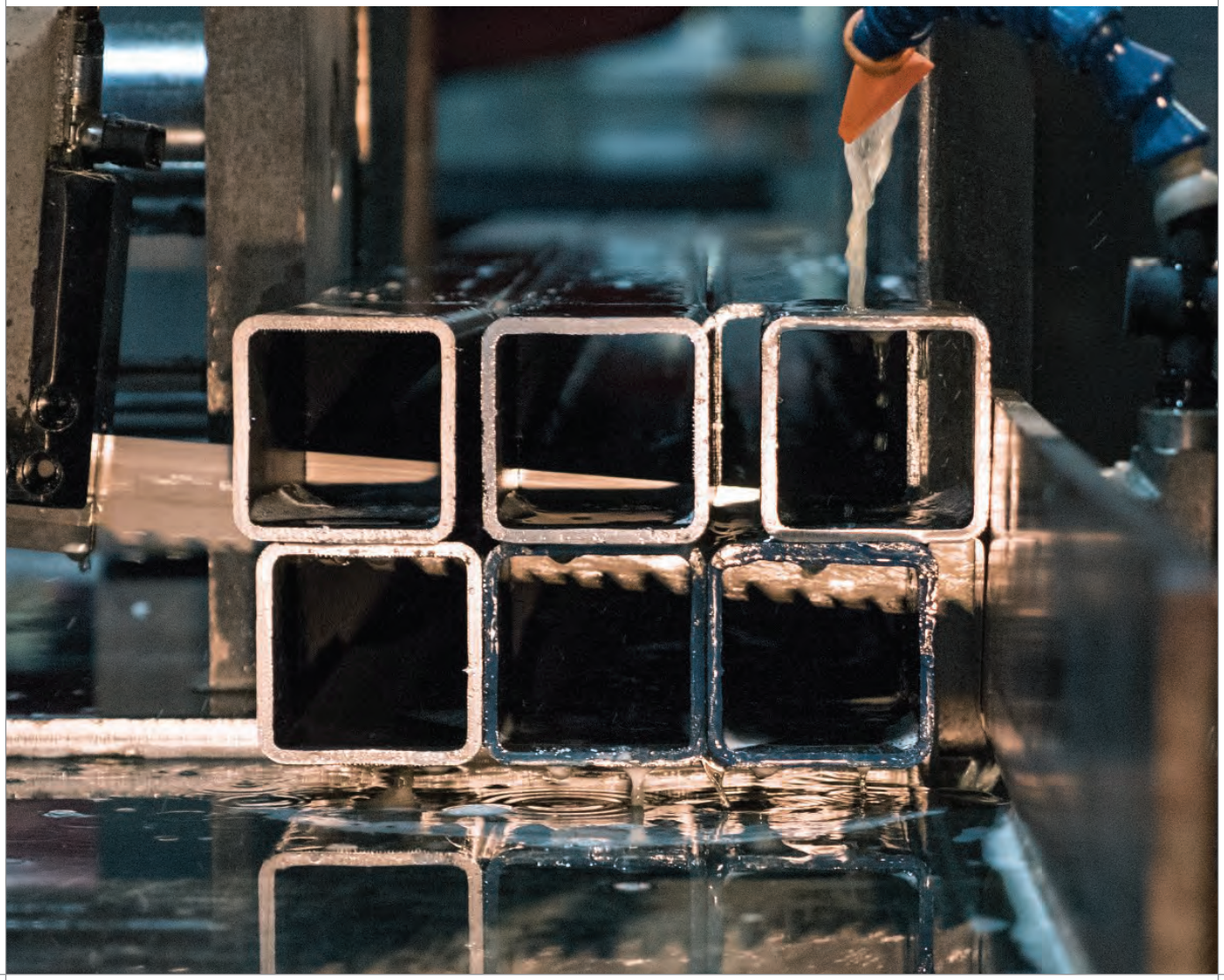
| Feature | Benefit | Value |
|---|---|---|
| Durability | Blade longevity | Reduced blade changes / Reduced downtime |
| Versatility | Cuts a variety of materials | Reduced blade changes / Increased productivity |
| Variable, straight tooth pitches | Address a variety of applications | Increased productivity |
| Positive rake offering | Used primarily to cut solids | Designed for optimal performance |
| 0° rake offering | Cuts structural and thin walled materials | Designed for optimal performance |
| Straight pitch, often finer tooth pitches | Cuts materials with consistent cross-sectional size ranges, thin materials, hand fed materials | Designed for optimal performance |

| Width x Thickness in | Width x Thickness mm | TPI 2/3 | 3/4 | 4/6 | 5/7 |
|---|---|---|---|---|---|
| | | Variable Pitch - Positive Rake | | | |
| ¾ x .035 | 19 x 0.90 | | | ▼ | |
| 1 x .035 | 27 x 0.90 | ▼ | ▼▼ | ▼▼ | ▼ |
| 1¼ x .042 | 34 x 1.10 | ▼ | ▼▼ | ▼▼ | ▼ |
| 1½ x .050 | 41 x 1.30 | ▼ | ▼▼ | ▼▼ | |
| 2 x .050 | 54 x 1.30 | | ▼ | | |
| 2 ⅝ x .063 | 67 x 1.60 | ▼ | ▼ | | |

▼ Available with 6° rake angle

| Width x Thickness in | Width x Thickness mm | TPI 3/4 | 4/6 | 5/8 | 6/10 | 8/12 | 10/14 |
|---|---|---|---|---|---|---|---|
| | | Variable Pitch - 0° Rake | | | | | |
| ¼ x .025 | 6 x 0.64 | | | | | | ▼ |
| ¼ x .035 | 6 x 0.90 | | | | | | ▼ |
| ½ x .025 | 13 x 0.64 | | | | | ▼ | |
| ½ x .035 | 13 x 0.90 | | | | | | ▼ |
| ¾ x .035 | 19 x 0.90 | | ▼ | ▼ | ▼ | ▼ | ▼ |
| 1 x .035 | 27 x 0.90 | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ |
| 1¼ x .042 | 34 x 1.10 | ▼ | ▼ | ▼ | | ▼ | |
| 1½ x .050 | 41 x 1.30 | ▼ | ▼ | ▼ | | | |

| Width x Thickness in | Width x Thickness mm | TPI 10 | TPI 14 | TPI 18 | TPI 1 | TPI 1.14 | TPI 2 | TPI 4 |
|---|---|---|---|---|---|---|---|---|
| | | Raker | | Wavy | Hook | | | |
| ¼ x .035 | 6 x 0.90 | ▼ | | | | | | |
| ⅜ x .035 | 9 x 0.90 | | | | | | | ▼ |
| ½ x .035 | 13 x 0.90 | | ▼ | | | | | ▼ |
| ¾ x .035 | 19 x 0.90 | | | ▼ | | | | |
| 1 x .035 | 27 x 0.90 | | | | | | ▼ | |
| 1¼ x .042 | 34 x 1.10 | | | | | ▼ | | |
| 2 x .050 | 54 x 1.30 | | | | ▼ | | | |



# MATRIX II

## MATRIX II PRODUCTION & MRO

Matrix II blades are ideal for cutting materials with easy to moderate machinability.

**Users:** Maintenance and fabricating shops

**Applications:** Carbon steels, structural steels – A36, single piece, bundles, stacked pieces, interrupted cuts (pipe and tubing, angle and channel, small and medium band saw machines)

| Feature | Benefit | Value |
|---|---|---|
| Large portfolio selection | Positive rake, 0°, or straight pitch available | Meets all of your needs |
| Variable pitch, positive rake | Cuts solids and reduces vibration | Provides optimal performance |
| Variable pitch, 0° | Cuts structural applications/thin wall pieces | Designed for optimal performance in specific applications |
| Straight pitch, finer tooth pitches | Cuts materials with consistent cross sectional size ranges, thin and hand fed materials | Designed for optimal performance in specific applications |

| Width x Thickness in | Width x Thickness mm | TPI 3/4 | TPI 4/6 |
|---|---|---|---|
| | | Variable Pitch - Positive Rake | |
| ¾ x .035 | 19 x 0.90 | ▼ | ▼ |
| 1 x .035 | 27 x 0.90 | ▼ | ▼ |
| 1¼ x .042 | 34 x 1.10 | | ▼ |

| Width x Thickness in | Width x Thickness mm | TPI 4/6 | 5/8 | 6/10 | 8/11 | 8/12 | 10/14 | 12/16 | 14/18 |
|---|---|---|---|---|---|---|---|---|---|
| | | Variable Pitch - 0° Rake | | | | | | | |
| ⅜ x .025 | 9 x 0.64 | | | | | | ▼ | | |
| ½ x .020 | 13 x 0.50 | | | | ▼ | | ▼ | ▼ | ▼ |
| ½ x .025 | 13 x 0.64 | | | ▼ | | ▼ | ▼ | | ▼ |
| ½ x .035 | 13 x 0.90 | | | | | | ▼ | | |
| ¾ x .035 | 19 x 0.90 | | | ▼ | | ▼ | ▼ | | |
| 1 x .035 | 27 x 0.90 | ▼ | ▼ | ▼ | | ▼ | ▼ | | |
| 1¼ x .042 | 34 x 1.10 | | ▼ | ▼ | | | | | |

| Width x Thickness in | Width x Thickness mm | Straight Pitch TPI 6 | 8 | 10 | 14 | 18 | 14 | 18 | 24 | 1.14 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Raker | | | | | Wavy | | | Hook | | |
| ⅜ x .025 | 9 x 0.64 | | | | | | | | | | | ▼ |
| ½ x .020 | 13 x 0.50 | | | ▼ | | ▼ | ▼ | ▼ | ▼ | | | |
| ½ x .025 | 13 x 0.64 | ▼ | | | ▼ | ▼ | | | | | ▼ | ▼ |
| ¾ x .035 | 19 x 0.90 | | ▼ | ▼ | ▼ | | | | | | ▼ | |
| 1 x .035 | 27 x 0.90 | | | | ▼ | | | | | | | |
| 1¼ x .042 | 34 x 1.10 | | | | | | | | | ▼ | | |


## M42 BI-METAL DIE BAND BLADES

Designed for cutting solids with very low machinability including the toughest machinable materials.

**Users:** Tool and Die shops, also vertical band saw machines

**Applications:** Die blocks, tool steels, "D" grade steels, "Super" alloys, Inconel, Waspalloy, Hastelloy, tough materials

| Feature | Benefit | Value |
|---|---|---|
| High heat and wear resistance | Production cutting ability | Fewer blade changes |
| Wide selection of blades | Tooth pitches, blade sizes to meet user needs | Increased productivity |
| Suited for difficult-to-cut materials | Versatility | Increased productivity |

| Width x Thickness in | Width x Thickness mm | TPI 8/12 | TPI 10/14 | TPI 10 | TPI 14 | TPI 4 |
|---|---|---|---|---|---|---|
| | | Variable | | Raker | | Hook |
| ¼ x .025 | 6 x 0.64 | | ▼ | | | |
| ¼ x .035 | 6 x 0.90 | | ▼ | ▼ | | |
| ⅜ x .035 | 9 x 0.90 | | | | | ▼ |
| ½ x .025 | 13 x 0.64 | ▼ | | | | |
| ½ x .035 | 13 x 0.90 | | ▼ | | ▼ | ▼ |


# MATRIX II

## MATRIX II BI-METAL DIE BAND BLADES

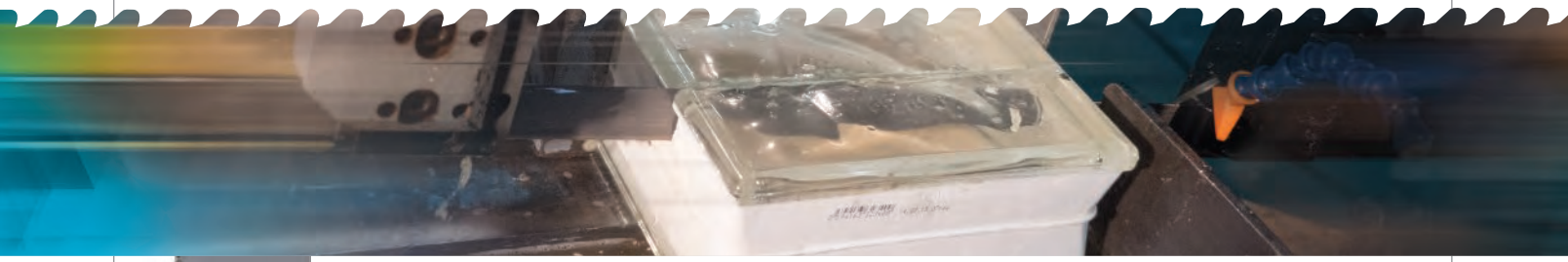
Designed for cutting solids with very low machinability including the toughest machinable materials.

**Users:** Tool and Die shops, and vertical band saw machines

**Applications:** Die blocks, tool steels, "D" grade steels, tough materials

| Feature | Benefit | Value |
|---|---|---|
| Economic option for low machinable materials | Blade durability | Low cost-per-cut<br>Reduced blade changes<br>Reduced downtime |
| Straight and variable tooth pitch options | Address a variety of applications | Increased productivity |
| High shock resistance | Better suited for thinner sections | Reduced blade changes<br>Increased productivity |

| Width x Thickness in | Width x Thickness mm | TPI 6/10 | TPI 8/12 | TPI 10/14 | TPI 14 | TPI 18 | TPI 4 |
|---|---|---|---|---|---|---|---|
| | | Variable | | | Raker | | Hook |
| ½ x .025 | 13 x 0.64 | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ |



TUNGSTEN CARBIDE GRIT

## TUNGSTEN CARBIDE GRIT

Ideal for cutting ceramics and other materials that are too hard or abrasive for standard bi-metal blades.

**Users:** Construction, glass and abrasive manufacturing, fabricators

**Applications:** Fiberglass, ceramics, cast iron, graphite, tires and wire reinforced rubber, cable and wire rope, brittle materials or surfaces that chip

| Feature | Benefit | Value |
|---|---|---|
| Very smooth finish | No secondary operations | Greater productivity |
| Reversible, superior wear resistance | Extends blade service life | Increased blade life |
| Two different cutting edges | Continuous – for<br>1) brittle materials<br>2) thin materials that chip (<1/4" or 6.4mm)<br>Gulleted – for<br>1) larger walled materials and (>1/4" (6.4mm) | Increased productivity for the specific applications |
| Different grit finishes | Medium – for<br>1) thin materials<br>2) fine finishes<br>Coarse – for<br>1) thick materials | |

| Width x Thickness | | Gulleted | | | Continuous | |
|---|---|---|---|---|---|---|
| | | Grit Type | | | Grit Type | |
| in | mm | Medium | Medium Coarse | Coarse | Medium | Coarse |
| ¼ x .020 | 6 x 0.50 | | | | ▼ | |
| ⅜ x .025 | 9 x 0.64 | ▼ | ▼ | | | |
| ½ x .025 | 13 x 0.64 | ▼ | ▼ | | ▼ | |
| ¾ x .032 | 19 x 0.80 | | ▼ | ▼ | | |
| 1 x .035 | 27 x 0.90 | | ▼ | ▼ | ▼ | ▼ |
| 1¼ x .042 | 34 x 1.10 | | | ▼ | | |

QUIKSILVER® CT

## CARBIDE TIPPED WOOD CUTTING

Specially designed for fine-finish wood cutting applications.

**Users:** Flooring production, mills, construction, fabricators, specialty shops

**Applications:** Hardwood flooring, millwork, musical tonewoods, MDF, other specialty wood cutting

| Feature | Benefit | Value |
|---|---|---|
| Triple chip tooth design | Smooth finish | Eliminates secondary operations like sanding |
| Carbide tipped | Long blade life | Increased productivity |
| Cuts hard exotic woods | Versatility in cutting materials | Blade flexibility |

| Width x Thickness | | TPI | |
|---|---|---|---|
| in | mm | .75/1 | 1.5/2.0 |
| **Carbide Tipped** | | **Variable** | |
| 1½ x .050 | 41 x 1.30 | | ▼ |
| 2 x .042 | 54 x 1.10 | ▼ | |

# WOOD BI-METAL

## QUIKSILVER® B1/B2

**B1** – Commonly used for softwood to semi-hard wood (Pine, ash, poplar)

**B2** – Commonly used for hard wood (Oak, walnut, cherry, maple)

## BI-METAL WOOD CUTTING

Designed for wood based material production cutting.

**Users:** Vertical and horizontal resaw machines, portable saw mills, contour cutting on vertical machines

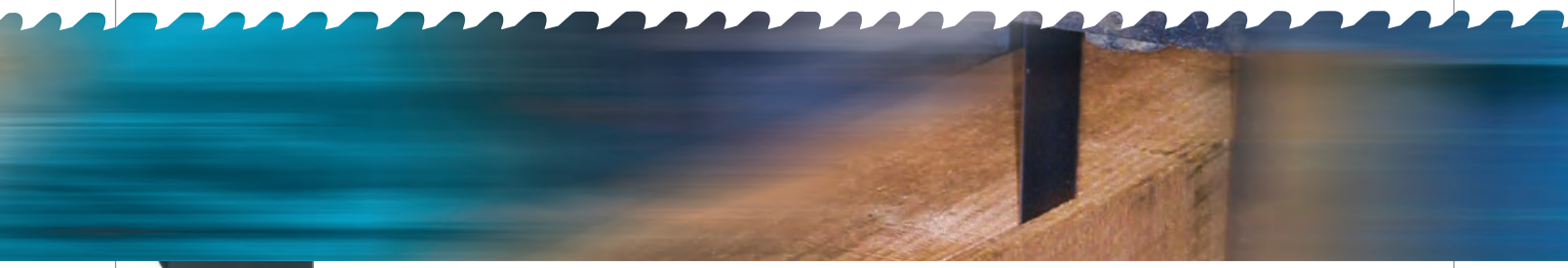
**Applications:** wood , Low alloy ferrous and non-ferrous metals

| Feature | Benefit | Value |
|---|---|---|
| Bi-metal construction | Longer lasting blade | Greater productivity |
| High heat and wear resistance | Increased blade life | Fewer blade changes, down time |
| B1 – blade for soft wood to semi-hard wood | Cuts Pine, Ash, Poplar | Designed for optimal performance in specific application |
| B2 – blade for hardwood | Cuts Oak, Walnut, Cherry, Maple | Designed for optimal performance in specific application |

| Width x Thickness | | TPI | | |
|---|---|---|---|---|
| in | mm | 5/8 | 1 | 1.14 |
| **Bi-Metal** | | **Variable** | **Hook** | |
| **QuikSilver B1 Production / Wood Mill** | | | | |
| 1¼ x .042 | 34 x 1.10 | ▼ | | ▼ |
| **QuikSilver B2 Production / Wood Mill** | | | | |
| 1¼ x .042 | 34 x 1.10 | | | ▼ |
| 2 x .050 | 54 x 1.30 | | ▼ | |

▼ 1.14 Hook = 7/8" (22mm) Tooth Spacing

# WOOD CARBON



## QUIKSILVER® HEF/HB

### HEF/HB WOOD MILL

Blades are manufactured from a single piece of high carbon steel with individually hardened tooth tips.

**Users:** Portable and stationary wood mills, single and multi-head resaw systems, Scragg mills

**Applications:** Wood cutting

| Feature | Benefit | Value |
|---|---|---|
| Flex back and hard back options | Customize blade to your needs | Meets all of your needs |
| Flex back blades are more fatigue resistant | Longer blade life | Increased productivity |
| Hard back blades are more rigid | Offers straighter cuts | Provides optimal performance |
| Can be resharpened | Longer tooth life | Increased blade life |

**Hard Edge Flex Back - (HEF)**

| Width x Thickness | | TPI | | |
|---|---|---|---|---|
| in | mm | 1.14 | 1.3 | 2 |
| | | Hook | | |
| 1 x .035 | 27x 0.90 | | ▼ | ▼ |
| 1¼ x .035 | 32 x 0.90 | | ▼ | |
| 1¼ x .042 | 32 x 1.10 | ▼▼ | ▼ | |
| 1½ x .045 | 38 x 1.10 | ▼ | | |
| 2 x .035 | 51 x 0.90 | | ▼ | |
| 2 x .042 | 51 x 1.10 | ▼ | | |

**Hard Edge Hard Back - (HB)**

| Width x Thickness | | TPI |
|---|---|---|
| in | mm | 1.3 |
| | | Hook |
| 1 x .035 | 27 x 0.90 | ▼ |
| 1¼ x .035 | 27 x 0.90 | ▼ |
| 1¼ x .042 | 32 x 1.10 | ▼ |

▼ Bright Finish

## QUIKSILVER® WMF/WMH

### QUIKSILVER® WOOD MILL

One-piece design to minimize blade fatigue.

**Users:** Wood cutting with increased fatigue resistance

**Applications:** Wood cutting

**Wood Mill Flex Back - (WMF)**

| Width x Thickness | | TPI | | |
|---|---|---|---|---|
| in | mm | 1.14 | 1.3 | 2 |
| | | Hook | | |
| 1 x .035 | 27 x 0.90 | | ▼ | ▼ |
| 1¼ x .042 | 32 x 1.10 | ▼ | ▼ | |

**Wood Mill Hard Back - (WMH)**

| Width x Thickness | | TPI | | |
|---|---|---|---|---|
| in | mm | 1.14 | 1.3 | 2 |
| | | Hook | | |
| 1 x .035 | 27 x 0.90 | | ▼ | ▼ |
| 1¼ x .042 | 32 x 1.10 | ▼ | ▼ | |
| 1½ x .045 | 38 x 1.10 | ▼ | | |
| 2 x .042 | 51 x 1.10 | ▼ | | |

## QUIKSILVER® FURNITURE BLADES

Blades offer faster cutting while maintaining precision required in the furniture industry.

**Users:** furniture industry, high-speed vertical cutting band saw machines

**Applications:** Used on large, vertical, high-speed wood cutting machines, wood, chip board, plywood, cardboard

| Feature | Benefit | Value |
|---|---|---|
| Special ETS (every tooth set) pattern or Hook / Raker pattern. Both with 10° hook tooth design | Longer tooth tip life | Faster cutting |
| Flexible backer | Fatigue resistance | Increased blade life |
| Single construction with hardened tooth tips | Longer blade life | Increased productivity |

| Width x Thickness | | TPI | | | | | |
|---|---|---|---|---|---|---|---|
| in | mm | 3 | 4 | 2 | 3 | 4 | 6 |
| | | Hook ETS | | Hook Raker Set | | | |
| ¼ x .025 | 6 x 0.64 | | | | | ▼ | ▼ |
| ⅜ x .025 | 9 x 0.64 | ▼ | | | ▼ | ▼ | ▼ |
| ⅜ x .032 | 9 x 0.80 | ▼ | ▼ | | | | |
| ½ x .025 | 13 x 0.64 | ▼ | | | ▼ | ▼ | ▼ |
| ½ x .032 | 13 x 0.80 | ▼ | ▼ | | | | |
| ¾ x .032 | 19 x 0.80 | ▼ | | ▼ | ▼ | ▼ | ▼ |

### Minimum radius cut for a given blade width

| Blade Width | | Minimum Radius | | Material Thickness 1″/25mm |
|---|---|---|---|---|
| in | mm | in | mm | |
| 1 | 25 | 7 ¼ | 184 | |
| ¾ | 19 | 5 7/16 | 138 | |
| ⅝ | 16 | 3 ¾ | 95 | |
| ½ | 13 | 2 ½ | 63 | |
| ⅜ | 10 | 1 ¼ | 32 | |
| ¼ | 6 | ⅝ | 16 | |
| 3/16 | 5 | ⅜ | 10 | |
| ⅛ | 3 | ¼ | 6 | |

## QUIKSILVER® HB HARD BACK BLADES

Stiffer blades offer straighter cuts in wood and metal cutting.

**Users:** Wood cutting, maintenance, short metal production

**Applications:** Blade speeds <4,000 sfm, wood, plastic, cork, composition board, plywood, low alloy, easy-to-machine ferrous metals, non-ferrous metals (brass/copper, bronze, aluminum, lead)

| Feature | Benefit | Value |
|---|---|---|
| Single construction with hardened tooth tips | Longer blade life | Increased productivity |
| Hardened and tempered backer | Straighter cuts with heavier feed pressure than flex back | Greater productivity and efficiency |

| Width x Thickness in | Width x Thickness mm | TPI 6 | 10 | 14 | 18 | 12 | 14 | 18 | 1.3 | 2 | 3 | 4 | 6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Raker | | | | Wavy | | | Hook | | | | |
| ¼ x .025 | 6 x 0.64 | | ▼ | ▼ | | | | | | | | ▼ | ▼ |
| ⅜ x .025 | 9 x 0.64 | | | ▼ | | | | | | | ▼ | ▼ | ▼ |
| ½ x .025 | 13 x 0.64 | ▼ | ▼ | ▼ | ▼ | | | ▼ | | | ▼ | ▼ | ▼ |
| ⅝ x .032 | 16 x 0.80 | | | | | | | | | | | ▼ | |
| ¾ x .032 | 19 x 0.80 | ▼ | ▼ | ▼ | | ▼ | ▼ | | | | ▼▼ | | |
| 1 x .035 | 27 x 0.90 | ▼ | ▼ | ▼ | | | | | ▼ | ▼ | ▼ | | |
| 1 x .042 | 27 x 1.10 | | | | | | | | ▼ | | | | |
| 1¼ x .042 | 32 x 1.10 | ▼ | | | | | | | ▼ | | | | |

▼ Standard Set - Regular Offset ▼ Wide Kerf Raker

QUIKSILVER® HEF

## QUIKSILVER® HEF FLEX BACK BLADES

Designed to be more fatigue resistant than carbon hard back blades.

**Users:** wood production, short metal production, maintenance, general purpose cutting

**Applications:** Blade speeds up to 15,000 sfm, wood, plastic, cork, composition board, plywood, aluminum, non-ferrous metals, low alloy steel

| Feature | Benefit | Value |
|---|---|---|
| Single construction with hardened tooth tips | Longer blade life | Increased productivity |
| More fatigue resistant than carbon hard back blades | Longer blade life | Optimal performance |

| Width x Thickness | | TPI | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| in | mm | 6 | 8 | 10 | 14 | 18 | 24 | 18 | 32 | 1.14 | 1.3 | 2 | 3 | 4 | 6 | 4 | 6 |
| | | Raker | | | | | | Wavy | | Hook | | | | | | Skip | |
| ⅛ x .025 | 3 x 0.64 | | | | ▼ | ▼ | | | | | | | | | | | |
| ¼ x .025 | 6 x 0.64 | | | ▼ | ▼ | ▼ | | | | | | | | ▼ | ▼ | ▼ | ▼ |
| ⅜ x .025 | 9 x 0.64 | | ▼ | ▼ | ▼ | ▼ | | | | | | | ▼ | ▼ | ▼ | ▼ | |
| ½ x .020 | 13 x 0.50 | | | ▼ | | | | | | | | | | | | | |
| ½ x .025 | 13 x 0.64 | ▼ | | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | | | | ▼▼ | ▼ | ▼ | ▼ | |
| ⅝ x .032 | 16 x 0.80 | | | | | | | | | | | | ▼ | ▼ | | | |
| ¾ x .032 | 19 x 0.80 | ▼ | | ▼ | ▼ | ▼ | | | | | | ▼ | ▼ | ▼ | ▼ | | |
| ¾ x .050 | 19 x 1.30 | | | | | | | | | | | ▼ | | | | | |
| 1 x .035 | 27 x 0.90 | | | | ▼ | | | | | | ▼ | ▼ | ▼ | ▼ | | | |
| 1¼ x .035 | 32 x 0.90 | | | | | | | | | | ▼ | | | | | | |
| 1¼ x .042 | 32 x 1.10 | | | | | | | | | ▼ | ▼ | | | | | | |
| 1¼ x .042 *Bright | 32 x 1.10 | | | | | | | | | ▼ | | | | | | | |
| 1½x .045 | 38 x 1.14 | | | | | | | | | ▼ | | | | | | | |
| 2 x .035 | 51 x 0.90 | | | | | | | | | | ▼ | | | | | | |
| 2 x .042 | 51 x 1.10 | | | | | | | | | ▼ | | | | | | | |

▼ Standard Set ▼ Wide Kerf

* “Bright” specifications have an unblued, silver surface finish.

# SPECIALTY PALLET

## QUIKSILVER® PALLET DISMANTLING

Specially designed to withstand the rough service required on dismantling machines while cutting through pallet nails and staples.

**Users:** Pallet dismantlers

**Applications:** All types of band saw pallet dismantling machines, wood with nails / staples

| Feature | Benefit | Value |
|---|---|---|
| Bi-metal options | Customize blades to your needs | Designed for optimal performance |
| Special grade carbon steel | Increased, rugged durability | Increased productivity |
| Straight or Variable pitch options available | Addresses various cutting needs | Provides optimal performance |

### M42 BI-METAL

| Width x Thickness | | TPI |
|---|---|---|
| in | mm | 5/8 |
| | | Variable |
| 1¼ x .042 | 32 x 1.10 | ▼ |

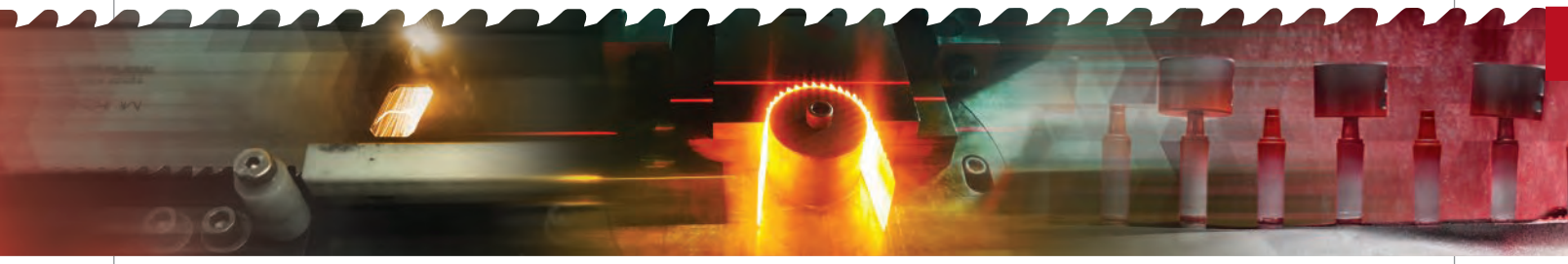
### MATRIX II BI-METAL

| Width x Thickness | | TPI |
|---|---|---|
| in | mm | 5/8 |
| | | Raker |
| 1¼ x .042 | 32 x 1.10 | ▼ |

### CARBON Hard Back (HB) Special

| Width x Thickness | | TPI | |
|---|---|---|---|
| in | mm | 5/7 | 5/8 |
| | | Variable | |
| 1¼ x .042 | 32 x 1.10 | ▼ | ▼ |

# BLADE PART NUMBERS



The M. K. Morse Company uses 10-digit band saw blade part numbers (with a "C" or "R" suffix for coils).

The first 6-digits of the part number identify the material and size specifications. The last 4-digits identify the length of the blade for both weld-to-length bands and coil stock.

The band saw blade part number reference chart below provides the same details we have in-house to configure the new part numbers. Customer Service at M. K. Morse will assist all band saw blade distributors with any cross referencing needed. If you have any questions, please contact your M. K. Morse Customer Service Representative.

## 1st and 2nd Digits — Material/Tooth Set Style

| Part # | Material Type | Set Style |
|---|---|---|
| 00 | M42 | Positive, 6° Rake |
| 10 | QS HEF Carbon | Hook Raker – Special Extra Heavy Set |
| 11 | QS HEF Carbon | Hook – Heavy Set |
| 13 | QS HEF Carbon | Hook - Double Set Raker |
| 14 | QS HEF Carbon | Wavy |
| 15 | QS HEF Carbon | Skip |
| 16 | QS HEF Carbon | Raker Or Variable Pitch |
| 17 | QS HEF Carbon | QuikSilver WMF - Hook |
| 18 | QS HEF Carbon | Hook |
| 19 | QS HEF Carbon | Hook ETS |
| 20 | QS HEF Carbon | Bright |
| 26 | QS HEF Carbon | Hook – Light Set |
| 30 | Matrix II | Positive Rake |
| 31 | Matrix II | Positive Rake – Heavy Set |
| 33 | Matrix II | 0° Rake - Heavy Set |
| 34 | Matrix II | Wavy |
| 36 | Matrix II | Raker |
| 38 | Matrix II | Hook |
| 39 | Matrix II | 0° Rake |
| 40 | M42 | Positive Rake |
| 41 | The Morse Achiever | 10° Positive Rake |
| 42 | M42 | 0° Rake |
| 43 | The Morse Achiever | 0° Rake |
| 46 | M42 | Raker |
| 47 | The Morse Achiever | Variable – 6° Positive Rake |
| 48 | M42 | Hook |
| 49 | The Morse Achiever | Heavy Set |
| 55 | Independence II | Variable Pitch |
| 57 | Independence EXS | Variable Pitch |
| 59 | QS Hard Back Carbon | Hook ETS |
| 61 | QS Hard Back Carbon | Hook – Heavy Set |
| 63 | QS Hard Back Carbon | Hook - Double Set Raker |
| 64 | QS Hard Back Carbon | Wavy |
| 65 | QS Hard Back Carbon | Skip |
| 66 | QS Hard Back Carbon | Raker Or Variable Pitch |
| 67 | QS Hard Back Carbon | QuikSilver WMH - Hook |
| 68 | QS Hard Back Carbon | Hook |
| 70 | Tun. Carbide Grit - Continuous | Medium |
| 71 | Tun. Carbide Grit - Continuous | Medium Coarse |
| 72 | Tun. Carbide Grit - Continuous | Coarse |
| 73 | Tun. Carbide Grit - Gulleted | Medium |
| 74 | Tun. Carbide Grit - Gulleted | Medium Coarse |
| 75 | Tun. Carbide Grit - Gulleted | Coarse |
| 78 | Maverick | Positive Rake |
| 80 | M-Factor - Carbide Tipped | Aluminum Foundry (FB+) |
| 81 | M-Factor - Carbide Tipped | Case Hardened (CH) |
| 82 | M-Factor - Carbide Tipped | General Purpose (GP) |
| 84 | M-Factor - Carbide Tipped | GES |
| 85 | M-Factor - Carbide Tipped | Foundry Set (FBS) |
| 86 | M-Factor - Carbide Tipped | GES Wide Set |
| 87 | Morse Jawbreaker | Large Difficult-to-cut Materials |
| 91 | Challenger | Positive Rake |
| 92 | Challenger | Heavy Set |
| GA | M-Factor - Carbide Tipped | Wood Production |

## 3rd and 4th Digits — Blade Width

| Part # | Width x Thickness |
|---|---|
| 10 | .25 x .014 |
| 11 | .375 x .014 |
| 20 | .25 x .020 |
| 21 | .50 x .020 |
| 30 | .125 x .025 |
| 31 | .1875 x .025 |
| 32 | .25 x .025 |
| 33 | .375 x .025 |
| 34 | .50 x .025 |
| 40 | .25 x .032 |
| 41 | .375 x .032 |
| 42 | .50 x .032 |
| 43 | .625 x .032 |
| 44 | .75 x .032 |
| 50 | .25 x .035 |
| 51 | .375 x .035 |
| 52 | .50 x .035 |
| 53 | .625 x .035 |
| 54 | .75 x .035 |
| 55 | 1 x .035 |
| 56 | 1.25 x .035 |
| 57 | 2 x .035 |
| 60 | 1 x .042 |
| 61 | 1.25 x .042 |
| 62 | 2 x .042 |
| 63 | 1.5 x .042 |
| 70 | 1.25 x .045 |
| 71 | 1.5 x .045 |
| 80 | .75 x .050 |
| 81 | 1.5 x .050 |
| 82 | 2 x .050 |
| 83 | 2 x .050** |
| 84 | 1.5 x .055 |
| 90 | 2 x .063 |
| 91 | 2.625 x .063 |
| 92 | 3 x .063 |

** Imperial Sized

## 5th and 6th Digits — Tooth Count

| Part # | TPI |
|---|---|
| 00 | Carbide Grit |
| 01 | 1 |
| 02 | 2 |
| 03 | 3 |
| 04 | 4 |
| 06 | 6 |
| 88 | 6 w/prot* |
| 08 | 8 |
| 10 | 10 |
| 12 | 12 |
| 13 | 10 / 14 |
| 14 | 14 |
| 15 | 12 / 16 |
| 16 | 14 / 18 |
| 18 | 18 |
| 22 | 20 / 24 |
| 23 | 2 / 3 |
| 24 | 24 |
| 32 | 32 |
| 34 | 3 / 4 |
| 46 | 4 / 6 |
| 57 | 5 / 7 |
| 58 | 5 / 8 |
| 89 | 5/8 w/prot* |
| 68 | 6 / 10 |
| 80 | 8 / 11 |
| 81 | 8 / 12 |
| 91 | .75 / 1.1 |
| 92 | 1.4 / 2.5 |
| 93 | 1.3 |
| 94 | 1.14 |
| 96 | 1.1 / 1.5 |
| 97 | 1 / 1.5 |
| 98 | 1.5 / 2 |

* with tooth protection

## 7th, 8th and 9th Digits — Blade Length

Number of feet multiplied by **12** plus additional inches. (Unless using Coil Stock. **Coil Length** (in feet) **+ C**) If a **RANDOM LENGTH** coil - use **000R**.

| 10th Digit | | Fraction of Inch/ Millimeter | |
|---|---|---|---|
| Part # | Inch Length | Part # | mm Length |
| 0 | Even Length | 0 | Even Length |
| 1 | 1/8″ | 1 | 3 |
| 2 | 1/4″ | 2 | 6.4 |
| 3 | 3/8″ | 3 | 9.5 |
| 4 | 1/2″ | 4 | 12.7 |
| 5 | 5/8″ | 5 | 16 |
| 6 | 3/4″ | 6 | 19 |
| 7 | 7/8″ | 7 | 22 |
| C | Coil Stock | C | Coil Stock |

## 7th, 8th and 9th Digits — Metric Band Length

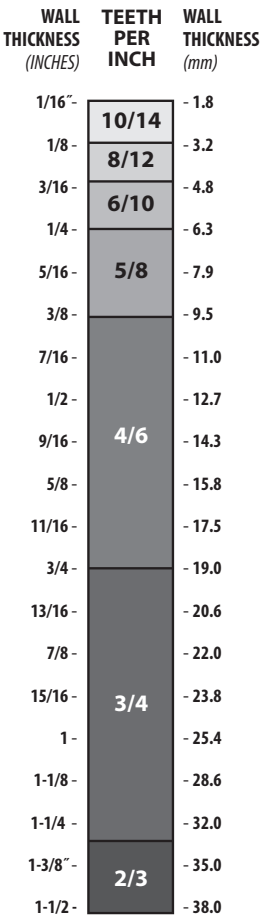
Number of millimeters multiplied by **.03937** equals total number of inches. (Unless using Coil Stock. **Coil Length** (in feet) **+ C**) If a **RANDOM LENGTH** coil - use **000R**.

| Example 1 | Previous Part # ZCTNGES23 | | | |
|---|---|---|---|---|
| Therefore: | M-Factor GES | 1.5 x .050 | 2/3 | 100' Coil |
| Is shown as: | **84** | **81** | **23** | **100C** |
| **New Part #** | **848123100C** | | | |


| EXAMPLE 2 | Previous Part # ZWEFH02M42HS | | | | |
|---|---|---|---|---|---|
| Therefore: | M42 Straight Pitch Heavy Set | 3/4 x .035 | 2 | 35' 8-1/2" | For 1/2", thus 4 |
| Is shown as: | **45** | **54** | **02** | **428** | **4** |
| **New Part #** | **4554024284** | | | (35 x 12 = 420) (420 + 8 = 428) | |

# TOOTH SELECTION GUIDE

| MATERAL SIZE (INCHES) | TEETH PER INCH | | | | | | | | | | | MATERAL SIZE (mm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30˝ | | | | | | | | | | | ■ | 762 |
| 25 | | | | | | | | | | | ■ | 635 |
| 20 | | | | | | | | | | | ■ | 508 |
| 15 | | | | | | | | | | ■ | ■ | 381 |
| 13 | | | | | | | | | | ■ | ■ | 330 |
| 11 | | | | | | | | | ■ | ■ | ■ | 279 |
| 9 | | | | | | | | ■ | ■ | ■ | ■ | 229 |
| 7 | | | | | | | ■ | ■ | ■ | ■ | ■ | 178 |
| 5 | | | | | | ■ | ■ | ■ | ■ | ■ | | 127 |
| 4.5 | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | 114 |
| 4 | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 102 |
| 3.5 | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 89 |
| 3 | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 76 |
| 2.75 | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 70 |
| 2.5 | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 64 |
| 2.25 | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 57 |
| 2 | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 51 |
| 1.75 | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 44 |
| 1.5 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 38 |
| 1.25 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 32 |
| 1 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 25 |
| 0.75 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 19 |
| 0.50 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 13 |
| 0.25 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 6 |
| | 14/18 | 10/14 | 8/12 | 6/10 | 5/8 | 4/6 | 3/4 | 2/3 | 1.4/2.5 | 1/1.5 | .75/1.0 | |




RECTANGLE SOLIDS (USE WIDTH)

ROUND SOLIDS (USE DIA.)

OHA

PIPE TUBING STRUCTURALS (USE WALL THICKNESS)

**Cutting Speeds (Structurals) Rule of Thumb**

**When cutting structurals use cutting speeds:**

**WET 250–325 S.F.M. | DRY 200–250 S.F.M.**

## Tooth Selection

**Cut costs with the right choice.**

For maximum cutting efficiency and lowest cost per cut, it is important to select the blade with the right number of teeth per inch (TPI) for the material being cut. The material size and shape dictate tooth selection.

## Consider this:

**(1) The width of the cut:**

That is, the distance in the cut that each tooth must travel from the point it enters the work piece until it leaves the work piece.

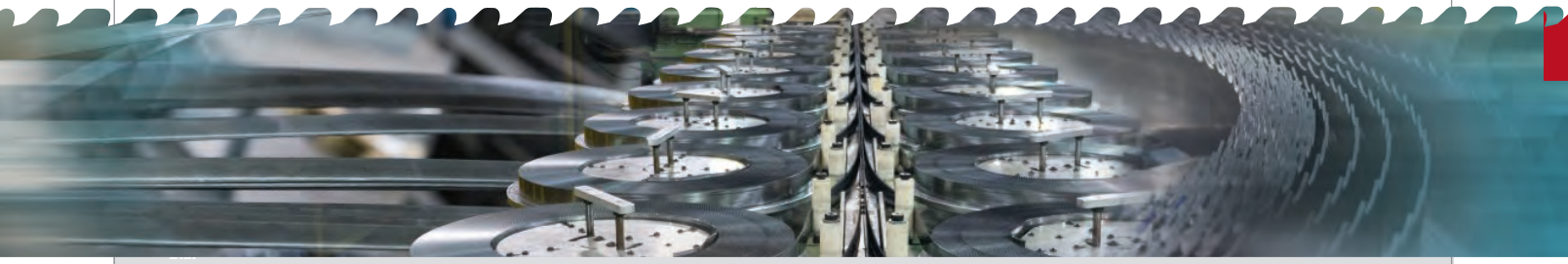
**(2) The shape of the work piece**

## Chart Usage

Select a pitch based on the chart above. Find material dimension on chart and move right/left for appropriate teeth per inch (TPI).

For angle, tubing, pipe, and other structural shapes, find the wall thickness in size column and move right/left for tooth size.

# GUARANTEED TRIAL PROGRAM



## GUARANTEED TRIAL INDUSTRIAL SAW BLADES

The M. K. Morse Company will provide weld-to-length industrial band saw blades or industrial circular saw blades as a "Guaranteed Trial Order" (GTO) for the purpose of user evaluation of performance. If the blade recommended by Morse or approved by Morse for the particular application fails to perform satisfactorily for the user, Morse will issue full credit for the invoice value of the blade upon the return of the blade to Morse. In all instances where Morse provides weld-to-length industrial band saw blades or industrial circular saw blades for trial and evaluation, a Morse sales representative will provide follow-up. Morse is confident in the ability of our blades to meet end users expectations for performance.

# BAND SAW MACHINE ACCESSORIES

## BAND SAW TENSION GAUGE

Allows you to quickly check for under-tensioned or over-tensioned blade conditions while the blade is on the machine.

**Users:** Band saw operators, technicians

**Applications:** Used to measure band saw tension on the band saw

**Model:** TENSIONGAUGE **Part:** 005005

| Feature | Benefit | Value |
|---|---|---|
| Offers proper blade tensioning | Calibrated gauge measuring in $lb/in^2$ and $kg/cm^2$ | Precise cutting results<br>Optimal blade life<br>Reduced machine damage from tensioning |
| Cast/powder coating and robust storage box | Durability of the unit and storage box | Maintains longevity of precision instrument |

# CUT TIME CALCULATOR

## Removal Rate - Square Inches Per Minute

| Bar Dia. | Bar Area, In² | 1 IN² /MIN | 2 IN² /MIN | 3 IN² /MIN | 4 IN² /MIN | 5 IN² /MIN | 6 IN² /MIN | 7 IN² /MIN | 8 IN² /MIN | 9 IN² /MIN | 10 IN² /MIN | 11 IN² /MIN | 12 IN² /MIN | 13 IN² /MIN | 14 IN² /MIN | 15 IN² /MIN | 16 IN² /MIN | 17 IN² /MIN | 18 IN² /MIN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Minutes Per Cut | | | | | | | | | | | | | | | | | | |
| 1.00 | 0.79 | .79 | .39 | .26 | .20 | .16 | .13 | .11 | .10 | .09 | .08 | .07 | .07 | .06 | .06 | .05 | .05 | .05 | .04 |
| 1.25 | 1.23 | 1.2 | .61 | .41 | .31 | .25 | .20 | .18 | .15 | .14 | .12 | .11 | .10 | .09 | .09 | .08 | .08 | .07 | .07 |
| 1.50 | 1.77 | 1.8 | .88 | .59 | .44 | .35 | .29 | .25 | .22 | .20 | .18 | .16 | .15 | .14 | .13 | .12 | .11 | .10 | .10 |
| 1.75 | 2.41 | 2.4 | 1.2 | .80 | .60 | .48 | .40 | .34 | .30 | .27 | .24 | .22 | .20 | .19 | .17 | .16 | .15 | .14 | .13 |
| 2.00 | 3.14 | 3.1 | 1.6 | 1.0 | .79 | .63 | .52 | .45 | .39 | .35 | .31 | .29 | .26 | .24 | .22 | .21 | .20 | .18 | .17 |
| 2.25 | 3.98 | 4.0 | 2.0 | 1.3 | 1.0 | .80 | .66 | .57 | .50 | .44 | .40 | .36 | .33 | .31 | .28 | .27 | .25 | .23 | .22 |
| 2.50 | 4.91 | 4.9 | 2.5 | 1.6 | 1.2 | 1.0 | .82 | .70 | .61 | .55 | .49 | .45 | .41 | .38 | .35 | .33 | .31 | .29 | .27 |
| 2.75 | 5.94 | 5.9 | 3.0 | 2.0 | 1.5 | 1.2 | 1.0 | .85 | .74 | .66 | .59 | .54 | .49 | .46 | .42 | .40 | .37 | .35 | .33 |
| 3.00 | 7.07 | 7.1 | 3.5 | 2.4 | 1.8 | 1.4 | 1.2 | 1.0 | .88 | .79 | .71 | .64 | .59 | .54 | .50 | .47 | .44 | .42 | .39 |
| 3.25 | 8.30 | 8.3 | 4.1 | 2.8 | 2.1 | 1.7 | 1.4 | 1.2 | 1.0 | .92 | .83 | .75 | .69 | .64 | .59 | .55 | .52 | .49 | .46 |
| 3.50 | 9.62 | 9.6 | 4.8 | 3.2 | 2.4 | 1.9 | 1.6 | 1.4 | 1.2 | 1.1 | 1.0 | .87 | .80 | .74 | .69 | .64 | .60 | .57 | .53 |
| 3.75 | 11.04 | 11.0 | 5.5 | 3.7 | 2.8 | 2.2 | 1.8 | 1.6 | 1.4 | 1.2 | 1.1 | 1.0 | .92 | .85 | .79 | .74 | .69 | .65 | .61 |
| 4.00 | 12.57 | 12.6 | 6.3 | 4.2 | 3.1 | 2.5 | 2.1 | 1.8 | 1.6 | 1.4 | 1.3 | 1.1 | 1.0 | 1.0 | .90 | .84 | .79 | .74 | .70 |
| 4.25 | 14.19 | 14.2 | 7.1 | 4.7 | 3.5 | 2.8 | 2.4 | 2.0 | 1.8 | 1.6 | 1.4 | 1.3 | 1.2 | 1.1 | 1.0 | .95 | .89 | .83 | .79 |
| 4.50 | 15.90 | 15.9 | 8.0 | 5.3 | 4.0 | 3.2 | 2.7 | 2.3 | 2.0 | 1.8 | 1.6 | 1.4 | 1.3 | 1.2 | 1.1 | 1.1 | 1.0 | .94 | .88 |
| 4.75 | 17.72 | 17.7 | 8.9 | 5.9 | 4.4 | 3.5 | 3.0 | 2.5 | 2.2 | 2.0 | 1.8 | 1.6 | 1.5 | 1.4 | 1.3 | 1.2 | 1.1 | 1.0 | 1.0 |
| 5.00 | 19.64 | 19.6 | 9.8 | 6.5 | 4.9 | 3.9 | 3.3 | 2.8 | 2.5 | 2.2 | 2.0 | 1.8 | 1.6 | 1.5 | 1.4 | 1.3 | 1.2 | 1.2 | 1.1 |
| 5.25 | 21.65 | 21.6 | 10.8 | 7.2 | 5.4 | 4.3 | 3.6 | 3.1 | 2.7 | 2.4 | 2.2 | 2.0 | 1.8 | 1.7 | 1.5 | 1.4 | 1.4 | 1.3 | 1.2 |
| 5.50 | 23.76 | 23.8 | 11.9 | 7.9 | 5.9 | 4.8 | 4.0 | 3.4 | 3.0 | 2.6 | 2.4 | 2.2 | 2.0 | 1.8 | 1.7 | 1.6 | 1.5 | 1.4 | 1.3 |
| 5.75 | 25.97 | 26.0 | 13.0 | 8.7 | 6.5 | 5.2 | 4.3 | 3.7 | 3.2 | 2.9 | 2.6 | 2.4 | 2.2 | 2.0 | 1.9 | 1.7 | 1.6 | 1.5 | 1.4 |
| 6.00 | 28.27 | 28.3 | 14.1 | 9.4 | 7.1 | 5.7 | 4.7 | 4.0 | 3.5 | 3.1 | 2.8 | 2.6 | 2.4 | 2.2 | 2.0 | 1.9 | 1.8 | 1.7 | 1.6 |
| 6.25 | 30.68 | 30.7 | 15.3 | 10.2 | 7.7 | 6.1 | 5.1 | 4.4 | 3.8 | 3.4 | 3.1 | 2.8 | 2.6 | 2.4 | 2.2 | 2.0 | 1.9 | 1.8 | 1.7 |
| 6.50 | 33.18 | 33.2 | 16.6 | 11.1 | 8.3 | 6.6 | 5.5 | 4.7 | 4.1 | 3.7 | 3.3 | 3.0 | 2.8 | 2.6 | 2.4 | 2.2 | 2.1 | 2.0 | 1.8 |
| 6.75 | 35.78 | 35.8 | 17.9 | 11.9 | 8.9 | 7.2 | 6.0 | 5.1 | 4.5 | 4.0 | 3.6 | 3.3 | 3.0 | 2.8 | 2.6 | 2.4 | 2.2 | 2.1 | 2.0 |
| 7.00 | 38.48 | 38.5 | 19.2 | 12.8 | 9.6 | 7.7 | 6.4 | 5.5 | 4.8 | 4.3 | 3.8 | 3.5 | 3.2 | 3.0 | 2.7 | 2.6 | 2.4 | 2.3 | 2.1 |
| 7.25 | 41.28 | 41.3 | 20.6 | 13.8 | 10.3 | 8.3 | 6.9 | 5.9 | 5.2 | 4.6 | 4.1 | 3.8 | 3.4 | 3.2 | 2.9 | 2.8 | 2.6 | 2.4 | 2.3 |
| 7.50 | 44.18 | 44.2 | 22.1 | 14.7 | 11.0 | 8.8 | 7.4 | 6.3 | 5.5 | 4.9 | 4.4 | 4.0 | 3.7 | 3.4 | 3.2 | 2.9 | 2.8 | 2.6 | 2.5 |
| 7.75 | 47.17 | 47.2 | 23.6 | 15.7 | 11.8 | 9.4 | 7.9 | 6.7 | 5.9 | 5.2 | 4.7 | 4.3 | 3.9 | 3.6 | 3.4 | 3.1 | 2.9 | 2.8 | 2.6 |
| 8.00 | 50.27 | 50.3 | 25.1 | 16.8 | 12.6 | 10.1 | 8.4 | 7.2 | 6.3 | 5.6 | 5.0 | 4.6 | 4.2 | 3.9 | 3.6 | 3.4 | 3.1 | 3.0 | 2.8 |
| 8.25 | 53.46 | 53.5 | 26.7 | 17.8 | 13.4 | 10.7 | 8.9 | 7.6 | 6.7 | 5.9 | 5.3 | 4.9 | 4.5 | 4.1 | 3.8 | 3.6 | 3.3 | 3.1 | 3.0 |
| 8.50 | 56.75 | 56.7 | 28.4 | 18.9 | 14.2 | 11.3 | 9.5 | 8.1 | 7.1 | 6.3 | 5.7 | 5.2 | 4.7 | 4.4 | 4.1 | 3.8 | 3.5 | 3.3 | 3.2 |
| 8.75 | 60.13 | 60.1 | 30.1 | 20.0 | 15.0 | 12.0 | 10.0 | 8.6 | 7.5 | 6.7 | 6.0 | 5.5 | 5.0 | 4.6 | 4.3 | 4.0 | 3.8 | 3.5 | 3.3 |
| 9.00 | 63.62 | 63.6 | 31.8 | 21.2 | 15.9 | 12.7 | 10.6 | 9.1 | 8.0 | 7.1 | 6.4 | 5.8 | 5.3 | 4.9 | 4.5 | 4.2 | 4.0 | 3.7 | 3.5 |
| 9.25 | 67.20 | 67.2 | 33.6 | 22.4 | 16.8 | 13.4 | 11.2 | 9.6 | 8.4 | 7.5 | 6.7 | 6.1 | 5.6 | 5.2 | 4.8 | 4.5 | 4.2 | 4.0 | 3.7 |
| 9.50 | 70.88 | 70.9 | 35.4 | 23.6 | 17.7 | 14.2 | 11.8 | 10.1 | 8.9 | 7.9 | 7.1 | 6.4 | 5.9 | 5.5 | 5.1 | 4.7 | 4.4 | 4.2 | 3.9 |
| 9.75 | 74.66 | 74.7 | 37.3 | 24.9 | 18.7 | 14.9 | 12.4 | 10.7 | 9.3 | 8.3 | 7.5 | 6.8 | 6.2 | 5.7 | 5.3 | 5.0 | 4.7 | 4.4 | 4.1 |
| 10.00 | 78.54 | 78.5 | 39.3 | 26.2 | 19.6 | 15.7 | 13.1 | 11.2 | 9.8 | 8.7 | 7.9 | 7.1 | 6.5 | 6.0 | 5.6 | 5.2 | 4.9 | 4.6 | 4.4 |

To find the area of bars larger than 10″ diameter use the formula "π(3.14) x radius²". Take half the diameter (radius) multiply it by itself. Then multiply that by 3.14. Example: 20″ bar.
Half the diameter is 10″. 10 x 10 = 100. 100 x 3.14 = 314 square inches.

* Specific speed/feed rates and cut times for all applications and blades can be found on the Morse Blade Wizard

BladeWizard.com

# BLADE SPEED/REMOVAL RATES

## For use with Bi-Metal Blades*

| Stock Dimensions Tooth Pitch | Up to 2" 5/7, 5/8, 4/6, 3/4 | | From 2" - 4" 4/6, 3/4 | | From 4" - 6" 3/4, 2/3 | | From 6" - 10" 1.4/2.5, 1.5/2 | | From 10" - 12" 1.4/2.5, 1.5/2 | | From 12" - 16" 1.0/1.5, 1.1/1.5, .75/1.0 | | From 16" - 20" 1.0/1.5, 1.1/1.5, .75/1.0 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material (Annealed) | Blade Speed (SFPM) | Cutting Rate (SIPM) | Blade Speed (SFPM) | Cutting Rate (SIPM) | Blade Speed (SFPM) | Cutting Rate (SIPM) | Blade Speed (SFPM) | Cutting Rate (SIPM) | Blade Speed (SFPM) | Cutting Rate (SIPM) | Blade Speed (SFPM) | Cutting Rate (SIPM) | Blade Speed (SFPM) | Cutting Rate (SIPM) |
| **Aluminum Alloys:** | | | | | | | | | | | | | | |
| 2024 - 5052 6061 - 7075 | 300 | 10 - 15 | 300 | 10 - 15 | 300 | 10 - 15 | 300 | 10 - 15 | 300 | 10 - 15 | 300 | 10 - 15 | 300 | 10 - 15 |
| **Copper Alloys** | | | | | | | | | | | | | | |
| CDA 220 | 250 | 8 - 12 | 230 | 7 - 11 | 220 | 7 - 11 | 210 | 6 - 10 | 200 | 5 - 9 | 180 | 4 - 8 | 150 | 4 - 8 |
| CDA 360 | 325 | 11 - 15 | 300 | 10 - 15 | 290 | 10 - 15 | 275 | 8 - 12 | 250 | 7 - 11 | 225 | 6 - 10 | 200 | 5 - 10 |
| Copper Nickel (30%) | 230 | 7 - 11 | 220 | 7 - 11 | 200 | 6 - 10 | 180 | 5 - 9 | 160 | 5 - 9 | 140 | 4 - 8 | 120 | 4 - 8 |
| Beryllium Copper | 180 | 5 - 9 | 170 | 5 - 9 | 160 | 4 - 8 | 140 | 4 - 8 | 130 | 3 - 7 | 120 | 3 - 7 | 110 | 3 - 7 |
| **Bronze Alloys** | | | | | | | | | | | | | | |
| AMPCO 18 | 200 | 5 - 9 | 180 | 5 - 9 | 170 | 4 - 8 | 150 | 4 - 8 | 140 | 4 - 8 | 130 | 4 - 8 | 120 | 3 - 7 |
| AMPCO 21 | 170 | 4 - 8 | 160 | 4 - 8 | 150 | 4 - 8 | 140 | 4 - 8 | 130 | 3 - 7 | 120 | 3 - 7 | 110 | 2 - 6 |
| AMPCO 25 | 120 | 2 - 6 | 110 | 2 - 6 | 100 | 2 - 6 | 100 | 1 - 5 | 90 | 1 - 5 | 80 | 1 - 5 | 70 | 1 - 5 |
| Leaded Tin Bronze | 320 | 10 - 15 | 300 | 10 - 15 | 280 | 10 - 15 | 260 | 7 - 11 | 220 | 5 - 9 | 200 | 4 - 8 | 180 | 4 - 8 |
| Aluminum Bronze 865 | 160 | 6 - 10 | 150 | 6 - 10 | 140 | 5 - 9 | 130 | 4 - 8 | 120 | 3 - 7 | 110 | 2 - 6 | 100 | 2 - 6 |
| Manganese Bronze | 230 | 7 - 11 | 220 | 7 - 11 | 210 | 6 - 10 | 190 | 6 - 10 | 170 | 5 - 9 | 150 | 4 - 8 | 140 | 3 - 7 |
| 932 | 300 | 10 - 14 | 290 | 10 - 14 | 270 | 9 - 13 | 250 | 6 - 10 | 220 | 5 - 9 | 200 | 5 - 9 | 160 | 4 - 8 |
| 937 | 270 | 8 - 12 | 250 | 8 - 12 | 240 | 7 - 11 | 210 | 6 - 10 | 200 | 5 - 9 | 180 | 5 - 9 | 160 | 4 - 8 |
| **Brass Alloys** | | | | | | | | | | | | | | |
| Cartridge / Red Brass (85%) | 240 | 9 - 13 | 220 | 8 - 12 | 210 | 8 - 12 | 200 | 7 - 11 | 180 | 6 - 10 | 160 | 4 - 10 | 140 | 4 - 10 |
| Naval Brass | 220 | 6 - 10 | 200 | 6 - 10 | 190 | 6 - 10 | 170 | 4 - 8 | 160 | 4 - 8 | 140 | 4 - 8 | 130 | 4 - 8 |
| **Carbon Steels** | | | | | | | | | | | | | | |
| 1008, 1013, 1015, 1018, 1035, 1045, 1048 | 300 | 11 - 15 | 280 | 10 - 14 | 260 | 10 - 14 | 240 | 8 - 12 | 220 | 6 - 10 | 200 | 6 - 10 | 180 | 4 - 8 |
| 1030 | 270 | 8 - 12 | 250 | 8 - 12 | 240 | 7 - 11 | 210 | 6 - 10 | 200 | 5 - 9 | 180 | 5 - 9 | 160 | 4 - 8 |
| 1060, 1065 | 230 | 7 - 11 | 220 | 7 - 11 | 210 | 6 - 10 | 190 | 6 - 10 | 170 | 5 - 9 | 150 | 4 - 8 | 140 | 3 - 7 |
| 1080, 1095 | 220 | 7 - 11 | 210 | 6 - 10 | 200 | 6 - 10 | 180 | 5 - 9 | 160 | 5 - 9 | 140 | 4 - 10 | 130 | 4 - 10 |
| **Free Machining Steels** | | | | | | | | | | | | | | |
| 1108, 1111, 1112, 1113, 1115, 1137, 1145, 1151, 1212, 1213 | 300 | 11 - 15 | 280 | 10 - 14 | 260 | 10 - 14 | 240 | 8 - 12 | 220 | 6 - 10 | 200 | 6 - 10 | 180 | 4 - 8 |
| 1215 | 350 | 12 - 16 | 330 | 12 - 16 | 310 | 12 - 16 | 290 | 10 - 14 | 280 | 8 - 12 | 260 | 8 - 12 | 240 | 6 - 10 |
| 12L14 | 380 | 12 - 16 | 360 | 12 - 14 | 340 | 12 - 14 | 320 | 10 - 14 | 300 | 8 - 12 | 260 | 8 - 12 | 230 | 6 - 10 |
| **Structural Steel** | | | | | | | | | | | | | | |
| A36 | 280 | 10 - 14 | 260 | 10 - 14 | 240 | 10 - 14 | 220 | 8 - 12 | 200 | 8 - 12 | 180 | 6 - 10 | 160 | 6 - 10 |
| **Manganese Steels** | | | | | | | | | | | | | | |
| 1320, 1330, 1345 | 270 | 8 - 12 | 250 | 8 - 12 | 240 | 7 - 11 | 210 | 6 - 10 | 200 | 5 - 9 | 180 | 5 - 9 | 160 | 4 - 8 |
| 1513, 1524, 1536 | 250 | 5 - 9 | 240 | 5 - 9 | 230 | 5 - 8 | 210 | 4 - 8 | 200 | 4 - 8 | 180 | 3 - 7 | 160 | 3 - 7 |
| 1541, 1572 | 220 | 7 - 11 | 210 | 6 - 10 | 200 | 6 - 10 | 180 | 5 - 9 | 160 | 5 - 9 | 140 | 4 - 10 | 130 | 4 - 10 |
| 1524 | 200 | 6 - 10 | 190 | 6 - 10 | 180 | 5 - 9 | 160 | 4 - 8 | 140 | 4 - 8 | 120 | 4 - 8 | 100 | 3 - 7 |
| **Molybdenum Steels** | | | | | | | | | | | | | | |
| 4017, 4024, 4032, 4042 | 270 | 8 - 12 | 250 | 8 - 12 | 240 | 7 - 11 | 210 | 6 - 10 | 200 | 5 - 9 | 180 | 5 - 9 | 160 | 4 - 8 |
| 4047, 4066 | 220 | 7 - 11 | 210 | 6 - 10 | 200 | 6 - 10 | 180 | 5 - 9 | 160 | 5 - 9 | 140 | 4 - 10 | 130 | 4 - 10 |
| **Chrome Moly Steels** | | | | | | | | | | | | | | |
| 4130, 4140, 41L50, 4150H | 250 | 5 - 9 | 240 | 5 - 9 | 230 | 5 - 8 | 210 | 4 - 8 | 200 | 4 - 8 | 180 | 3 - 7 | 160 | 3 - 7 |
| 4142, 4150 | 200 | 6 - 10 | 190 | 6 - 10 | 180 | 5 - 9 | 160 | 4 - 8 | 140 | 4 - 8 | 120 | 4 - 8 | 100 | 3 - 7 |
| **Chrome Alloy Steels** | | | | | | | | | | | | | | |
| 5045, 5046, 5120, 5135 | 250 | 5 - 9 | 240 | 5 - 9 | 230 | 5 - 8 | 210 | 4 - 8 | 200 | 4 - 8 | 180 | 3 - 7 | 160 | 3 - 7 |
| 5140, 5160, 6117, 6120 | 220 | 7 - 11 | 210 | 6 - 10 | 200 | 6 - 10 | 180 | 5 - 9 | 160 | 5 - 9 | 140 | 4 - 10 | 130 | 4 - 10 |
| 50100, 52100 | 180 | 5 - 9 | 170 | 5 - 9 | 160 | 5 - 9 | 150 | 4 - 8 | 130 | 4 - 8 | 120 | 3 - 7 | 100 | 3 - 7 |
| 6150 | 200 | 6 - 10 | 190 | 6 - 10 | 180 | 5 - 9 | 160 | 4 - 8 | 140 | 4 - 8 | 120 | 4 - 8 | 100 | 3 - 7 |
| **Nickel Chrome-Moly Steels** | | | | | | | | | | | | | | |
| 4317, 4320, 8615, 8620, 8627, 9747, 9763 | 230 | 7 - 11 | 220 | 7 - 11 | 210 | 6 - 10 | 190 | 6 - 10 | 170 | 5 - 9 | 150 | 4 - 8 | 140 | 3 - 7 |
| 4337, 4340 | 210 | 5 - 9 | 200 | 5 - 9 | 190 | 5 - 9 | 170 | 4 - 8 | 160 | 4 - 8 | 140 | 3 - 7 | 130 | 3 - 7 |
| 8630, 8640, 8645, 8647, 8660, 8715, 8750, 9437, 9445 | 200 | 6 - 10 | 190 | 6 - 10 | 180 | 5 - 9 | 160 | 4 - 8 | 140 | 4 - 8 | 120 | 4 - 8 | 100 | 3 - 7 |
| 9310, 9317 | 170 | 2 - 6 | 160 | 2 - 6 | 150 | 1 - 5 | 130 | 1 - 5 | 120 | 1 - 5 | 110 | 1 - 5 | 100 | 1 - 5 |
| 9840, 9850 | 220 | 7 - 11 | 210 | 6 - 10 | 200 | 6 - 10 | 180 | 5 - 9 | 160 | 5 - 9 | 140 | 4 - 10 | 130 | 4 - 10 |
| E9310 | 180 | 5 - 9 | 170 | 5 - 9 | 160 | 5 - 9 | 150 | 4 - 8 | 130 | 4 - 8 | 120 | 3 - 7 | 100 | 3 - 7 |
| **Nickel-Moly Steels** | | | | | | | | | | | | | | |
| 4608, 4621 | 220 | 7 - 11 | 210 | 6 - 10 | 200 | 6 - 10 | 180 | 5 - 9 | 160 | 5 - 9 | 140 | 4 - 10 | 130 | 4 - 10 |
| 4640 | 200 | 6 - 10 | 190 | 6 - 10 | 180 | 5 - 9 | 160 | 4 - 8 | 140 | 4 - 8 | 120 | 4 - 8 | 100 | 3 - 7 |
| 4812, 4820 | 180 | 5 - 9 | 170 | 5 - 9 | 160 | 5 - 9 | 150 | 4 - 8 | 130 | 4 - 8 | 120 | 3 - 7 | 100 | 3 - 7 |
| **Silicon Steels** | | | | | | | | | | | | | | |
| 9255, 9260 | 180 | 5 - 9 | 170 | 5 - 9 | 160 | 5 - 9 | 150 | 4 - 8 | 130 | 4 - 8 | 120 | 3 - 7 | 100 | 3 - 7 |
| 9261, 9262 | 170 | 2 - 6 | 160 | 2 - 6 | 150 | 1 - 5 | 130 | 1 - 5 | 120 | 1 - 5 | 110 | 1 - 5 | 100 | 1 - 5 |
| **Low Alloy Tool Steels** | | | | | | | | | | | | | | |
| L-6, L-7 | 180 | 5 - 9 | 170 | 5 - 9 | 160 | 5 - 9 | 150 | 4 - 8 | 130 | 4 - 8 | 120 | 3 - 7 | 100 | 3 - 7 |
| **Water-Hardening Tool Steels** | | | | | | | | | | | | | | |
| W-1 | 200 | 6 - 10 | 190 | 6 - 10 | 180 | 5 - 9 | 160 | 4 - 8 | 140 | 4 - 8 | 120 | 4 - 8 | 100 | 3 - 7 |

* Reduce speeds by 50% for carbon blades. For carbide tipped blades, ask your Morse sales contact.

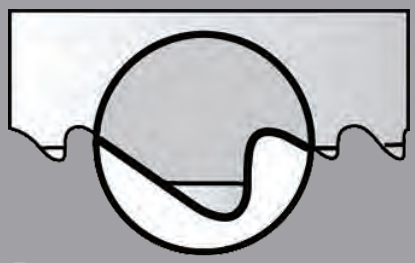
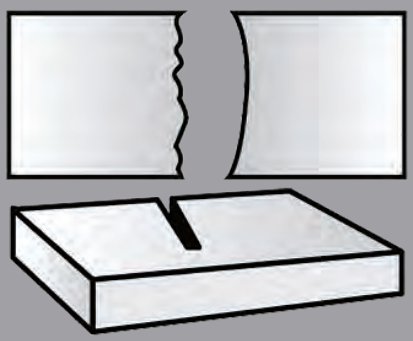
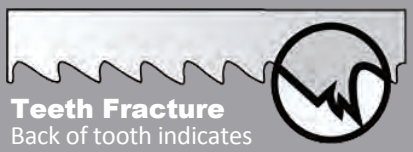
# For use with Bi-Metal Blades*

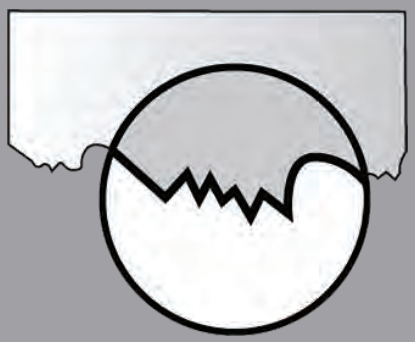
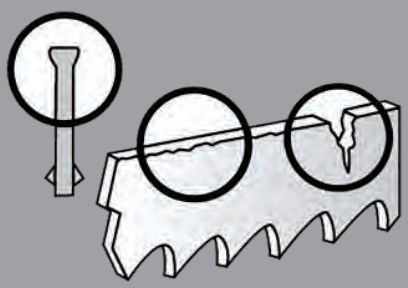
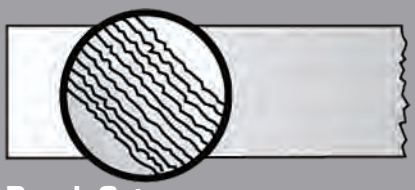
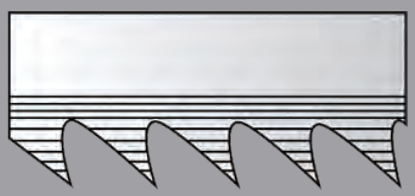
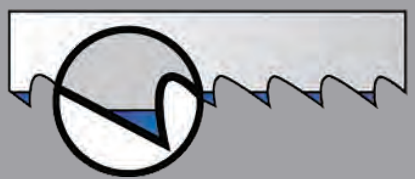
| Stock Dimensions<br>Tooth Pitch | Up to 2"<br>5/7, 5/8, 4/6, 3/4 | | From 2" - 4"<br>4/6, 3/4 | | From 4" - 6"<br>3/4, 2/3 | | From 6" - 10"<br>1.4/2.5, 1.5/2 | | From 10" - 12"<br>1.4/2.5, 1.5/2 | | From 12" - 16"<br>1.0/1.5, 1.1/1.5, .75/1.0 | | From 16" - 20"<br>1.0/1.5, 1.1/1.5, .75/1.0 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material (Annealed) | Blade Speed (SFPM) | Cutting Rate (SIPM) | Blade Speed (SFPM) | Cutting Rate (SIPM) | Blade Speed (SFPM) | Cutting Rate (SIPM) | Blade Speed (SFPM) | Cutting Rate (SIPM) | Blade Speed (SFPM) | Cutting Rate (SIPM) | Blade Speed (SFPM) | Cutting Rate (SIPM) | Blade Speed (SFPM) | Cutting Rate (SIPM) |
| **Die Steels** | | | | | | | | | | | | | | |
| D-2, D-3 | 100 | 1 - 5 | 90 | 1 - 5 | 90 | 1 - 5 | 80 | 1 - 5 | 70 | 1 - 5 | 70 | 1 - 5 | 60 | 1 - 5 |
| D-7 | 80 | 1 - 5 | 70 | 1 - 5 | 60 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 |
| A-2 | 180 | 4 - 8 | 170 | 4 - 8 | 160 | 4 - 8 | 150 | 4 - 8 | 130 | 3 - 7 | 110 | 3 - 7 | 100 | 2 - 6 |
| A-6 | 140 | 2 - 6 | 130 | 2 - 6 | 130 | 2 - 6 | 120 | 1 - 5 | 110 | 1 - 5 | 100 | 1 - 5 | 90 | 1 - 5 |
| A-10 | 110 | 2 - 6 | 100 | 2 - 6 | 100 | 2 - 6 | 90 | 2 - 6 | 80 | 2 - 6 | 70 | 2 - 6 | 60 | 2 - 6 |
| O-1, O-2, O-6 | 250 | 5 - 9 | 240 | 5 - 9 | 230 | 5 - 8 | 210 | 4 - 8 | 200 | 4 - 8 | 180 | 3 - 7 | 160 | 3 - 7 |
| **Hot Work Tool Steels** | | | | | | | | | | | | | | |
| H-11, H12, H-13, H-13 Mod, H21 | 150 | 2 - 6 | 140 | 2 - 6 | 130 | 2 - 6 | 120 | 1 - 5 | 110 | 1 - 5 | 100 | 1 - 5 | 90 | 1 - 5 |
| H-22, H-24 H-25 | 100 | 1 - 5 | 90 | 1 - 5 | 90 | 1 - 5 | 80 | 1 - 5 | 70 | 1 - 5 | 60 | 1 - 5 | 50 | 1 - 5 |
| **High Speed Tool Steels** | | | | | | | | | | | | | | |
| M-1 | 140 | 2 - 6 | 130 | 2 - 6 | 130 | 2 - 6 | 120 | 1 - 5 | 110 | 1 - 5 | 100 | 1 - 5 | 90 | 1 - 5 |
| M-2, M-3, M-10 | 110 | 2 - 6 | 100 | 2 - 6 | 100 | 2 - 6 | 90 | 2 - 6 | 80 | 2 - 6 | 70 | 2 - 6 | 60 | 2 - 6 |
| M-4, M-42 , T-1 | 100 | 1 - 5 | 90 | 1 - 5 | 90 | 1 - 5 | 80 | 1 - 5 | 70 | 1 - 5 | 60 | 1 - 5 | 50 | 1 - 5 |
| T-15 | 80 | 1 - 5 | 70 | 1 - 5 | 60 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 |
| **Mold Steels** | | | | | | | | | | | | | | |
| P-3 | 190 | 5 - 9 | 180 | 5 - 9 | 170 | 5 - 9 | 150 | 4 - 8 | 140 | 4 - 8 | 130 | 4 - 8 | 120 | 3 - 7 |
| P-20 | 180 | 4 - 8 | 170 | 4 - 8 | 160 | 4 - 8 | 150 | 3 - 7 | 140 | 3 - 7 | 130 | 3 - 7 | 110 | 2 - 6 |
| **Shock Resistant Tool Steels:** | | | | | | | | | | | | | | |
| S-1, S-7 | 180 | 4 - 8 | 170 | 4 - 8 | 160 | 4 - 8 | 150 | 4 - 8 | 130 | 3 - 7 | 110 | 3 - 7 | 100 | 2 - 6 |
| S-2, S-5 | 150 | 2 - 6 | 140 | 2 - 6 | 130 | 2 - 6 | 120 | 1 - 5 | 110 | 1 - 5 | 100 | 1 - 5 | 90 | 1 - 5 |
| **Stainless Steels:** | | | | | | | | | | | | | | |
| 201, 202, 302, 304, 321, 347 | 110 | 2 - 6 | 100 | 2 - 6 | 100 | 2 - 6 | 90 | 2 - 6 | 80 | 2 - 6 | 70 | 2 - 6 | 60 | 2 - 6 |
| 303,303F | 120 | 2 - 6 | 110 | 2 - 6 | 100 | 2 - 6 | 100 | 1 - 5 | 90 | 1 - 5 | 80 | 1 - 5 | 70 | 1 - 5 |
| 308, 309, 310, 330, 430, 446 | 80 | 1 - 5 | 70 | 1 - 5 | 60 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 |
| 314, 316, 317, 440 A, 440 B, 440 C, 17-4 PH, 15-5 PH | 100 | 1 - 5 | 90 | 1 - 5 | 90 | 1 - 5 | 80 | 1 - 5 | 70 | 1 - 5 | 60 | 1 - 5 | 50 | 1 - 5 |
| 410, 420, 420F, 440 F, 443 | 140 | 2 - 6 | 130 | 2 - 6 | 130 | 2 - 6 | 120 | 1 - 5 | 110 | 1 - 5 | 100 | 1 - 5 | 90 | 1 - 5 |
| 416, 430F | 180 | 4 - 8 | 170 | 4 - 8 | 160 | 4 - 8 | 150 | 3 - 7 | 140 | 3 - 7 | 130 | 3 - 7 | 110 | 2 - 6 |
| **Nickel Alloys** | | | | | | | | | | | | | | |
| 2317 | 190 | 5 - 9 | 180 | 5 - 9 | 170 | 5 - 9 | 150 | 4 - 8 | 140 | 4 - 8 | 130 | 4 - 8 | 120 | 3 - 7 |
| 2330, 2345 | 170 | 2 - 6 | 160 | 2 - 6 | 150 | 1 - 5 | 130 | 1 - 5 | 120 | 1 - 5 | 110 | 1 - 5 | 100 | 1 - 5 |
| 2512, 2517, Monel R | 140 | 2 - 6 | 130 | 2 - 6 | 130 | 2 - 6 | 120 | 1 - 5 | 110 | 1 - 5 | 100 | 1 - 5 | 90 | 1 - 5 |
| Monel, Inconel 625, Inconel 718, Nimonic 90, NI-SPAN-C 962 Rene 41 | 100 | 1 - 5 | 90 | 1 - 5 | 90 | 1 - 5 | 80 | 1 - 5 | 70 | 1 - 5 | 60 | 1 - 5 | 50 | 1 - 5 |
| Monel K-500, Monel KR, Inconel 600, Hastelloy B, Waspalloy, Nimonic 75, Rene 88 | 80 | 1 - 5 | 70 | 1 - 5 | 60 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 |
| Duranickel | 60 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 |
| **Titanium Alloys** | | | | | | | | | | | | | | |
| TI-4 AL-4 MO, TI-140 A, 2CR-2M0 TI-150 A, MST-GAL 4V | 80 | 1 - 5 | 70 | 1 - 5 | 60 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 | 50 | 1 - 5 |
| CP Titanium TI-6AI-4V 99% PURE TITANIUM | 100 | 1 - 5 | 90 | 1 - 5 | 90 | 1 - 5 | 80 | 1 - 5 | 70 | 1 - 5 | 60 | 1 - 5 | 50 | 1 - 5 |
| **Cast Iron** | | | | | | | | | | | | | | |
| A536 (120-90-02) | 200 | 6 - 10 | 190 | 6 - 10 | 180 | 5 - 9 | 160 | 4 - 8 | 140 | 4 - 8 | 120 | 4 - 8 | 100 | 3 - 7 |
| A536 (60-40-18), A48 (Class 20-20ksi), A48 (Class 40-40ksi), A48 (Class 60-60ksi) | 250 | 5 - 9 | 240 | 5 - 9 | 230 | 5 - 8 | 210 | 4 - 8 | 200 | 4 - 8 | 180 | 3 - 7 | 160 | 3 - 7 |

* Specific speed/feed rates and cut times for all applications and blades can be found on the Morse Blade Wizard

BladeWizard.com

# BLADE PROBLEM SOLVING

| Problem | Problem Cause | Solution |
|---|---|---|
|  **Premature Blade Breakage** Straight Break indicates fatigue | ▼ Incorrect tooth pitch<br>▼ Blade tension incorrect<br>▼ Side guides too tight<br><br>▼ Damaged or misadjusted blade guides<br>▼ Excessive feed/force<br>▼ Incorrect cutting fluid<br>▼ Wrong blade size for _____<br>▼ Blade rubbing on wheel flanges<br>▼ Teeth in contact with work before starting saw<br>▼ Incorrect blade speed | ▼ Use correct tooth pitch<br>▼ Check blade tension with Band Tension Gauge<br>▼ Check side guide clearance (see machine manual)<br>▼ Check all guides for alignment/damage<br>▼ Reduce feed pressure/force<br>▼ Check coolant/refract<br>▼ Use correct size blade<br>▼ Adjust wheel alignment<br>▼ Allow clearance before starting cut<br><br>▼ Increase or decrease blade speed |
|  **Premature Dulling of Teeth** | ▼ Teeth pointing in wrong direction / blade mounted backwards<br>▼ Improper or no blade break-in<br>▼ Hard spots in material<br><br>▼ Material work hardened<br>▼ Improper coolant<br>▼ Improper coolant concentration<br>▼ Speed too high<br>▼ Feed too light<br>▼ Improper tooth count | ▼ Install blade correctly. If teeth are facing the wrong direction, flip blade inside out<br>▼ Break in blade properly (Page 10)<br>▼ Check for hardness or hard spots like scale or flame cut areas<br>▼ Increase feed rate<br>▼ Check coolant type<br>▼ Check coolant/refract<br>▼ Check recommended blade speed<br>▼ Increase feed rate<br>▼ Select proper tooth size |
|  **Crooked or Out of Square Cuts** | ▼ Tooth set damage<br>▼ Excessive feed pressure/force<br>▼ Improper tooth size<br>▼ Cutting fluid not applied evenly<br>▼ Guides worn or loose<br><br>▼ Insufficient blade tension<br>▼ Guide arms loose or set too far apart<br><br>▼ Chips not being cleaned from gullets | ▼ Check for worn set on one side of blade<br>▼ Reduce feed pressure/force<br>▼ Check tooth size chart (Page 33)<br>▼ Check coolant nozzles<br>▼ Tighten or replace guides, check for proper alignment<br>▼ Adjust to recommended tension<br>▼ Position arms as close to work as possible. Tighten arms.<br>▼ Check chip brush |
|  **Chip Welding** | ▼ Insufficient coolant flow<br>▼ Wrong coolant concentration<br>▼ Excessive speed and/or pressure<br>▼ Tooth size too small<br>▼ Chip brush not working | ▼ Check coolant level and flow<br>▼ Check coolant ratio/refract<br>▼ Reduce speed and/or pressure<br>▼ Use coarser tooth pitch<br>▼ Repair or replace chip brush |
|  **Teeth Fracture** Back of tooth indicates work spinning in clamps | ▼ Incorrect speed and/or feed<br>▼ Incorrect tooth pitch<br>▼ Saw guides not adjusted properly<br>▼ Chip brush not working<br>▼ Work spinning or moving in vise | ▼ Check cutting chart (Page 34-35)<br>▼ Check tooth size chart (Page 33)<br>▼ Adjust or replace saw guides<br>▼ Repair or replace chip brush<br>▼ Check bundle configuration/adjust vise pressure |
|  **Irregular Break** Indicates material movement | ▼ Indexing out of sequence<br>▼ Material loose in vise | ▼ Check proper machine movement<br>▼ Check vise or clamp |

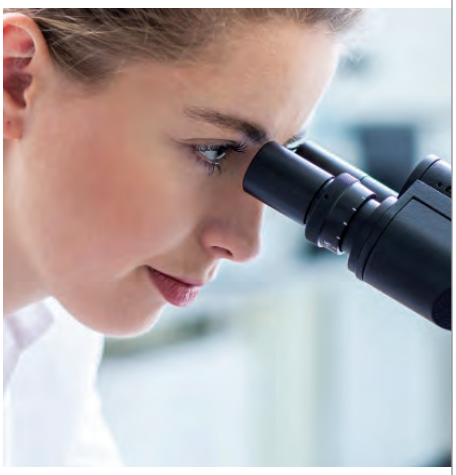
| Problem | Problem Cause | Solution |
|---|---|---|
|  **Teeth Stripping** | ▼ Feed pressure too high<br>▼ Tooth stuck in cut<br>▼ Improper or insufficient coolant<br>▼ Incorrect tooth size<br>▼ Hard spots in material<br>▼ Work spinning in vise - loose nest or bundle<br>▼ Blade speed too slow<br>▼ Blade teeth running backwards<br>▼ Chip brush not working | ▼ Reduce feed pressure<br>▼ Do not enter old cut with a new blade<br>▼ Check coolant flow and concentration/refract<br>▼ Check tooth size chart (Page 33)<br>▼ Check material for hard inclusions<br>▼ Check clamping pressure - be sure work is held firmly<br>▼ Increase blade speed<br>▼ Reverse blade (turn inside out)<br>▼ Repair or replace chip brush |
|  **Wear on Back of Blades** | ▼ Excessive feed pressure<br>▼ Insufficient blade tension<br>▼ Back-up guide frozen, damaged, or worn<br>▼ Blade rubbing on wheel flange | ▼ Decrease feed pressure<br>▼ Increase blade tension and readjust guides<br>▼ Repair or replace back-up guide<br>▼ Adjust wheel alignment |
|  **Rough Cut**<br>Washboard surface vibration and or chatter | ▼ Dull or damaged blade<br>▼ Incorrect speed or feed<br>▼ Insufficient blade support<br>▼ Incorrect tooth pitch<br>▼ Insufficient coolant | ▼ Replace with new blade<br>▼ Use correct speed and feed<br>▼ Move guide arms as close as possible to the work<br>▼ Use finer pitch blade<br>▼ Check coolant flow |
|  **Wear Lines, Loss of Set** | ▼ Saw guide inserts or wheel flange are riding on teeth<br>▼ Insufficient blade tension<br>▼ Hard spots in material<br>▼ Back-up guide worn | ▼ Check machine manual for correct blade width<br>▼ Tension blade properly<br>▼ Check material for inclusions<br>▼ Replace guide |
|  **Twisted Blade**<br>Profile sawing | ▼ Blade binding in cut<br>▼ Side guides too tight<br>▼ Wrong size blade<br>▼ Work not firmly held<br>▼ Erratic coolant flow<br>▼ Incorrect blade tension | ▼ Decrease feed pressure/force<br>▼ Adjust side guide gap<br>▼ Use correct size blade<br>▼ Check clamping pressure<br>▼ Check coolant nozzles<br>▼ Check blade tension |
|  **Blade Wear**<br>Teeth blued | ▼ Incorrect blade<br>▼ Incorrect feed or speed<br>▼ Improper or insufficient coolant<br>▼ "Blueing" caused by excessive heat | ▼ Use coarser tooth pitch<br>▼ Use correct feed and speed<br>▼ Check coolant flow<br>▼ Check coolant flow |

# BLADE OPTIMIZATION

## USING METAL CHIPS TO TROUBLESHOOT

You can improve the productivity of your metal cutting operation by paying close attention to the chips made by the blade cutting through metal. This chart shows some of the common problems that can be discovered and solved by paying attention to chips in a large variety of materials.

| Chip Form | Chip Condition | Chip color | Blade Speed | Blade Feed Rate | Other |
|---|---|---|---|---|---|
|  | Thick, Hard and Short | Blue or Brown | Decrease ↓ | Decrease ↓ | Check Cutting Fluid and Mix |
|  | Thin and Curled | Silver | Suitable ✔ | Suitable ✔ | |
|  | Powder | Silver | Decrease ↓ | Increase ↑ | |
|  | Thin and Tightly Curled | Silver | Suitable ✔ | Decrease ↓ | Check Tooth Pitch |



# Blade Break-In

## BLADE BREAK-IN: EXTREMELY IMPORTANT FOR MOST BLADES

The extremely sharp tooth points and edges of new blades must be broken-in before applying full feed pressure to the blade.

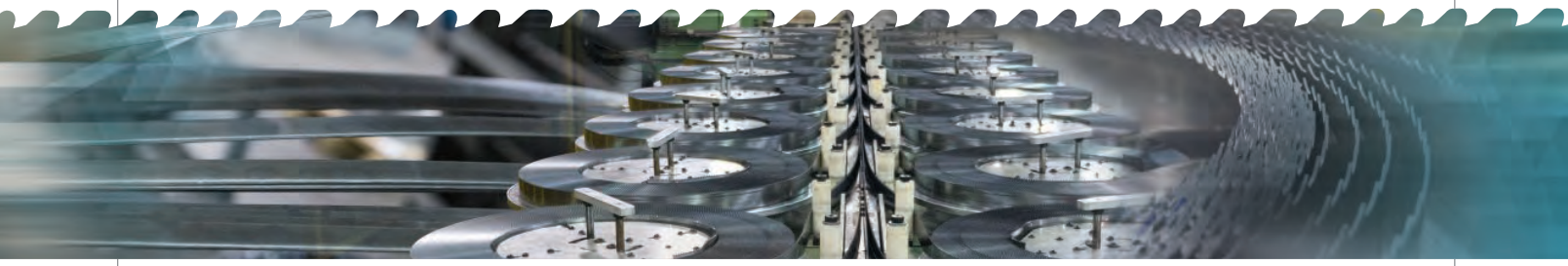
A good analogy is that of writing with a freshly sharpened wooden pencil.

**** Jawbreaker band saw blades are the exception and <u>should not</u> be broken in ****

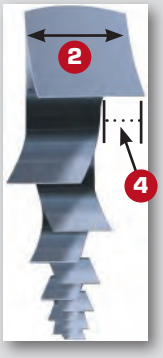
## RECOMMENDED BREAK-IN PROCEDURE

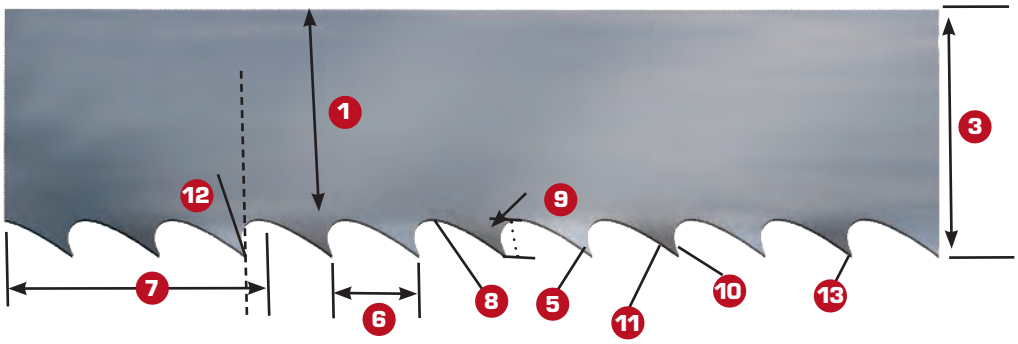
- Maintain proper blade speed for the material to be cut.
- Reduce blade feed pressure or feed rate by 50% for the first 50 – 100in$^2$ or 322 – 645cm$^2$ of material cut.
- Gradually increase feed pressure or feed rate after break-in to target pressure or rate.

# ANATOMY OF A SAW BLADE



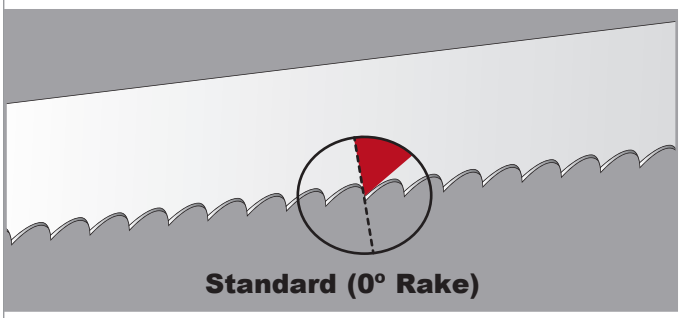
Although it looks like a flat piece of metal with teeth, a quality industrial band saw blade is actually a sophisticated cutting tool. Its ability to efficiently cut through tough metals, composite materials, plastics, and woods depends on a variety of interrelated factors such as the design, spacing and set of the teeth, the design and capacity of the gullets to make sure chips are efficiently removed, the composition of the backer strip, and the gage of the metal. These considerations must be taken into account when selecting the right blade for your application. The following Technical Pages will help you arrive at the perfect Morse solution to your particular cutting problem.

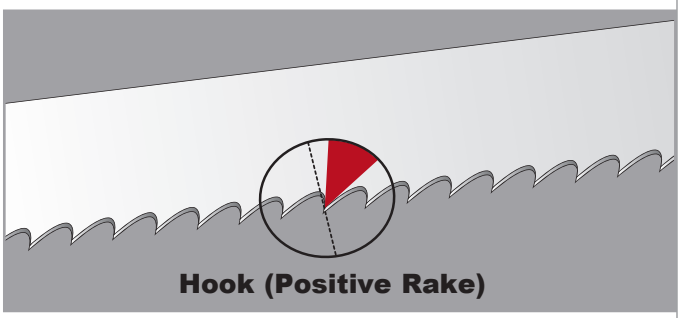



1. **Blade Backer** ..... The body of the blade not including tooth portion
2. **Gauge**..... The thickness of the blade
3. **Width**..... The tip of tooth to back of blade
4. **Set**..... The positioning of teeth right or left
5. **Tooth** ..... The cutting portion of the saw blade
6. **Tooth Pitch**..... The distance from one tooth tip to the next
7. **T.P.I.** ..... The number of teeth per inch measured gullet to gullet
8. **Gullet** ..... The curved area between the tooth points
9. **Gullet Depth** ..... The distance from the tooth tip to the bottom of the gullet
10. **Tooth Face**..... The surface of the tooth on which the chip is formed
11. **Tooth Flank** ..... The angled back surface of the tooth opposite the tooth face
12. **Tooth Rake Angle** ..... The angle of the tooth face measured with respect to a line perpendicular to the cutting direction of the saw
13. **Tooth Tip**..... The cutting edge of the saw tooth

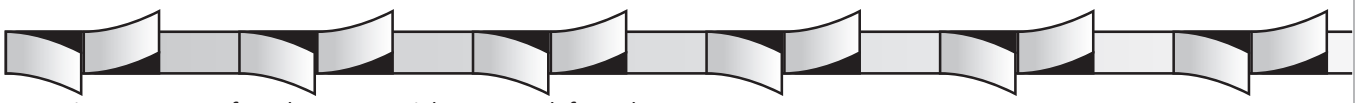
# TOOTH SET SPECIFICATIONS




Here's where the blade makes the cut. The tooth design variables include shape, position, set, type and spacing. The combination of these variables will determine whether the blade can move easily through your material without binding or becoming clogged with chips.

## Raker

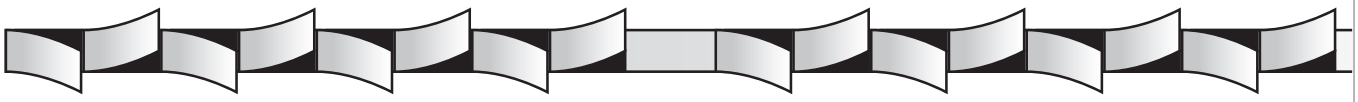


Recurring sequence of teeth - one set right, one set left, and one unset.

## Modified Raker (double set raker)

Recurring sequence set left, right, left, right, straight tooth pattern.

## Variable Pitch Modified Raker



Set sequence depends on the number of teeth in the variable pitch tooth pattern.
Recurring sequence with more than two set teeth before an unset tooth.

## Wavy

Groups of teeth, usually 3 or 4, set to each side in a controlled pattern with an unset tooth between groups.

## Alternate (ETS)

Every tooth set alternately to the left and right.

# BAND SAW TOOTH PITCHES

## Variable Pitch - 0°

**Feature**
- ▼ Varying gullet depth
- ▼ 0˚ Rake angle
- ▼ Variable tooth spacing

**Benefit**
- ▼ Excellent chip carrying capacity
- ▼ Reduces harmonic vibration
- ▼ Cuts smoother and more efficiently

**Value**
- ▼ Improves blade life
- ▼ Reduces noise
- ▼ Eliminates secondary operations, improves productivity

## Variable Pitch Positive Rake

**Feature**
- ▼ Varying gullet depth
- ▼ Variable tooth spacing
- ▼ Positive rake angle

**Benefit**
- ▼ Better chip formation
- ▼ Excellent chip carrying capacity
- ▼ Reduces harmonic vibration
- ▼ More aggressive cutting; better tooth penetration

**Value**
- ▼ Cuts smoother, faster
- ▼ Improves productivity
- ▼ Reduces noise levels
- ▼ Generates less heat, improves blade life

## Standard Raker

**Feature**
- ▼ Equally spaced teeth
- ▼ 0˚ Rake angle

**Benefit**
- ▼ Excellent chip carrying capacity

**Value**
- ▼ Increased productivity, versatility

## Skip

**Feature**
- ▼ Wide flat gullets
- ▼ 0˚ Rake angle
- ▼ Equally spaced teeth

**Benefit**
- ▼ Excellent chip carrying capacity
- ▼ Non-metallic, non-ferrous cutting applications (wood, plastic, brass, copper, bronze, and aluminum)

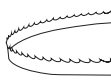
**Value**
- ▼ Breaks "stringy" chips; improves cutting capability
- ▼ Greater productivity for specific applications

## Hook

**Feature**
- ▼ Wide rounded gullets
- ▼ Equally spaced teeth
- ▼ Positive rake angle

**Benefit**
- ▼ Excellent chip carrying capacity in non-metallic applications
- ▼ Positive rake provides better tip penetration with less feed pressure

**Value**
- ▼ Better cutting performance, productivity
- ▼ Good surface finish to eliminate secondary operations



# BLADE RECOMMENDATION CHECKLIST

MORSE®

Complete by:

Date:

After completing the checklist, please see product chart on back page or

**Contact Morse Technical Assistance**

Complete and Fax to: 1(330) 453-1111

or call 1(330) 453-8187 or visit www.bladewizard.com

## User Information

Company:

Address:

Contact:

Phone No.:

## Distributor Information

Company:

Address:

Contact:

Phone No.:

Fax No.:

e-mail:

## Current Blade Information

Manufacturer:

Length: Width:

Thickness: Tooth Pitch:

Type: ❑ Carbon ❑ Matrix ❑ M42 ❑ Other

Monthly blade usage:

Current blade distributor:

Current blade cost: $ (ea.)

## Machine Information

Make:

Model:

❑ Vertical ❑ Horizontal

Blade Speed (sfm):

Feed Rate:

## Application Information

Solid Square _____ Solid Round _____ I-Beam _____ Angle Iron _____ Channel Iron _____ Round Tubing _____ Square Tubing _____

On the lines provided below each icon, **list material width** and **wall thickness** (if applicable) for each material type being cut

## Types of Cutting

(Check all that apply)

❑ Single Piece Cut-off

❑ Bundled Cut-off 1. Number of pieces: _____ 2. Check each configuration that applies:

❑ ❑ ❑ ❑ ❑ ❑ ❑ ❑

## Materials Being Cut

(Check all that apply)

| Type | Grade |
|---|---|
| ❑ Non-Ferrous | |
| ❑ Mild Carbon Steels | |
| ❑ Tool Steels | |
| ❑ Stainless Steels | |
| ❑ Super Alloys | |
| ❑ Other | |

## Production Usage (per day)

❑ Light (2 hrs. or less)

❑ Medium (3-6 hrs.)

❑ Heavy (7 hrs. or more)

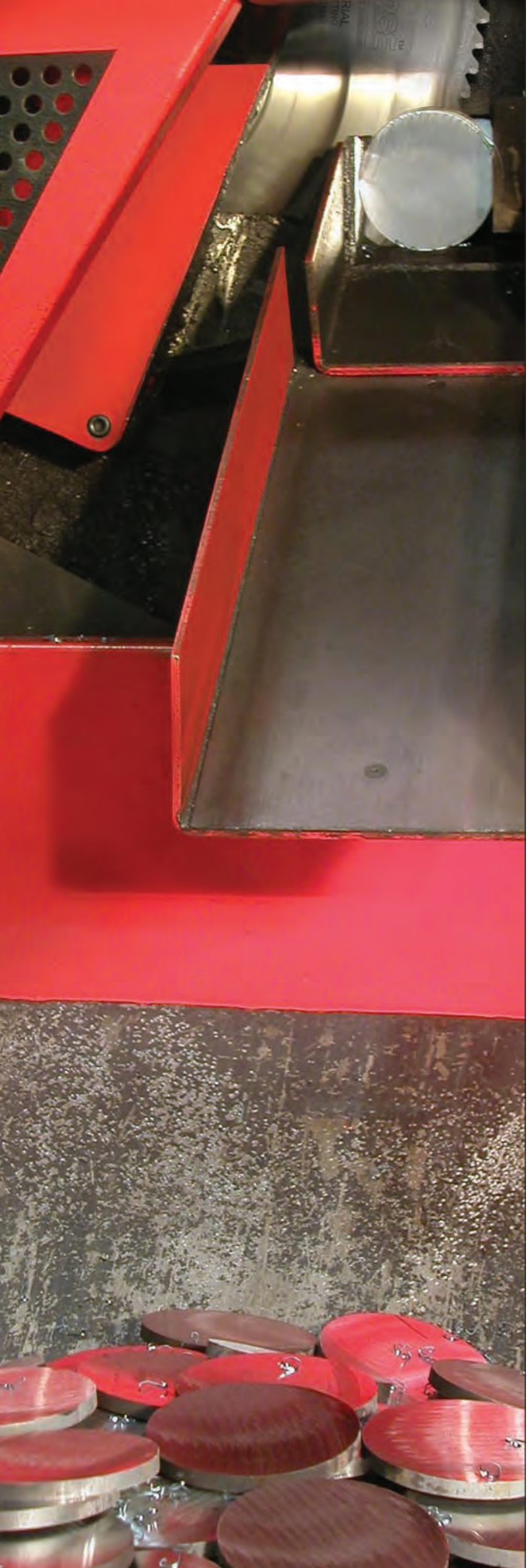
## Problems with Present Blade

❑ Breaking blades ❑ Premature dulling

❑ Tooth strippage

❑ Cost

## Blade Recommendation



THIN KERF INDUSTRIAL

# CIRCULAR SAW BLADES

| Blade Type | Application |
|---|---|
| **Metal** | |
| Revolution FS | Optimized for carbon and high alloy steels. |
| Revolution | Optimized for stainless steel, high alloy steel, and aluminum. |


# REVOLUTION™

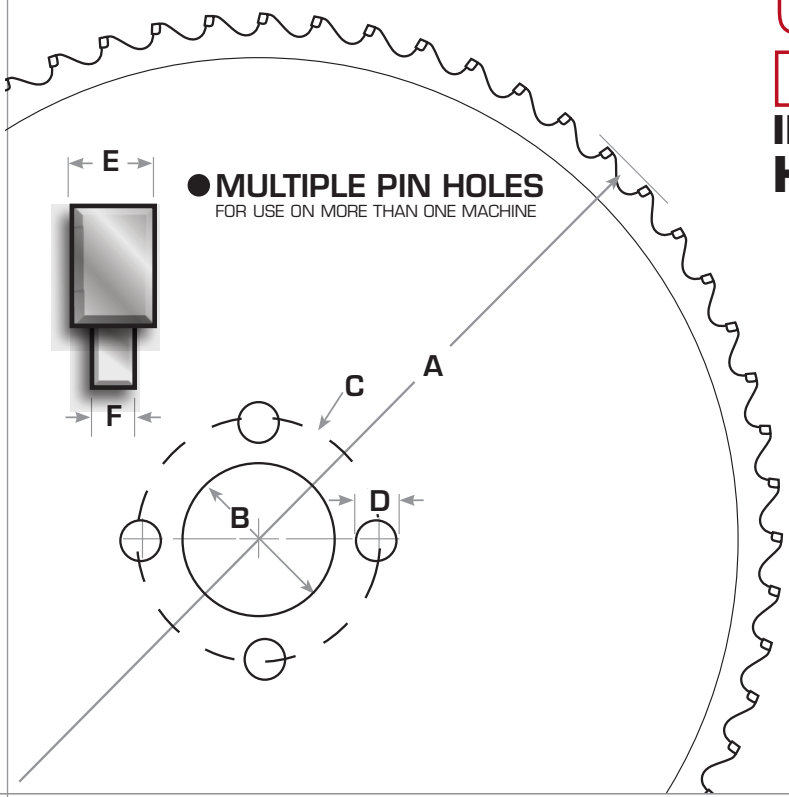
Cut through steel, carbon, stainless, aluminum, and high alloy steel faster than ever. Unique combinations of metallurgy and blade configurations are tailored for peak performance in specific applications.

MADE IN U.S.A.

## Features & Benefits

- Ferrous and non-ferrous metal cutting
- Efficient cutting for ½ to 6 inch diameter
- Most effective in solids

**THIN KERF CIRCULAR SAW BLADES PROVIDE THE ULTIMATE PERFORMANCE IN CUTTING SOLUTIONS FOR HIGH VOLUME CUTTING**




A BLADE DIAMETER
B ARBOR DIAMETER
C PIN HOLE
D PIN HOLE DIAMETER
E KERF WIDTH
F PLATE THICKNESS

REVOLUTION FS
Z BALANCE TECHNOLOGY

Z BALANCE

## REVOLUTION FS

Revolution FS circular saw blades with patent-pending Z Balance technology are specifically engineered for use with industrial circular saw machines. These blades outperform the competition in a wide variety of applications from ½ to 6 inches depending on the machine model and blade diameter.

### Applications

- Low and medium alloy steels
- Solid bars
- Workpiece hardness up to 40 HRc

### Benefits

- Fast cutting
- Long life
- Straight cutting
- Superior finish
- Consistent quality
- No resharpening

| Diameter | | Kerf (mm) | Teeth | Drive Pins | Model | Part | Machine Example |
|---|---|---|---|---|---|---|---|
| Blade (mm) | Inner (mm) | | | | | | |
| 250mm | 32mm | 2.0mm | 72 | 4/11/63 and 4/9/50 | ICTNK25072FSB | 203159 | Tsune Nishijimax Kasto (Wagner) Exact Cut |
| 250mm | 32mm | 2.0mm | 80 | | ICTNK25080FSB | 203166 | |
| 285mm | 32mm | 2.0mm | 60 | 4/11/63 and 4/9/50 | ICTNK28560FSB | 203173 | Everising Kasto Nishijimax Tsune |
| 285mm | 32mm | 2.0mm | 72 | | ICTNK28572FSB | 203180 | |
| 285mm | 32mm | 2.0mm | 80 | | ICTNK28580FSB | 203197 | |
| 360mm | 40mm | 2.74mm | 60 | 4/11/90 | ICAM36060FSB | 203203 | Amada Behringer Daito / Delta Everising Mega Missler |
| 360mm | 40mm | 2.74mm | 80 | | ICAM36080FSB | 203210 | |
| 360mm | 40mm | 2.74mm | 100 | | ICAM360100FSB | 203227 | |
| 360mm | 50mm | 2.74mm | 60 | 4/14/80 and 4/16/80 | ICNT36060FSB | 203234 | Endo Kaltenbach Kasto Nishijimax Tsune |
| 360mm | 50mm | 2.74mm | 80 | | ICNT36080FSB | 203241 | |
| 360mm | 50mm | 2.74mm | 100 | | ICNT360100FSB | 203258 | |
| 420mm | 50mm | 2.74mm | 60 | 4/16/80 | ICTS42060FSB | 203265 | Endo Tsune |
| 420mm | 50mm | 2.74mm | 80 | | ICTS42080FSB | 203272 | |
| 460mm | 50mm | 2.74mm | 60 | 4/16/80 and 4/21/90 | ICNI46060FSB | 203289 | Amada Everising Nishijimax |
| 460mm | 50mm | 2.74mm | 80 | | ICNI46080FSB | 203296 | |

# METAL CARBIDE TIPPED

MORSE® THIN KERF REVOLUTION DISPOSABLE

## THIN KERF CARBIDE TIPPED

Morse Revolution blades are high performance circular saw blades specifically engineered for use with thin kerf metal cutting industrial circular saw machines. Carbide tipped blades are optimized for stainless steel, high alloy steel, and aluminum. Made for cutting solids from 1/2 to 6 inches depending on machine model and blade diameter.

### Applications

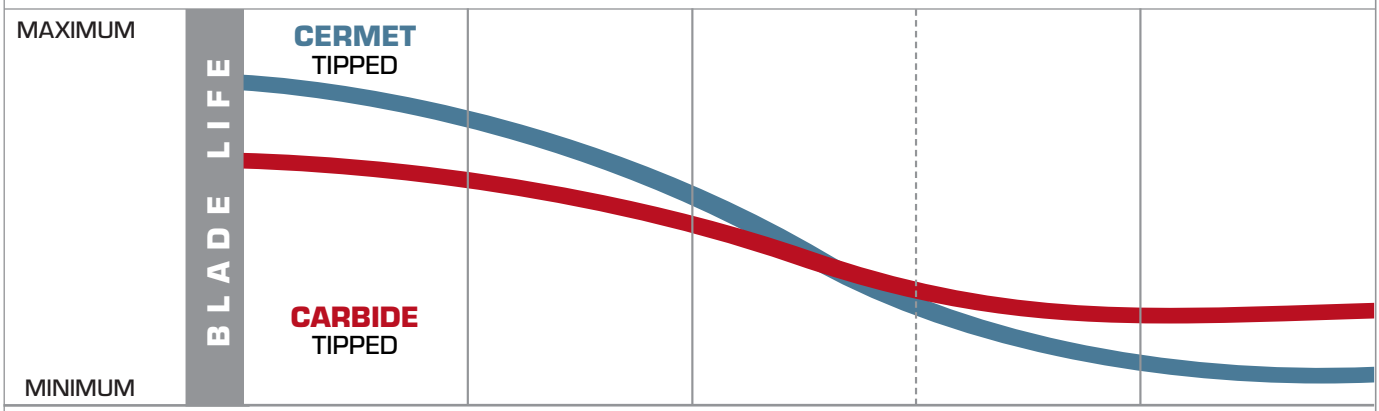
- Stainless steels
- High alloy steels
- Aluminum

### Benefits

- Less material waste
- Consistent quality
- No resharpening
- Long life
- Fast cutting
- Superior finish

| Diameter | | Kerf (mm) | Teeth | Pin Hole | Model | Part | Machine Example |
|---|---|---|---|---|---|---|---|
| Blade (mm) | Inner (mm) | | | | | | |
| 285 | 32 | 2.03 | 80 | 4/11/63 and 4/9/50 | ICTNK28580CB | 203005 | Everising Kasto Nishijimax Tsune |
| 360 | 40 | 2.7 | 60 | 4/11/90 | ICAM36060CB | 203081 | Amada Behringer Daito / Delta Everising Mega |
| 360 | 40 | 2.7 | 80 | | ICAM36080CB | 203029 | |
| 360 | 50 | 2.7 | 60 | 4/14/80 and 4/16/80 | ICNT36060CB | 203012 | Kaltenbach Kasto Tsune |
| 360 | 50 | 2.7 | 80 | | ICNT36080CB | 203036 | |
| 360 | 50 | 2.7 | 100 | | ICNT360100CB | 203074 | |
| 420 | 50 | 2.7 | 60 | 4/16/80 | ICTS42060CB | 203043 | Endo Tsune |
| 460 | 50 | 2.7 | 60 | 4/16/80 and 4/21/90 | ICNI46060CB | 203050 | Amada Everising Nishijimax |

## BLADE TYPE SELECTION GUIDE

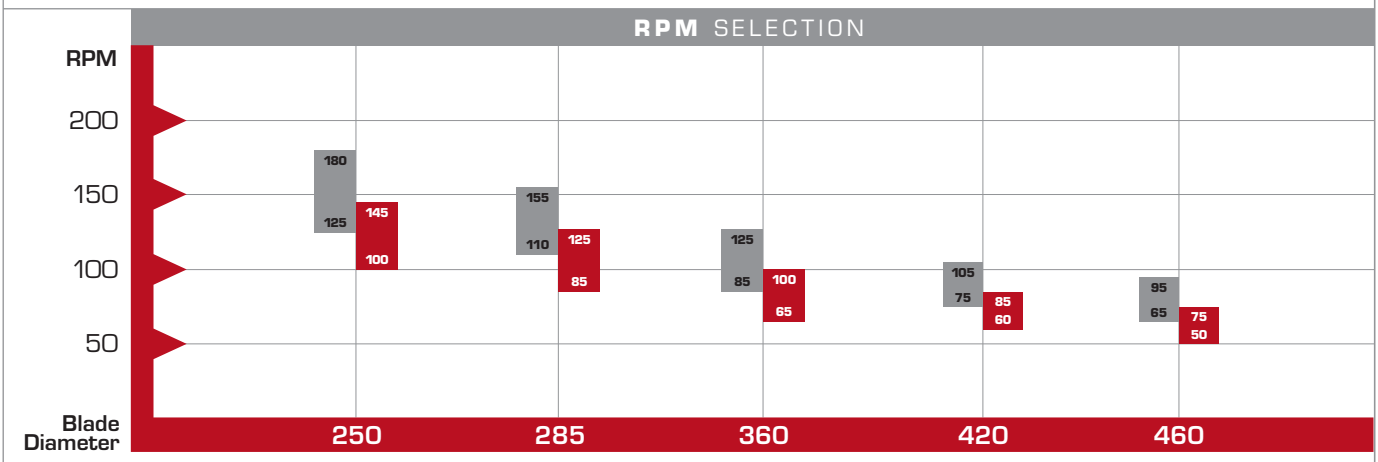



| CARBON STEEL | ALLOY/MED. CARBON | HIGH CARBON | STAINLESS STEEL |
|---|---|---|---|
| 1045<br>1018 | 4140, 4130<br>1050, 1075 | 8620, 8670<br>5214 | 304, 316<br>400 Series |

## BLADE TOOTH SELECTION GUIDE

| | | MATERIAL DIAMETER INCHES/METRIC | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BLADE TYPE Inches | TEETH | ⅜ | ¾ | 1⅛ | 1⅝ | 1¹⁵⁄₁₆ | 2⅜ | 2¾ | 3⅜ | 3¹⁵⁄₁₆ | 3¹⁵⁄₁₆ | 4⅝ | 4¹¹⁄₁₆ | 5⅛ | 5½ | 6 |
| BLADE TYPE mm | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 |
| 250 | 54 | | | | | | | | | | | | | | | |
| | 80 | | | | | | | | | | | | | | | |
| 285 | 60 | | | | | | | | | | | | | | | |
| | 80 | | | | | | | | | | | | | | | |
| 360 | 60 | | | | | | | | | | | | | | | |
| | 80 | | | | | | | | | | | | | | | |
| | 100 | | | | | | | | | | | | | | | |
| 420 | 60 | | | | | | | | | | | | | | | |
| | 80 | | | | | | | | | | | | | | | |
| 460 | 60 | | | | | | | | | | | | | | | |
| | 80 | | | | | | | | | | | | | | | |
| | 100 | | | | | | | | | | | | | | | |

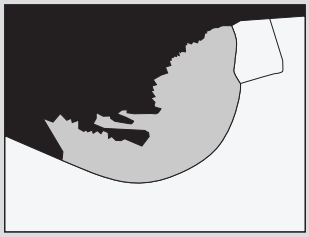
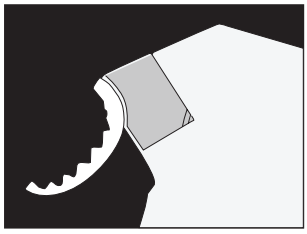
## RPM SELECTION GUIDE

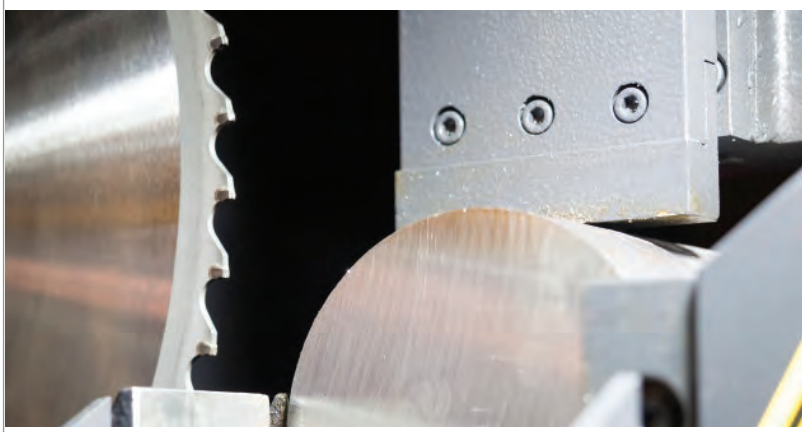



CARBON, ALUMINUM* & LOW ALLOYS  STAINLESS STEELS, TOOL STEELS & HIGH ALLOYS

* For ALUMINUM, use carbide at cermet parameters

# THIN KERF INDUSTRIAL CIRCULAR

| Problem | Problem Cause | Solution |
|---|---|---|
| Teeth stripping  | Incorrect blade selection | Select a blade with larger gullet space<br>Select a blade with fewer teeth |
| | Excessive cutting speed | Refer to the cutting conditions chart<br>Lower feed rate/chip load |
| | Excessive chip load | Refer to the cutting conditions chart<br>Lower feed rate/chip load |
| | Excessive wear at the cutting edge | Check for the integrity of the chip groove<br>Direct mist on to the cutting edge |
| | Low clamp/vise pressure/material moves | Increase hydraulic pressure up to specified level |
| Gullet clogging  | Incorrect blade selection | Select a blade with larger gullet space<br>Select a blade with fewer teeth |
| | Insufficient coolant | Increase coolant rate until cut surface is wet |
| | Incorrect tooth type for material being cut | Select correct tooth type |
| Chip welding  | Incorrect cutting parameters | Check RPM<br>Check chip load |
| | Insufficient coolant | Check coolant rate<br>Increase coolant rate<br>Check orientation of outlet nozzle<br>Check chip brush<br>Adjust or replace chip brush if necessary |
| | Damaged teeth | Check the tooth for damage<br>Run if necessary at reduced chip load/feed rate |
| | Excessive wear at the tooth edge | Increase coolant and air flow<br>Run at low RPM and chip load/feed rate |
| Out of square cuts | High or low plate tension | Replace the blade |
| | Chamfer imbalance | Replace the blade |
| Billet weight inconsistent | Machine malfunction | Check/clean the feed sensors/inspect |
| Wavy Cuts | Low or high plate tension | Replace the blade |
| | Insufficient coolant | Check coolant flow |
| | Out of square clamping | Check cleanliness of jaws/vice<br>Check squareness of jaws/vice<br>Check feeding mechanism and sensors |

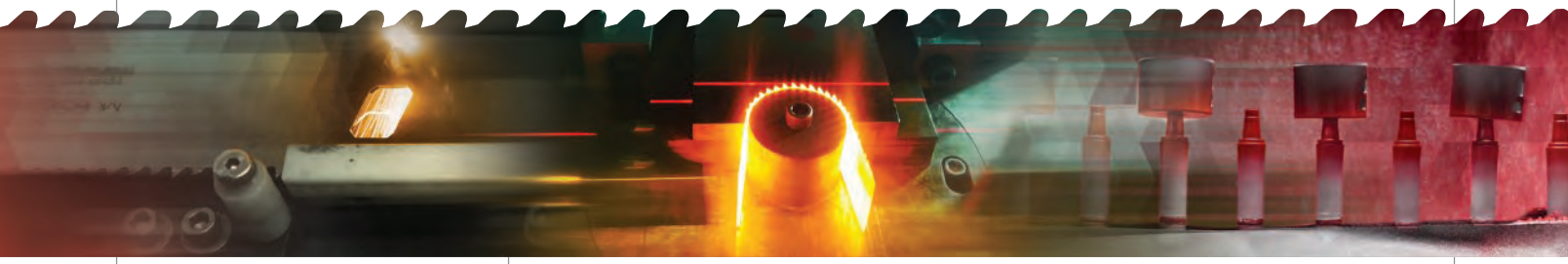


MORSE

# HOLE CUTTING & BORING TOOLS

| Blade Type | Application |
|---|---|
| **Hole Saws** | |
| **General Purpose** | |
| Bi-Metal MHS/ MHSA | General purpose cutting across a wide range of materials including metals, wood, drywall and composites. |
| Fast Adapt Arbors | Compatible across the range of hole saws. For contractors who need to quickly change from one hole saw to another, including electrical, plumbing, siding, door, flooring and marine. |
| Arbors & Accessories | Compatible across the range of hole saws. Accessories include extensions that allow you to increase the reach of the saw, adapters that facilitate hole enlargement, springs to facilitate slug removal and replacement pilot drills. |
| Carbide Tipped MHST | Extended life cutting fiberglass, nail-free wood, fiberboard, stainless steel, drywall, plaster and laminates. Not recommended for pipe cutting. |
| **Specialty** | |
| Diamond Grit | For use on extremely hard or abrasive materials where cut finish is important including stone, porcelain/ceramics, brick/masonry, cast iron, glass block, architectural stone, composites and laminate flooring. |
| Carbide Grit | For use on hard or abrasive materials including cement, brick, cinder block, cast iron, plaster with lath, unglazed ceramics, fiberglass, and composites. |
| Recessed Lighting | Grit saws are ideal for installations in drywall, plaster with lath or ceiling tile. Bi-metal saws are designed for installations in metal or wood. |
| **Precision Hole Cutting** | |
| **Metal** | |
| CT Hole Cutters | Precision cutting for fabrication applications. Makes clean, fast cuts in sheet metal, stainless steel, pipe, conduit, aluminum and composites. |
| Step Drills | Repetitive hole cutting or enlargement for electrical, automotive and sheet metal applications. |
| **Wood Hole Cutting** | |
| Double Cut Auger Bits | Excellent for deep boring in wood and nail-embedded wood. Applications include landscaping timbers, log and timber frame construction, plumbing and electrical installations. |
| Spade Bits | Fast, deep cutting in wood, plywood, composites and laminates. |

# HOLE SAWS GENERAL PURPOSE



## BI-METAL MHS / MHSA

General purpose cutting across a wide range of materials including metals, wood, drywall and composites.

### Applications

- Wood
- Plastic
- Machinable metals
- Stainless steel alloys
- Nail-embedded wood

### Benefits

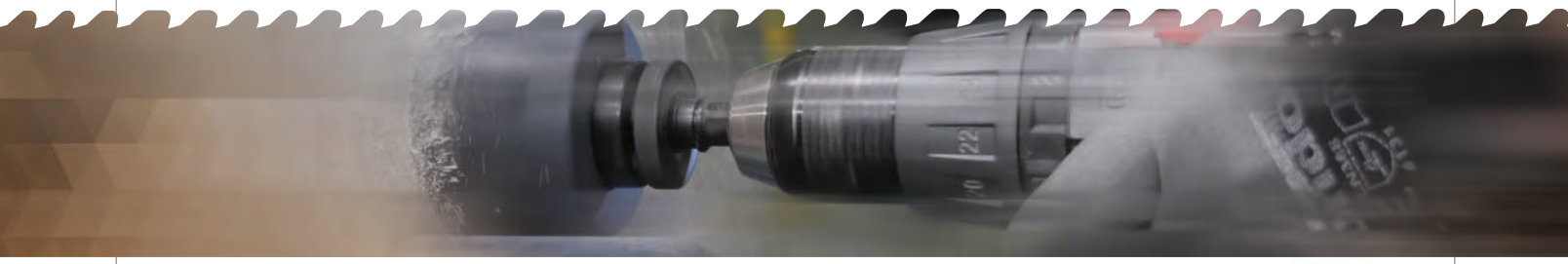
- Optimized to remove material faster
- Solid cap reduces runout and vibration
- Premium M42 high speed steel
- 1 15/16 (49 mm) cutting depth
- New side slot for increased leverage for faster, easier slug removal

| Diameter | | MHS (1/2 – 20 arbor required) | | | | | | MHSA (arbor attached) | |
|---|---|---|---|---|---|---|---|---|---|
| | | Model | Part | Model | Part | Model | Part | Model | Part |
| in | mm | 1/Box | | 1/Card | | Bulk 25/Box | | 1/Card | |
| 9/16 | 14 | MHS09 | 177092 | MHS09C | 178099 | | | MHSA09C | 116091 |
| 5/8 | 16 | MHS10 | 177108 | MHS10C | 178105 | | | MHSA10C | 116107 |
| 11/16 | 17 | MHS11 | 177115 | MHS11C | 178112 | MHS11B25 | 189118 | MHSA11C | 116114 |
| **3/4** | **19** | **MHS12** | 177122 | MHS12C | 178129 | MHS12B25 | 189125 | MHSA12C | 116121 |
| | 20 | MHS125 | 177559 | MHS125C | 178556 | MHS125B25 | 189132 | MHSA125C | 116688 |
| 13/16 | 21 | MHS13 | 177139 | MHS13C | 178136 | MHS13B25 | 189156 | MHSA13C | 116138 |
| **7/8** | **22** | **MHS14** | 177146 | MHS14C | 178143 | MHS14B25 | 189149 | MHSA14C | 116145 |
| 15/16 | 24 | MHS15 | 177153 | MHS15C | 178150 | | | MHSA15C | 116152 |
| **1** | **25** | **MHS16** | 177160 | MHS16C | 178167 | MHS16B25 | 189163 | MHSA16C | 116169 |
| 1 1/16 | 27 | MHS17 | 177177 | MHS17C | 178174 | MHS17B25 | 189170 | MHSA17C | 116176 |
| **1 1/8** | **29** | **MHS18** | 177184 | MHS18C | 178181 | MHS18B25 | 189187 | MHSA18C | 116183 |
| 1 3/16 | 30 | MHS19 | 177191 | MHS19C | 178198 | MHS19B25 | 189194 | MHSA19C | 116190 |
| | | MHS (5/8 – 18 arbor required) | | | | | | MHSA (arbor attached) | |
| **1 1/4** | **32** | **MHS20** | 177207 | MHS20C | 178204 | MHS20B25 | 189200 | MHSA20C | 116206 |
| 1 5/16 | 33 | MHS21 | 177214 | MHS21C | 178211 | MHS21B25 | 189217 | MHSA21C | 116213 |
| **1 3/8** | **35** | **MHS22** | 177221 | MHS22C | 178228 | MHS22B25 | 189224 | MHSA22C | 116220 |
| 1 7/16 | 37 | MHS23 | 177238 | MHS23C | 178235 | | | MHSA23C | 116237 |
| **1 1/2** | **38** | **MHS24** | 177245 | MHS24C | 178242 | MHS24B25 | 189248 | MHSA24C | 116244 |
| 1 9/16 | 40 | MHS25 | 177252 | MHS25C | 178259 | | | MHSA25C | 116251 |
| 1 5/8 | 41 | MHS26 | 177269 | MHS26C | 178266 | MHS26B25 | 189262 | MHSA26C | 116268 |
| 1 11/16 | 43 | MHS27 | 177276 | MHS27C | 178273 | MHS27B25 | 189279 | MHSA27C | 116275 |
| **1 3/4** | **44** | **MHS28** | 177283 | MHS28C | 178280 | MHS28B25 | 189286 | MHSA28C | 116282 |
| | 45 | MHS285 | 177740 | MHS285C | 178747 | | | MHSA285C | 116770 |
| 1 13/16 | 46 | MHS29 | 177290 | MHS29C | 178297 | | | MHSA29C | 116299 |
| 1 7/8 | 48 | MHS30 | 177306 | MHS30C | 178303 | MHS30B25 | 189309 | MHSA30C | 116305 |

| Diameter | | MHS (5/8 – 18 arbor required) | | | | | | MHSA (arbor attached) | |
|---|---|---|---|---|---|---|---|---|---|
| | | Model | Part | Model | Part | Model | Part | Model | Part |
| in | mm | 1/Box | | 1/Card | | Bulk 25/Box | | 1/Card | |
| | 50 | MHS315 | 177313 | MHS315C | 178310 | | | MHSA315C | 116787 |
| **2** | **51** | **MHS32** | 177320 | MHS32C | 178327 | MHS32B25 | 189323 | MHSA32C | 116329 |
| 2 1/16 | 52 | MHS33 | 177337 | MHS33C | 178334 | | | MHSA33C | 116336 |
| **2 1/8** | **54** | **MHS34** | 177344 | MHS34C | 178341 | MHS34B25 | 189347 | MHSA34C | 116343 |
| | 55 | MHS345 | 177351 | MHS345C | 178358 | | | MHSA345C | 116794 |
| **2 1/4** | **57** | **MHS36** | 177368 | MHS36C | 178365 | MHS36B25 | 189361 | MHSA36C | 116367 |
| 2 5/16 | 59 | MHS37 | 177375 | MHS37C | 178372 | | | MHSA37C | 116374 |
| 2 3/8 | 60 | MHS38 | 177382 | MHS38C | 178389 | MHS38B25 | 189385 | MHSA38C | 116381 |
| | 62 | MHS385 | 177399 | MHS385C | 178396 | | | | |
| **2 1/2** | **64** | **MHS40** | 177405 | MHS40C | 178402 | MHS40B25 | 189408 | MHSA40C | 116404 |
| **2 9/16** | **65** | **MHS41** | 177412 | MHS41C | 178419 | MHS41B25 | 189415 | MHSA41C | 116411 |
| **2 5/8** | **67** | **MHS42** | 177429 | MHS42C | 178426 | MHS42B25 | 189422 | MHSA42C | 116428 |
| | 68 | MHS425 | 177436 | MHS425C | 178433 | | | MHSA425C | 116817 |
| 2 3/4 | 70 | MHS44 | 177443 | MHS44C | 178440 | | | MHSA44C | 116442 |
| 2 7/8 | 73 | MHS46 | 177467 | MHS46C | 178464 | | | MHSA46C | 116466 |
| | 75 | MHS475 | 177474 | MHS475C | 178471 | | | MHSA475C | 116831 |
| **3** | **76** | **MHS48** | 177481 | MHS48C | 178488 | MHS48B25 | 189484 | MHSA48C | 116480 |
| 3 1/8 | 79 | MHS50 | 177504 | MHS50C | 178501 | | | MHSA50C | 116503 |
| **3 1/4** | **83** | **MHS52** | 177528 | MHS52C | 178525 | | | MHSA52C | 116527 |
| **3 3/8** | **86** | **MHS54** | 177542 | MHS54C | 178549 | | | MHSA54C | 116541 |
| **3 1/2** | **89** | **MHS56** | 177566 | MHS56C | 178563 | | | MHSA56C | 116565 |
| **3 5/8** | **92** | **MHS58** | 177580 | MHS58C | 178587 | | | MHSA58C | 116589 |
| **3 3/4** | **95** | **MHS60** | 177603 | MHS60C | 178600 | | | MHSA60C | 116602 |
| 3 7/8 | 98 | MHS62 | 177627 | MHS62C | 178624 | | | MHSA62C | 116626 |
| | 100 | MHS63 | 177634 | MHS63C | 178631 | | | MHSA63C | 116633 |
| **4** | **102** | **MHS64** | 177641 | MHS64C | 178648 | | | MHSA64C | 116640 |
| **4 1/8** | **105** | **MHS66** | 177665 | | | | | | |
| **4 1/4** | **108** | **MHS68** | 177689 | | | | | | |
| 4 3/8 | 111 | MHS70 | 177702 | | | | | | |
| **4 1/2** | **114** | **MHS72** | 177726 | | | | | | |
| **4 3/4** | **121** | **MHS76** | 177764 | | | | | | |
| 5 | 127 | MHS80 | 177801 | | | | | | |
| 5 1/4 | 133 | MHS84 | 177849 | | | | | | |
| 5 1/2 | 140 | MHS88 | 177887 | | | | | | |
| 5 3/4 | 146 | MHS92 | 177924 | | | | | | |
| 6 | 152 | MHS96 | 177962 | | | | | | |
| 6 3/8 | 162 | MHS104 | 177498 | | | | | | |
| 6 5/8 | 168 | MHS106 | 177535 | | | | | | |

Items noted in **BOLD** also available in kits. See pages 58-59.
***RPM recommendations*** provided on page 60. ***Pipe entrance and pipe tap recommendations*** provided on page 61.

# HOLE SAW ACCESSORIES



## FAST ADAPT® ARBORS

Compatible across the range of hole saws. For contractors who need to quickly change from one hole saw to another, including electrical, plumbing, siding, door, flooring and marine.

| Fast Adapt | | Shank | Chuck | Thread | Fits Saws | Follow Through | Standard Pilot | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Model | Part |
| | | | | | | | 1/Box | |
| Universal Arbor |  | 7/16 3-sided | ½ | | 9/16 - 6⅝ | 1½ | MQRAC | 143042 |
| Fast Adapt - 1/2 |  | | | ½ - 20 | 9/16 - 1 3/16 | 1½ | MQR12C | 143028 |
| Fast Adapt - 5/8 |  | | | ⅝ - 18 | 1¼ - 6⅝ | 1½ | MQR58C | 143011 |
| Fast Adapt Combo Pack - 2 MQR12 / 3 MQR58 |  | | | ½ - 20<br>⅝ - 18 | 9/16 - 6⅝ | 1½ | MQR5812C | 143004 |
| Pilot Drill |  | | | | | | MQRPDC | 143035 |

| Pilot Drills | Length | | Diameter | | | | | |
|---|---|---|---|---|---|---|---|---|
| Items noted in **BOLD** also available in kits. See pages 58-59. | in | mm | in | mm | Model | Part | Model | Part |
| | | | | | 1/Pack | | 5/Pack | |
| ***MHS, MHSA, MHST and MHSG Hole Saws*** | | | | | | | | |
| Standard  | 3 3/32 | 79 | ¼ | 6 | **MAPD301** | 139113 | | |
| Carbide Tipped  | 3 3/32 | 79 | ¼ | 6 | **MAPD3CT** | 139229 | | |
| ***AV, MK, TA, TAD and AD Hole Saws*** | | | | | | | | |
| Standard  | 3 1/16 | 78 | ¼ | 6 | MPD4S01 | 140799 | | |
| Standard  | 4 5/16 | 110 | ¼ | 6 | MPD401 | 140775 | | |
| Carbide Tipped  | 2⅞ | 73 | ¼ | 6 | MPD4SCT01 | 140874 | MPD4SCT05 | 140881 |
| Carbide Tipped  | 4 | 102 | ¼ | 6 | MPD4CT01 | 140850 | MPD4CT05 | 140867 |

| Extensions | Length | | Shank | | Chuck | Model | Part | Model | Part | Model | Part |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | in | mm | in | mm | | 1/Pack | | 10/Pack | | Bulk | |
|  | 12 | 305 | ⅜ Hex | 9.5 | ⅜ | ME381 | 140409 | | | ME38 | 901991 |
|  | **12** | 305 | 7/16 Hex | 10.5 | ½ | **ME121** | 141123 | ME1210 | 142120 | ME12 | 140126 |

## ARBORS & ACCESSORIES

Compatible across the range of hole saws. Accessories include extensions that allow you to increase the reach of the saw, adapters that facilitate hole enlargement, springs to facilitate slug removal and replacement pilot drills.



| Arbors | Shank | Chuck | Thread | Fits Saws | Follow Through | Standard Pilot | | | | Carbide Tipped Pilot | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Items noted in **BOLD** also available in kits. See pages 58-59. | | | | | | Model | Part | Model | Part | Model | Part |
| | | | | | | 1/Box | | 1/Card | | 1/Box | |
| **Standard** | | | | | | | | | | | |
|  | ¼ Hex | ¼ | ½ - 20 | 9⁄16 - 1 3⁄16 | ¾ | **MA24** | 139007 | MA24C | 139618 | | |
|  | ⅜ Hex | ⅜ | ½ - 20 | 9⁄16 - 1 3⁄16 | ¾ | **MA34** | 139014 | MA34C | 139625 | **MA34CT** | 139809 |
|  | ⅜ Hex | ⅜ | ⅝ - 18 | 1¼ - 6⅝ | ¾ | MA35 | 139045 | MA35C | 139632 | | |
| **Pinned** | | | | | | | | | | | |
|  | ⅜ Hex | ⅜ | ⅝ - 18 | 1¼ - 6⅝ | 1½ | **MA35PS** | 139021 | MA35PSC | 139649 | MA35PSCT | 139823 |
|  | 7⁄16 Hex | ½ | ⅝ - 18 | 1¼ - 6⅝ | 1½ | **MA45PS** | 139038 | MA45PSC | 139656 | **MA45PSCT** | 139816 |

### Pilot Drills

| Model | Part | Model | Part | Model | Part |
|---|---|---|---|---|---|
| 10/Pack | | 25/Pack | | 100/Pack | |
| ***MHS, MHSA, MHST and MHSG Hole Saws*** | | | | | |
| MAPD310 | 139120 | MAPD325 | 139137 | MAPD3100 | 139144 |
| | | | | | |
| ***AV, MK, TA, TAD and AD Hole Saws*** | | | | | |
| MPD4S10 | 140683 | MPD4S25 | 140720 | MPD4S100 | 140690 |
| MPD410 | 140478 | MPD425 | 140522 | MPD4100 | 140492 |


1/5/10/Bag


1/Card


25/Box


100/Box

### Accessories

| | Thread | | Model | Part | Model | Part | Model | Part |
|---|---|---|---|---|---|---|---|---|
| | Arbor | Saw | 1/Pack | | 5/Pack | | 25/Pack | |
| **Hole Saws** | | | | | | | | |
| Hex Adapter  | ½ - 20 | ⅝ - 18 | M44NH01 | 140744 | M44NH05 | 140584 | | |
| Ejector Spring - fits 1/4 Pilot Drills  | | | MES101 | 140805 | MES105 | 140812 | MES125 | 140836 |

# HOLE SAWS GENERAL PURPOSE


**CARBIDE TIPPED**

## CARBIDE TIPPED MHST

Extended life cutting fiberglass, nail-free wood, fiberboard, stainless steel, drywall, plaster and laminates.
Not recommended for pipe cutting.

### Applications

- Acoustic tile
- Countertops
- Drywall
- Fiberboard
- Fiberglass
- Plaster
- Plastic
- Nail-free wood
- Stainless Steel

### Benefits

- Special tooth design for very fast hole saw cutting
- Triple chip teeth help to cut materials that bi-metal saws will not cut
- 3 teeth per inch creates a wider gullet for better chip clearance and faster cutting
- Standard pilot bit recommended for most applications

**Arbor Required:**
9/16 – 1 3/16 use 1/2 – 20
1 1/4 – 6 use 5/8 – 18


| Diameter | | Model | Part | Diameter | | Model | Part | Diameter | | Model | Part |
|---|---|---|---|---|---|---|---|---|---|---|---|
| in | mm | 1/Box | | in | mm | 1/Box | | in | mm | 1/Box | |
| 9/16 | 14 | MHST09 | 157094 | 1 5/8 | 41 | MHST26 | 157261 | 3 1/4 | 83 | MHST52 | 157520 |
| 5/8 | 16 | MHST105 | 157971 | 1 11/16 | 43 | MHST27 | 157278 | 3 3/8 | 86 | MHST54 | 157544 |
| 11/16 | 17 | MHST11 | 157117 | **1 3/4** | **44** | **MHST28** | 157285 | 3 1/2 | 89 | MHST56 | 157568 |
| **3/4** | **19** | **MHST12** | 157124 | 1 13/16 | 46 | MHST29 | 157292 | 3 5/8 | 92 | MHST58 | 157582 |
| | 20 | MHST125 | 157988 | 1 7/8 | 48 | MHST30 | 157308 | 3 3/4 | 95 | MHST60 | 157605 |
| 13/16 | 21 | MHST13 | 157131 | **2** | **51** | **MHST32** | 157322 | 3 7/8 | 98 | MHST62 | 157629 |
| **7/8** | **22** | **MHST14** | 157148 | 2 1/16 | 52 | MHST33 | 157339 | 4 | 102 | MHST64 | 157643 |
| 15/16 | 24 | MHST15 | 157155 | 2 1/8 | 54 | MHST34 | 157346 | 4 1/8 | 105 | MHST66 | 157667 |
| 1 | 25 | MHST16 | 157162 | **2 1/4** | **57** | **MHST36** | 157360 | 4 1/4 | 108 | MHST68 | 157681 |
| 1 1/16 | 27 | MHST17 | 157179 | 2 5/16 | 59 | MHST37 | 157377 | 4 3/8 | 111 | MHST70 | 157704 |
| **1 1/8** | **29** | **MHST18** | 157186 | 2 3/8 | 60 | MHST38 | 157384 | 4 1/2 | 114 | MHST72 | 157728 |
| 1 3/16 | 30 | MHST19 | 157193 | **2 1/2** | **64** | **MHST40** | 157407 | 4 3/4 | 121 | MHST76 | 157766 |
| 1 1/4 | 32 | MHST20 | 157209 | 2 9/16 | 65 | MHST41 | 157414 | 5 | 127 | MHST80 | 157803 |
| 1 5/16 | 33 | MHST21 | 157216 | 2 5/8 | 67 | MHST42 | 157421 | 5 1/4 | 133 | MHST84 | 157841 |
| **1 3/8** | **35** | **MHST22** | 157223 | 2 3/4 | 70 | MHST44 | 157445 | 5 1/2 | 140 | MHST88 | 157889 |
| 1 7/16 | 37 | MHST23 | 157230 | 2 7/8 | 73 | MHST46 | 157469 | 5 3/4 | 146 | MHST92 | 157926 |
| **1 1/2** | **38** | **MHST24** | 157247 | 3 | 76 | MHST48 | 157483 | 6 | 152 | MHST96 | 157964 |
| 1 9/16 | 40 | MHST25 | 157254 | 3 1/8 | 79 | MHST50 | 157506 | | | | |

Items noted in **BOLD** also available in kits. See pages 58-59.
***RPM recommendations*** provided on page 60.
***Pipe entrance and pipe tap recommendations*** provided on page 61.

# HOLE SAWS SPECIALTY

DIAMONDGRIT™

## DIAMOND GRIT

For use on extremely hard or abrasive materials where cut finish is important including stone, porcelain/ceramics, brick/masonry, cast iron, glass block, architectural stone, composites and laminate flooring.

### Applications

- Granite (stone)
- Ceramic Tile
- Glass Block
- Brick (masonry)
- Cast Iron
- Laminate Flooring

### Benefits

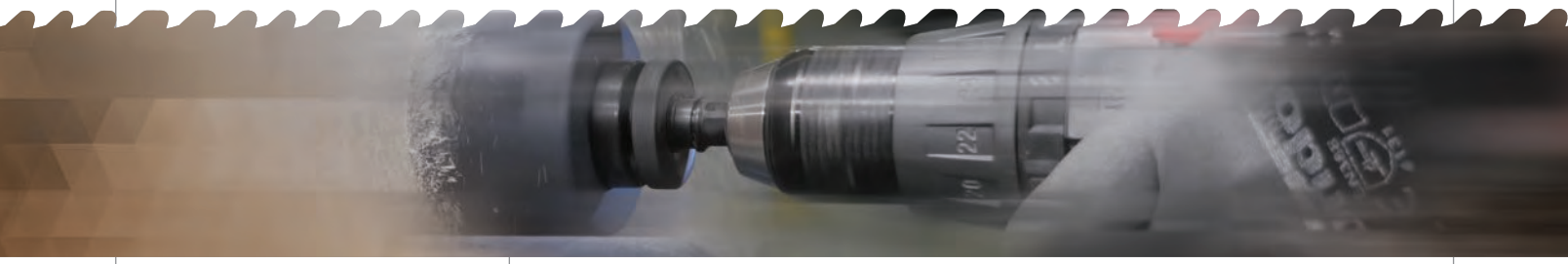
- Industrial Diamond Grit brazed to hardened and tempered alloy body.
- Fast and easy cutting of abrasive materials.
- Finish cut edges are smooth and clean.
- Hollow core center keeps hole saw centered
- Side slots allow for fast removal of material

**Auto-Pilot**
recommended for
Standard Hole Saws

| Diameter | | One-piece Hole Saws (arbor attached) | | Standard Hole Saws (arbor required) | |
|---|---|---|---|---|---|
| | | Model | Part | Model | Part |
| in | mm | 1/Card | | 1/Card | |
| 3/16 | 5 | DGM03C | 129152 | | |
| 1/4 | 6 | DGM04C | 129169 | | |
| 5/16 | 8 | DGM05C | 129176 | | |
| 3/8 | 10 | DGM06C | 129183 | | |
| 1/2 | 13 | DGM08C | 129190 | | |
| 5/8 | 16 | DGM10C | 129206 | | |
| 3/4 | 19 | DGM12C | 129213 | | |
| 7/8 | 22 | | | DG14C | 129008 |
| 1 | 25 | DGM16C | 129220 | | |
| 1 1/8 | 29 | | | DG18C | 129015 |
| 1 1/4 | 32 | | | DG20C | 129022 |
| 1 3/8 | 35 | DGM22C | 129237 | | |
| 2 | 51 | | | DG32C | 129039 |
| 2 1/2 | 64 | | | DG40C | 129046 |
| Auto-Pilot | |  | | DGAPC | 129503 |

**Arbor required for Standard Hole Saws:**
7/8 – 1 1/8 use 1/2 – 20
1 1/4 – 2 1/2 use 5/8 – 18

# HOLE SAWS SPECIALTY




## TUNGSTEN CARBIDE GRIT

### CARBIDE GRIT

For use on hard or abrasive materials including cement, brick, cinder block, cast iron, plaster with lath, unglazed ceramics, fiberglass, and composites.

### Applications

- Acoustic tile
- Brick
- Cast iron
- Cement board
- Ceramics
- Cinderblock
- Composites
- Computer flooring
- Fiberglass
- Hardened steel
- Particleboard
- Asbestos board
- Formica

### Benefits

- Super resistance to heat, wear and abrasion with shock resistant back
- Tungsten carbide grains are bonded to alloy backs with a gulleted snag resistant edge
- CT pilot drill recommended for masonry type materials


**Arbor Required:**
9/16 – 1 3/16 use 1/2 – 20
1 1/4 – 6 use 5/8 – 18

**Gulleted**

| Diameter | | Model | Part | Diameter | | Model | Part | Diameter | | Model | Part |
|---|---|---|---|---|---|---|---|---|---|---|---|
| in | mm | 1/Box | | in | mm | 1/Box | | in | mm | 1/Box | |
| **3/4** | **19** | **MHSG12** | 216128 | **1 3/4** | **44** | **MHSG28** | 216289 | 3 1/4 | 83 | MHSG52 | 216524 |
| 13/16 | 21 | MHSG13 | 216135 | 1 13/16 | 46 | MHSG29 | 216296 | 3 3/8 | 86 | MHSG54 | 216548 |
| **7/8** | **22** | **MHSG14** | 216142 | 1 7/8 | 48 | MHSG30 | 216302 | 3 1/2 | 89 | MHSG56 | 216562 |
| 15/16 | 24 | MHSG15 | 216159 | **2** | **51** | **MHSG32** | 216326 | 3 5/8 | 92 | MHSG58 | 216586 |
| 1 | 25 | MHSG16 | 216166 | 2 1/16 | 52 | MHSG33 | 216333 | 3 3/4 | 95 | MHSG60 | 216609 |
| 1 1/16 | 27 | MHSG17 | 216173 | 2 1/8 | 54 | MHSG34 | 216340 | 3 7/8 | 98 | MHSG62 | 216623 |
| **1 1/8** | **29** | **MHSG18** | 216180 | **2 1/4** | **57** | **MHSG36** | 216364 | 4 | 102 | MHSG64 | 216647 |
| 1 3/16 | 30 | MHSG19 | 216197 | 2 5/16 | 59 | MHSG37 | 216371 | 4 1/8 | 105 | MHSG66 | 216661 |
| 1 1/4 | 32 | MHSG20 | 216203 | 2 3/8 | 60 | MHSG38 | 216388 | 4 1/4 | 108 | MHSG68 | 216685 |
| 1 5/16 | 33 | MHSG21 | 216210 | **2 1/2** | **64** | **MHSG40** | 216401 | 4 3/8 | 111 | MHSG70 | 216708 |
| **1 3/8** | **35** | **MHSG22** | 216227 | 2 9/16 | 65 | MHSG41 | 216418 | 4 1/2 | 114 | MHSG72 | 216722 |
| 1 7/16 | 37 | MHSG23 | 216234 | 2 5/8 | 67 | MHSG42 | 216425 | 4 3/4 | 121 | MHSG76 | 216760 |
| **1 1/2** | **38** | **MHSG24** | 216241 | 2 3/4 | 70 | MHSG44 | 216449 | 5 | 127 | MHSG80 | 216807 |
| 1 9/16 | 40 | MHSG25 | 216258 | 2 7/8 | 73 | MHSG46 | 216463 | 5 1/2 | 140 | MHSG88 | 216883 |
| 1 5/8 | 41 | MHSG26 | 216265 | 3 | 76 | MHSG48 | 216487 | 5 3/4 | 146 | MHSG92 | 216920 |
| 1 11/16 | 43 | MHSG27 | 216272 | 3 1/8 | 79 | MHSG50 | 216500 | 6 | 152 | MHSG96 | 216968 |

**Continuous**

| | | | |
|---|---|---|---|
| 6 3/8 | 162 | MHSG104 | 216975 |
| 6 5/8 | 168 | MHSG106 | 216982 |
| 6 7/8 | 174 | MHSG110 | 216999 |

Items noted in **BOLD** also available in kits. See pages 58-59.
***RPM recommendations*** provided on page 60.
***Pipe entrance and pipe tap recommendations*** provided on page 61.

# RECESSED LIGHTING HOLE SAW

## RECESSED LIGHTING

Leave a clean cut for recessed light installation by selecting the right saw for the application. Carbide grit saws are best when installing in abrasive material like drywall, plaster and ceiling tile. For ceilings made of wood or metal, bi-metal hole saws are the best choice.

The lens diameter of the fixture provides a good indication of the hole size required. Consult the manufacturers installation instructions to confirm the hole size necessary to leave adequate clearance for the light assembly. The most popular sizes are provided below.

## Applications

**Carbide Grit**
- Drywall
- Plaster
- Lath
- Ceiling Tile

**Bi-Metal**
- Wood
- Metal

## Benefits

- Carbide grit saws leave clean cuts in abrasive materials like drywall, plaster and ceiling tile
- Bi-metal saws provide smooth cuts in wood or metal
- Application specific saws extend blade life
- Standard pilot drill recommended for most applications. CT pilot drill recommended for masonry type applications.

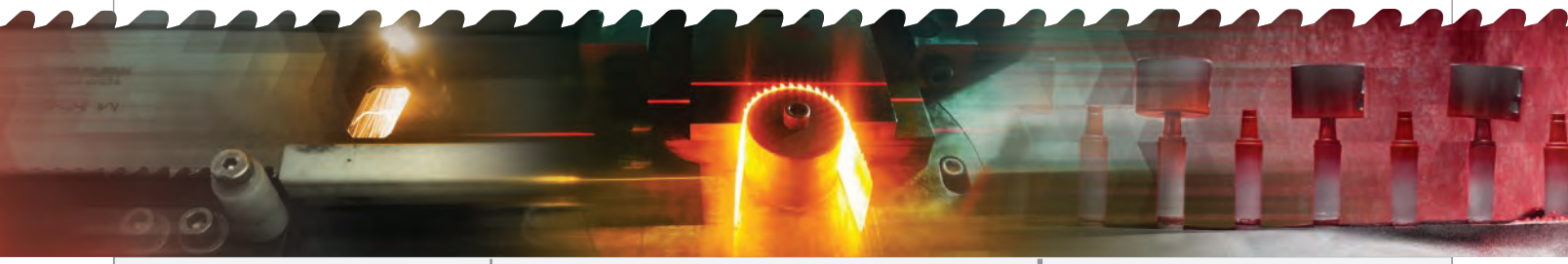


**Arbor Required:** 5/8 – 18

| Lighting Fixture Lens Diameter | | Hole Saw Diameter | | Best for Drywall, Plaster, Lath and Ceiling Tile 1/Box | | Best for Wood or Metal 1/Box | |
|---|---|---|---|---|---|---|---|
| in | mm | in | mm | Model | Part | Model | Part |
| | | | | Gulleted Carbide Grit | | Bi-Metal | |
| 2 | 51 | 2⅜ | 60 | MHSG38 | 216388 | MHS38 | 177382 |
| 3 | 76 | 3⅜ | 86 | MHSG54 | 216548 | MHS54 | 177542 |
| 4 | 102 | 4⅜ | 111 | MHSG70 | 216708 | MHS70 | 177702 |
| 5 | 127 | 5½ | 140 | MHSG88 | 216883 | MHS88 | 177887 |
| in | mm | in | mm | Model | Part | Model | Part |
| | | | | Continuous Carbide Grit | | Bi-Metal | |
| 6 | 152 | 6⅜ | 162 | MHSG104 | 216975 | MHS104 | 177498 |
| 6 | 152 | 6⅝ | 168 | MHSG106 | 216982 | MHS106 | 177535 |
| 6 | 152 | 6⅞ | 174 | MHSG110 | 216999 | | |

***RPM recommendations*** provided on page 60.
***Pipe entrance and pipe tap recommendations*** provided on page 61.

# HOLE SAW KITS



| | | | Electrician's Kits | | | | Plumber's Kits | | |
|---|---|---|---|---|---|---|---|---|---|
| MADE IN U.S.A. | | |  |  |  |  |  |  |  |
| **Component** | **Size** | | MHSELE01 | MHS08E | MHS02E | MHST02E | MHSPLU01 | MHS16P | MHS04P |
| | **in** | **mm** | 177894 | 177757 | 177771 | 157940 | 177900 | 177818 | 177795 |
| **Bi-Metal Hole Saws** | ¾ | 19 | 1 | | | | 1 | 1 | 1 |
| | ⅞ | 22 | 1 | 1 | 1 | | 1 | 1 | 1 |
| | 1 | 25 | 1 | | | | | | |
| | 1⅛ | 29 | 1 | 1 | 1 | | 1 | 1 | 1 |
| | 1¼ | 32 | 1 | | | | | | |
| | 1⅜ | 35 | 1 | 1 | 1 | | | | |
| | 1½ | 38 | 1 | | | | 1 | 1 | 1 |
| | 1¾ | 44 | 1 | 1 | 1 | | 1 | 1 | 1 |
| | 2 | 51 | 1 | 1 | 1 | | | | |
| | 2⅛ | 54 | | | | | 1 | | |
| | 2¼ | 57 | | | | | 1 | 1 | 1 |
| | 2½ | 64 | 1 | 1 | 1 | | | | |
| | 2 9/16 | 65 | | | | | 1 | 1 | |
| | 2⅝ | 67 | 1 | | | | | | |
| | 3 | 76 | 1 | 1 | | | 1 | 1 | |
| | 3¼ | 83 | | | | | | | |
| | 3⅜ | 86 | | | | | | | |
| | 3½ | 89 | | | | | 1 | 1 | |
| | 3⅝ | 92 | 1 | 1 | | | | | |
| | 3¾ | 95 | | | | | | | |
| | 4 | 102 | | | | | 1 | 1 | |
| | 4⅛ | 105 | 1 | 1 | | | | | |
| | 4¼ | 108 | | | | | 1 | 1 | |
| | 4½ | 114 | 1 | 1 | | | 1 | 1 | |
| | 4¾ | 121 | 1 | | | | | | |
| **Carbide Tipped Hole Saws** | ¾ | 19 | 1 | | | | | | |
| | ⅞ | 22 | 1 | | | 1 | | | |
| | 1⅛ | 29 | 1 | | | 1 | | | |
| | 1⅜ | 35 | 1 | | | 1 | | | |
| | 1½ | 38 | 1 | | | | | | |
| | 1¾ | 44 | 1 | | | 1 | | | |
| | 2 | 51 | 1 | | | 1 | | | |
| | 2¼ | 57 | 1 | | | | | | |
| | 2½ | 64 | 1 | | | 1 | | | |
| **Carbide Grit Hole Saws** | ¾ | 19 | | | | | 1 | | |
| | ⅞ | 22 | | | | | 1 | | |
| | 1⅛ | 29 | | | | | 1 | | |
| | 1⅜ | 35 | | | | | 1 | | |
| | 1½ | 38 | | | | | 1 | | |
| | 1¾ | 44 | | | | | 1 | | |
| | 2 | 51 | | | | | 1 | | |
| | 2¼ | 57 | | | | | 1 | | |
| | 2½ | 64 | | | | | 1 | | |
| **Arbors** | **Chuck** | **Thread** | | | | | | | |
| | ¼ | ½ - 20 | | 1 | | | 1 | | |
| | ⅜ | ½ - 20 | 1 | 1 | 1 | | | 1 | 1 |
| | ⅜ Pinned | ⅝ - 18 | 1 | | | | | | |
| | ½ Pinned | ⅝ - 18 | | 1 | 1 | | 1 | 1 | 1 |
| | ⅜ CT | ½ - 20 | | | | 1 | | | |
| | ½ CT Pinned | ⅝ - 18 | | | | 1 | | | |
| **Extensions** | **Chuck** | **Length** | | | | | | | |
| | ½ | 12 (305) | | | | | | | |
| **Adapters** | **Arbor** | **Saw** | | | | | | | |
| | ½ - 20 | ⅝ - 18 | | | | | | | |
| **Pilot Drills** | Standard | | 2 | | | | 2 | 2 | |
| | Carbide Tipped | | | | | | 2 | | |
| **Template** | | | | | | | | | |

| Industrial Kits | | | | | | Automotive | Locksmith | | General Purpose |
|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  |  |
| MHS23M | MHS06I | MHS08I | MHS100 | MHST100 | MHSG100 | MHS05M | MHS02L | MHSALKIT1 | MHS03U |
| 177788 | 177870 | 177863 | 177825 | 157933 | 162005 | 116916 | 177856 | 116909 | 177832 |
| 1 | 1 | 1 | 1 | | | | | | 1 |
| 1 | 1 | 1 | 1 | | | 1 | 1 | | 1 |
| 1 | | 1 | | | | 1 | 1 | 1 | |
| 1 | 1 | | 1 | | | 1 | | | 1 |
| | | 1 | | | | 1 | 1 | | |
| 1 | 1 | 1 | 1 | | | | | | |
| 1 | 1 | 1 | 1 | | | 1 | 1 | | 1 |
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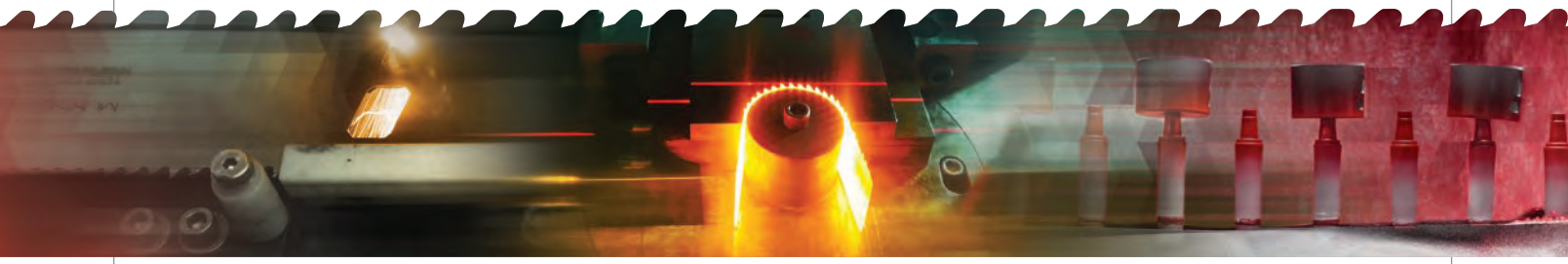
| | | | | 1 | 1 | | | | |
| 1 | 1 | 1 | | | | | | | |
| | | | | | | 1 | | 1 | |
| 2 | | | | | | | | | |
| | | | | | | | | 1 | |

# HOLE SAWS OPERATING PARAMETERS



## Recommended Hole Sawing Speeds (RPM)

### Bi-Metal (MHS & MHSA Style)

| Size in | Size mm | Mild Steel | Tool / Stainless Steels | Cast Iron | Brass | Aluminum |
|---|---|---|---|---|---|---|
| 9/16 | 14 | 550 | 300 | 400 | 790 | 900 |
| 5/8 | 16 | 530 | 275 | 365 | 730 | 825 |
| 11/16 | 17 | 500 | 250 | 330 | 665 | 750 |
| 3/4 | 19 | 460 | 230 | 300 | 600 | 690 |
| 13/16 | 21 | 425 | 210 | 280 | 560 | 630 |
| 7/8 | 22 | 390 | 195 | 260 | 520 | 585 |
| 15/16 | 24 | 370 | 185 | 245 | 495 | 555 |
| 1 | 25 | 350 | 175 | 235 | 470 | 525 |
| 1 1/16 | 27 | 325 | 160 | 215 | 435 | 480 |
| 1 1/8 | 29 | 300 | 150 | 200 | 400 | 450 |
| 1 3/16 | 30 | 285 | 145 | 190 | 380 | 425 |
| 1 1/4 | 32 | 275 | 140 | 180 | 360 | 410 |
| 1 5/16 | 33 | 260 | 135 | 175 | 345 | 390 |
| 1 3/8 | 35 | 250 | 125 | 165 | 330 | 375 |
| 1 7/16 | 37 | 240 | 120 | 160 | 315 | 360 |
| 1 1/2 | 38 | 230 | 115 | 150 | 300 | 345 |
| 1 9/16 | 40 | 220 | 110 | 145 | 290 | 330 |
| 1 5/8 | 41 | 210 | 105 | 140 | 280 | 315 |
| 1 11/16 | 43 | 205 | 100 | 135 | 270 | 305 |
| 1 3/4 | 44 | 195 | 95 | 130 | 260 | 295 |
| 1 13/16 | 46 | 190 | 95 | 125 | 250 | 285 |
| 1 7/8 | 48 | 180 | 90 | 120 | 240 | 270 |
| 2 | 51 | 170 | 85 | 115 | 230 | 255 |
| 2 1/16 | 52 | 165 | 80 | 110 | 220 | 245 |
| 2 1/8 | 54 | 160 | 80 | 105 | 210 | 240 |
| 2 1/4 | 57 | 150 | 75 | 100 | 200 | 230 |
| 2 5/16 | 59 | 145 | 75 | 100 | 195 | 225 |
| 2 3/8 | 60 | 140 | 70 | 95 | 190 | 220 |
| 2 1/2 | 64 | 135 | 70 | 90 | 180 | 205 |
| 2 9/16 | 65 | 130 | 65 | 85 | 175 | 200 |
| 2 5/8 | 67 | 130 | 65 | 85 | 170 | 195 |
| 2 3/4 | 70 | 125 | 60 | 80 | 160 | 185 |
| 2 7/8 | 73 | 120 | 60 | 80 | 160 | 180 |
| 3 | 76 | 115 | 55 | 75 | 150 | 170 |
| 3 1/8 | 79 | 110 | 55 | 70 | 145 | 165 |
| 3 1/4 | 83 | 105 | 50 | 70 | 140 | 155 |
| 3 3/8 | 86 | 100 | 50 | 65 | 130 | 150 |
| 3 1/2 | 89 | 95 | 45 | 60 | 125 | 145 |
| 3 5/8 | 92 | 95 | 45 | 60 | 120 | 140 |
| 3 3/4 | 95 | 90 | 45 | 60 | 120 | 135 |
| 3 7/8 | 98 | 90 | 45 | 60 | 115 | 130 |
| 4 | 102 | 85 | 40 | 55 | 115 | 125 |
| 4 1/8 | 105 | 85 | 40 | 55 | 110 | 120 |
| 4 1/4 | 108 | 80 | 40 | 55 | 110 | 115 |
| 4 3/8 | 111 | 80 | 40 | 50 | 100 | 110 |
| 4 1/2 | 114 | 75 | 35 | 50 | 100 | 105 |
| 4 3/4 | 121 | 70 | 35 | 45 | 90 | 95 |
| 5 | 127 | 65 | 30 | 40 | 85 | 90 |
| 5 1/2 | 140 | 60 | 30 | 35 | 80 | 85 |
| 5 3/4 | 146 | 60 | 30 | 35 | 80 | 85 |
| 6 | 152 | 55 | 25 | 35 | 75 | 80 |

### Carbide Tipped (MHST Style)

| Size in | Size mm | Ceramic Tile RPM | Plastic RPM | Formica RPM | Aluminum RPM | Fiberglass RPM | Computer Flooring RPM | Cast Iron RPM | Particle Board RPM |
|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 19 | 495 | 3425 | 205 | 1695 | 245 | 445 | 405 | 3425 |
| 7/8 | 22 | 425 | 2935 | 175 | 1495 | 205 | 465 | 345 | 2935 |
| 1 | 25 | 365 | 2565 | 145 | 1295 | 185 | 405 | 305 | 2565 |
| 1 1/8 | 29 | 325 | 2285 | 135 | 1095 | 165 | 365 | 265 | 2285 |
| 1 3/8 | 35 | 265 | 1865 | 105 | 895 | 135 | 295 | 215 | 1865 |
| 1 1/2 | 38 | 245 | 1705 | 95 | 895 | 115 | 265 | 205 | 1705 |
| 1 3/4 | 44 | 205 | 1465 | 85 | 695 | 105 | 235 | 175 | 1465 |
| 2 1/8 | 54 | 175 | 1285 | 75 | 595 | 85 | 205 | 145 | 1285 |
| 2 1/4 | 57 | 165 | 1135 | 65 | 595 | 75 | 175 | 135 | 1135 |
| 2 1/2 | 64 | 145 | 1025 | 55 | 495 | 65 | 155 | 115 | 1025 |
| 2 3/4 | 70 | 130 | 935 | 50 | 445 | 60 | 145 | 105 | 940 |
| 3 | 76 | 115 | 855 | 45 | 395 | 55 | 135 | 95 | 855 |
| 3 1/4 | 83 | 105 | 785 | 45 | 395 | 55 | 125 | 85 | 785 |
| 3 1/2 | 89 | 100 | 705 | 35 | 395 | 45 | 105 | 85 | 705 |
| 3 3/4 | 95 | 95 | 685 | 35 | 295 | 45 | 105 | 75 | 685 |
| 4 | 102 | 90 | 630 | 35 | 295 | 45 | 95 | 65 | 615 |
| 4 1/4 | 108 | 85 | 580 | 35 | 295 | 45 | 95 | 60 | 570 |
| 4 1/2 | 114 | 85 | 550 | 25 | 295 | 35 | 85 | 55 | 535 |
| 5 | 127 | 75 | 475 | 25 | 195 | 35 | 85 | 55 | 495 |
| 5 1/2 | 140 | 65 | 415 | 25 | 195 | 35 | 75 | 45 | 455 |
| 6 | 152 | 55 | 355 | 25 | 95 | 25 | 55 | 35 | 415 |

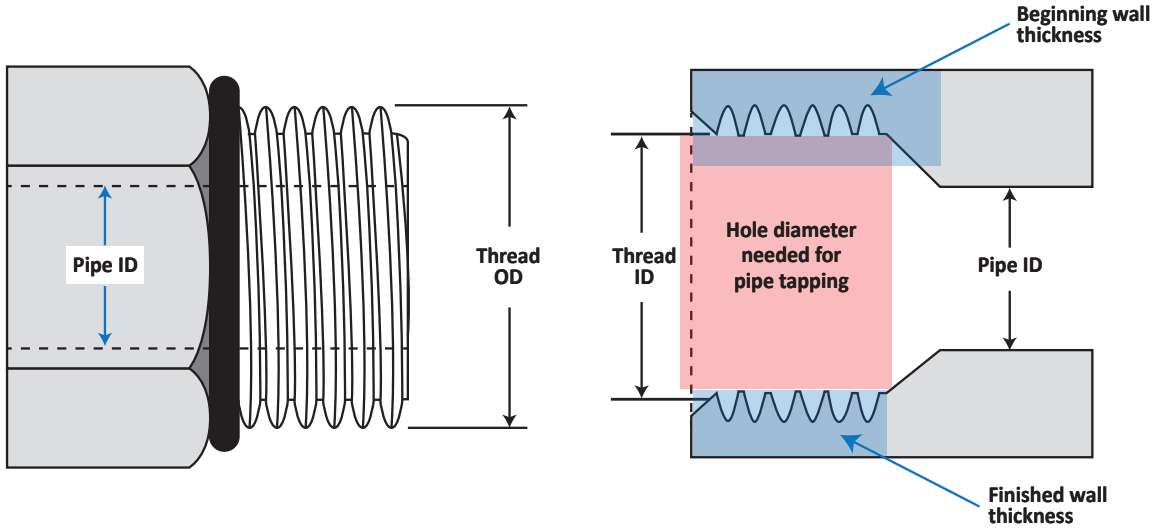
### Carbide Grit (MHSG Style)

| MATERIAL TO BE CUT | RPM | COOLANT | DUST PROTECTION |
|---|---|---|---|
| Hardened Tool Steel (Rc 42–65) | SLOW | yes | |
| Nitride Case & Induction Hardened Steel | SLOW | yes | |
| High Temp Nickel & Iron Base Superalloys | SLOW | yes | |
| Hastelloy | SLOW | yes | |
| Aircraft and Sheet Stainless | SLOW | yes | |
| Beryllium | SLOW | yes | |
| Sintered Tungsten, Molybdenum, Iron, Stainless | SLOW | optional | |
| White & High Allow Cast Iron | SLOW | yes | |
| Grey Cast Iron | SLOW | no | |
| Titanium | SLOW | yes | |
| Foamed Glass | FAST | no | yes |
| Syntactic Foam | MED | no | yes |
| Low Density Ceramics | MED | optional | yes |
| Green Unfired Ceramics | MED | no | yes |
| Fiber Reinforced Cement | MED | no | yes |
| Fiberglass Honeycomb | FAST | no | yes |
| Polyesters, Epoxies, Melamines, Phenolics | FAST | no | yes |
| Graphite Composites | FAST | no | yes |
| Carbon & Graphite | FAST | no | yes |
| Glass | MED | yes | |
| Wire Reinforced Rubber | FAST | yes | |
| Compressed Perlite Fiber Board | MED | no | yes |
| Cement Lined Steel & Cast Iron Pipe | SLOW | optional | |
| Soapstone, Mica, Slate, Lava, Coal | SLOW | no | yes |

**Speed Ranges:** Slow 125–400 RPM; Medium 400–800 RPM; Fast 800+ RPM

# Pipe Tapping:

The tapping hole should match the inner thread diameter of the male threaded fitting.

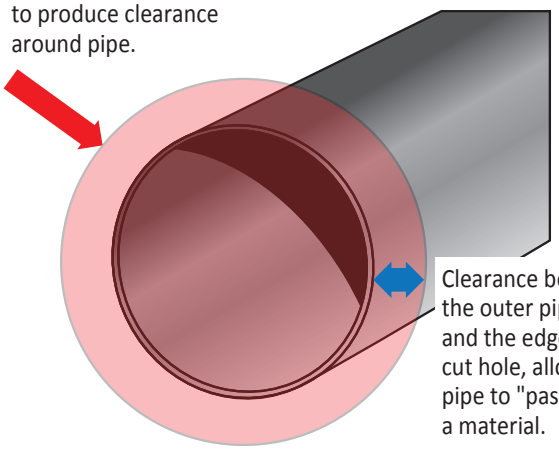



**Note:** Pipe diameter for 12" and smaller pipes refers to the **ID (inside diameter)** of the pipe.
For larger pipes, diameter is the **OD (outside diameter)** of the pipe.

# Pipe Entrance:

The hole diameter necessary so a pipe will pass through a material, with clearance.

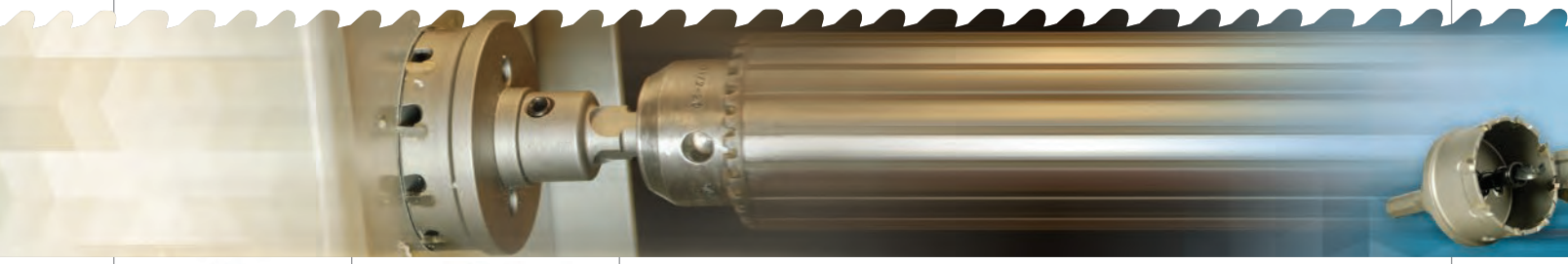
Hole diameter needed to produce clearance around pipe.



Clearance between the outer pipe wall and the edge of the cut hole, allowing the pipe to "pass through" a material.

| Pipe Diameter (ID) | | Hole Saw Size | | | |
|---|---|---|---|---|---|
| | | Pipe Tap | | Pipe Entrance | |
| in | mm | in | mm | in | mm |
| ⅜ | 10 | | | ¾ | 19 |
| ½ | 13 | ¾ | 19 | ⅞ | 22 |
| ¾ | 19 | ⅞ | 22 | 1⅛ | 29 |
| 1 | 25 | 1⅛ | 29 | 1⅜ | 35 |
| 1¼ | 32 | 1½ | 38 | 1¾ | 44 |
| 1½ | 38 | 1¾ | 44 | 2 | 51 |
| 2 | 51 | 2¼ | 57 | 2½ | 64 |
| 2½ | 64 | 2⅝ | 67 | 3 | 76 |
| 3 | 76 | 3¼ | 83 | 3⅝ | 92 |
| 3½ | 89 | 3¾ | 95 | 4⅛ | 105 |
| 4 | 102 | 4½ | 114 | 4⅝ | 117 |
| 4½ | 114 | 4¾ | 121 | | |

# PRECISION HOLE CUTTING METAL



## CARBIDE TIPPED HOLE CUTTERS

Precision cutting for high production applications. Makes clean, fast cuts in sheet metal, stainless steel, pipe, conduit, aluminum and composites.

### Applications

- Sheet metal
- Stainless steel
- Pipe
- Aluminum
- PVC/ABS
- Plastic

### Benefits

- Precision ground triple chip tooth for smooth cutting
- Two cutting depths offered: 1″ (25mm) for pipe and conduit 3⁄16″ (4.5mm) for sheet metal
- Ejector spring for slug removal
- Step-center pilot bit reduces “break through” impact
- Grooved gullet directs chips away from the cut
- Flat shank fits 3⁄8″ and larger drill chucks

Items noted in **BOLD** also available in kits. See pages 63.

| Diameter | | Shank | Shallow Cut Depth 3⁄16″ (4.5mm) | | Deep Cut Depth 1″ (25mm) | |
|---|---|---|---|---|---|---|
| in | mm | | Model | Part | Model | Part |
| | | | 1/Tube | | 1/Tube | |
| 9⁄16 | 14 | 10mm 6-sided | CTS09 | 166034 | CTD09 | 167024 |
| 5⁄8 | 16 | 10mm 6-sided | CTS10 | 166041 | CTD10 | 167031 |
| **11⁄16** | **17** | 10mm 6-sided | CTS11 | 166058 | **CTD11** | 167048 |
| 3⁄4 | 19 | 10mm 6-sided | CTS12 | 166065 | CTD12 | 167055 |
| | 20 | 10mm 6-sided | CTS125 | 166577 | CTD125 | 167437 |
| **13⁄16** | **21** | 10mm 6-sided | CTS13 | 166072 | **CTD13** | 167062 |
| **7⁄8** | **22** | 10mm 6-sided | **CTS14** | 166089 | CTD14 | 167079 |
| **15⁄16** | **24** | 10mm 6-sided | CTS15 | 166096 | **CTD15** | 167086 |
| | 25 | 10/13mm 3-sided | CTS155 | 166584 | CTD155 | 167444 |
| 1 | 25 | 10/13mm 3-sided | CTS16 | 166102 | CTD16 | 167093 |
| **1 1⁄16** | **27** | 10/13mm 3-sided | CTS17 | 166119 | **CTD17** | 167109 |
| **1 1⁄8** | **29** | 10/13mm 3-sided | **CTS18** | 166126 | CTD18 | 167116 |
| 1 3⁄16 | 30 | 10/13mm 3-sided | CTS19 | 166133 | CTD19 | 167123 |
| 1 7⁄32 | 31 | 10/13mm 3-sided | CTS195 | 166140 | | |
| 1 1⁄4 | 32 | 10/13mm 3-sided | CTS20 | 166157 | CTD20 | 167130 |
| | 32 | 10/13mm 3-sided | CTS205 | 166591 | CTD205 | 167451 |
| 1 5⁄16 | 33 | 10/13mm 3-sided | CTS21 | 166164 | CTD21 | 167147 |
| **1 3⁄8** | **35** | 10/13mm 3-sided | **CTS22** | 166171 | CTD22 | 167154 |
| 1 7⁄16 | 37 | 10/13mm 3-sided | CTS23 | 166188 | CTD23 | 167161 |
| | 38 | 10/13mm 3-sided | CTS235 | 166607 | CTD235 | 167468 |
| 1 1⁄2 | 38 | 10/13mm 3-sided | CTS24 | 166195 | CTD24 | 167178 |
| 1 9⁄16 | 40 | 13mm 6-sided | CTS25 | 166201 | CTD25 | 167185 |
| 1 5⁄8 | 41 | 13mm 6-sided | CTS26 | 166218 | CTD26 | 167192 |
| 1 11⁄16 | 43 | 13mm 6-sided | CTS27 | 166225 | CTD27 | 167208 |
| **1 3⁄4** | **44** | 13mm 6-sided | **CTS28** | 166232 | CTD28 | 167215 |
| 1 13⁄16 | 46 | 13mm 6-sided | CTS29 | 166249 | CTD29 | 167222 |
| 1 7⁄8 | 48 | 13mm 6-sided | CTS30 | 166256 | CTD30 | 167239 |
| 1 15⁄16 | 49 | 13mm 6-sided | CTS31 | 166263 | CTD31 | 167246 |
| | 50 | 13mm 6-sided | CTS315 | 166614 | CTD315 | 167475 |
| **2** | **51** | 13mm 6-sided | **CTS32** | 166270 | CTD32 | 167253 |
| 2 1⁄16 | 52 | 13mm 6-sided | CTS33 | 166621 | | |
| 2 1⁄8 | 54 | 13mm 6-sided | CTS34 | 166287 | CTD34 | 167260 |
| 2 3⁄16 | 56 | 13mm 6-sided | CTS35 | 166294 | | |
| 2 1⁄4 | 57 | 13mm 6-sided | CTS36 | 166300 | CTD36 | 167277 |
| 2 5⁄16 | 59 | 13mm 6-sided | CTS37 | 166317 | | |
| 2 3⁄8 | 60 | 13mm 6-sided | CTS38 | 166324 | CTD38 | 167284 |

| Diameter | | Shank | Shallow Cut Depth 3⁄16″ (4.5mm) | | Deep Cut Depth 1″ (25mm) | |
|---|---|---|---|---|---|---|
| in | mm | | Model | Part | Model | Part |
| | | | | 1/Box | | 1/Box |
| 2 7⁄16 | 62 | 13mm 6-sided | CTS39 | 166331 | | |
| 2 1⁄2 | 64 | 13mm 6-sided | CTS40 | 166348 | CTD40 | 167291 |
| 2 9⁄16 | 65 | 13mm 6-sided | CTS41 | 166355 | CTD41 | 167307 |
| 2 5⁄8 | 67 | 13mm 6-sided | CTS42 | 166362 | CTD42 | 167314 |
| 2 11⁄16 | 68 | 13mm 6-sided | CTS435 | 166379 | | |
| 2 3⁄4 | 70 | 13mm 6-sided | CTS44 | 166386 | CTD44 | 167321 |
| 2 13⁄16 | 71 | 13mm 6-sided | CTS45 | 166393 | | |
| 2 7⁄8 | 73 | 13mm 6-sided | CTS46 | 166409 | CTD46 | 167338 |
| 2 15⁄16 | 75 | 13mm 6-sided | CTS47 | 166416 | | |
| 3 | 76 | 13mm 6-sided | CTS48 | 166423 | CTD48 | 167345 |
| 3 1⁄8 | 79 | 13mm 6-sided | CTS50 | 166430 | | |
| 3 1⁄4 | 83 | 13mm 6-sided | CTS52 | 166447 | CTD52 | 167352 |
| 3 3⁄8 | 86 | 13mm 6-sided | CTS54 | 166454 | | |
| 3 1⁄2 | 89 | 13mm 6-sided | CTS56 | 166461 | CTD56 | 167369 |
| 3 5⁄8 | 92 | 13mm 6-sided | CTS58 | 166478 | CTD58 | 167376 |
| 3 3⁄4 | 95 | 13mm 6-sided | CTS60 | 166485 | CTD60 | 167383 |
| 3 7⁄8 | 98 | 13mm 6-sided | CTS62 | 166492 | | |
| 4 | 102 | 13mm 6-sided | CTS64 | 166508 | CTD64 | 167390 |
| 4 1⁄8 | 105 | 13mm 6-sided | CTS66 | 166515 | CTD66 | 167406 |
| 4 1⁄4 | 108 | 13mm 6-sided | CTS68 | 166522 | CTD68 | 167413 |
| 4 3⁄8 | 111 | 13mm 6-sided | CTS70 | 166539 | | |
| 4 1⁄2 | 114 | 13mm 6-sided | CTS72 | 166546 | CTD72 | 167420 |
| 4 3⁄4 | 121 | 13mm 6-sided | CTS76 | 166553 | | |
| 5 | 127 | 13mm 6-sided | CTS80 | 166560 | | |

## Kits

**Electrician**

| Depth | Model | Part |
|---|---|---|
| Shallow | CTS02 | 166737 |

**Components**

| Diameter | |
|---|---|
| in | mm |
| 7⁄8 | 22 |
| 1 1⁄8 | 29 |
| 1 3⁄8 | 35 |
| 1 3⁄4 | 44 |
| 2 | 51 |
| 2 1⁄2 | 64 |

TCT Stepped Pilot Drill

Ejector Spring

Hex Key

**Electrician**

| Depth | Model | Part |
|---|---|---|
| Shallow | CTS01 | 166720 |

**Components**

| Diameter | |
|---|---|
| in | mm |
| 7⁄8 | 22 |
| 1 1⁄8 | 29 |
| 1 3⁄8 | 35 |

TCT Stepped Pilot Drill

Ejector Spring

Hex Key

**Mechanical Contractor**

| Depth | Model | Part |
|---|---|---|
| Deep | CTD01 | 167543 |

**Components**

| Diameter | |
|---|---|
| in | mm |
| 11⁄16 | 17 |
| 13⁄16 | 21 |
| 15⁄16 | 24 |
| 1 1⁄16 | 27 |

TCT Stepped Pilot Drill

Ejector Spring

Hex Key

## Accessories

Items noted in **BOLD** also available in kits. See below.

| Description | | Shallow 1/Pack | | Deep 1/Pack | |
|---|---|---|---|---|---|
| Set Screws |  | CTSW01 | 166003 | CTSW01 | 166003 |
| TCT Stepped Pilot Drill for **4" (102mm) and less** | | | | | |
| |  | **CTSP** | 166010 | **CTDP** | 167000 |
| TCT Stepped Pilot Drill for **4" (102mm) and up** | | | | | |
| |  | CTSPXL | 166638 | CTDPXL | 167482 |
| Ejector Springs |  | **CTSS** | 166027 | **CTDS** | 167017 |

# PRECISION HOLE CUTTING METAL

SWITCH BACK™

## STEP DRILLS

Designed for repetitive hole cutting or enlargement for electrical, automotive and sheet metal applications.

### Applications

- Steel
- Sheet Metal
- Aluminum
- Copper
- Brass
- Plexiglass
- Plasterboard
- PVC and other plastics

### Benefits

- Reduce secondary operations with trailing flute that automatically deburs holes
- Increase accuracy when drilling with 3 flats on shank for secure fastening in drill
- Faster penetration than standard points with split point tip for self starting drills
- Re-sharpenable cutting edges allows for longer tool life

Items noted in **BOLD** also available in kits. See below.

| Description | Shank | High Speed Steel | | TiN Coated | |
|---|---|---|---|---|---|
| **Self-Starting** | | Model | Part | Model | Part |
| | | 1/Box | | 1/Box | |
| **⅛ - ½ by 32nds** | **¼ Impact** | **SDSS01** | 124409 | **SDSS01TIN** | 124522 |
| ⅛ - ⅜ by 16ths | ¼ Impact | SDSS02 | 124416 | | |
| ⅛ - ½ by 16ths | ¼ Impact | SDSS03 | 124423 | | |
| 3⁄16 - ½ by 16ths | ¼ Impact | SDSS04 | 124430 | | |
| **3⁄16 - ⅞ by 16ths** | **¼ Impact** | **SDSS05** | 124447 | **SDSS05TIN** | 124539 |
| **¼ - ¾ by 16ths** | **¼ Impact** | **SDSS06** | 124454 | **SDSS06TIN** | 124546 |
| ¼ - 1 by 16ths | ¼ Impact | SDSS08 | 124478 | | |
| ¼ - 1⅛ by 16ths | ¼ Impact | SDSS09 | 124485 | | |
| ¼ - 1⅜ by 8ths | ⅜ | SDSS10 | 124492 | | |
| **Hole Enlarging - 1/2" or Larger Pilot Hole** | | | | | |
| 9⁄16 - 1 by 16ths | ¼ Impact | SDHE11 | 124508 | | |
| ¾ - 1⅜ by 16ths | ⅜ | SDHE12 | 124515 | | |

## Kit - Electrician's/Automotive

| High Speed Steel | | Components | |
|---|---|---|---|
| Model | Part | Description | Shank |
| SDKIT01 | 124607 | ⅛ - ½ by 32nds | ¼ Impact |
| | | 3⁄16 - ⅞ by 16ths | ¼ Impact |
| | | ¼ - ¾ by 16ths | ¼ Impact |

## DOUBLE CUT AUGER BITS

Excellent for deep boring in wood and nail-embedded wood. Applications include landscaping timbers, log and timber frame construction, plumbing and electrical installations.

### Benefits

- Self-feed screw point for effortless boring
- Double flute design for fast chip removal and less clearing of bit
- The ability to resharpen edge allows for quick touch ups to maintain edge and life of bit

| Bore Diameter | | Shank | 7½ in | | 18 in | | 36 in | |
|---|---|---|---|---|---|---|---|---|
| in | mm | | Model | Part | Model | Part | Model | Part |
| | | | 1/Box | | 1/Box | | 1/Box | |
| ¼ | 6 | ¼ | WSAB750250 | 125772 | | | | |
| 5/16 | 8 | 5/16 | WSAB750312 | 125789 | | | | |
| ⅜ | 10 | ⅜ | WSAB750375 | 125796 | WSAB180375 | 125505 | | |
| 7/16 | 11 | 7/16 | WSAB750437 | 124973 | WSAB180437 | 125512 | | |
| ½ | 13 | 7/16 | WSAB750500 | 124980 | WSAB180500 | 125529 | | |
| 9/16 | 14 | 7/16 | WSAB750562 | 124997 | WSAB180562 | 125536 | WSAB360562 | 125178 |
| ⅝ | 16 | 7/16 | WSAB750625 | 125666 | WSAB180625 | 125543 | WSAB360625 | 125185 |
| 11/16 | 17 | 7/16 | WSAB750687 | 125673 | WSAB180687 | 125550 | WSAB360687 | 125192 |
| ¾ | 19 | 7/16 | WSAB750750 | 125680 | WSAB180750 | 125567 | WSAB360750 | 125239 |
| 13/16 | 21 | 7/16 | WSAB750812 | 125697 | WSAB180812 | 125574 | WSAB360812 | 125246 |
| ⅞ | 22 | 7/16 | WSAB750875 | 125703 | WSAB180875 | 125581 | WSAB360875 | 125253 |
| 15/16 | 24 | 7/16 | WSAB750937 | 125710 | WSAB180937 | 125598 | WSAB360937 | 125260 |
| 1 | 25 | 7/16 | WSAB751000 | 125727 | WSAB181000 | 125604 | WSAB361000 | 125277 |
| 1 1/16 | 27 | 7/16 | | | WSAB181062 | 125611 | WSAB361062 | 125284 |
| 1⅛ | 29 | 7/16 | WSAB751125 | 125734 | WSAB181125 | 125628 | WSAB361125 | 125291 |
| 1¼ | 32 | 7/16 | WSAB751250 | 125741 | WSAB181250 | 125635 | | |
| 1⅜ | 35 | 7/16 | WSAB751375 | 125758 | WSAB181375 | 125642 | | |
| 1½ | 38 | 7/16 | WSAB751500 | 125765 | WSAB181500 | 125659 | | |

# WOOD CUTTING

## SPADE BITS

Fast, deep cutting in wood, plywood, composites and laminates.

### Applications

- Wood
- Plastic
- Plywood
- Formica
- Wood composites

### Benefits

- Produce a cleaner hole with less vibration with the angled spur
- Uses bit to pull lead wire back through the drilled hole
- ¼″ (6.4mm) quick change shank size fits all power drills

| Bore Diameter | | 10/Box | |
|---|---|---|---|
| in | mm | Model | Part |
| ¼ | 6 | WSB250 | 125000 |
| 5⁄16 | 8 | WSB312 | 125017 |
| ⅜ | 10 | WSB375 | 125024 |
| 7⁄16 | 11 | WSB437 | 125031 |
| ½ | 13 | WSB500 | 125048 |
| 9⁄16 | 14 | WSB562 | 125055 |
| ⅝ | 16 | WSB625 | 125062 |
| 11⁄16 | 17 | WSB687 | 125079 |
| ¾ | 19 | WSB750 | 125086 |
| 13⁄16 | 21 | WSB812 | 125093 |
| ⅞ | 22 | WSB875 | 125109 |
| 15⁄16 | 24 | WSB937 | 125116 |
| 1 | 25 | WSB1000 | 125123 |
| 1⅛ | 29 | WSB1125 | 125130 |
| 1¼ | 32 | WSB1250 | 125147 |
| 1⅜ | 35 | WSB1375 | 125154 |
| 1½ | 38 | WSB1500 | 125161 |


# RECIPROCATING SAW BLADES

| Blade Type | Application |
|---|---|
| **General Purpose** | |
| **Carbide Tipped** | |
| CTR | Best for cutting hard or abrasive materials including cast iron, stainless steel, fiberglass or nail-free wood. |
| **Bi-Metal** | |
| Master Cobalt Hybrid | Designed to cut a variety of materials ranging from wood and plastic, to ferrous and non-ferrous metals. |
| **Metal** | |
| **Bi-Metal** | |
| SParc | Designed for faster cutting and longer blade life when cutting a variety of materials ranging from wood and plastic, to ferrous and non-ferrous metals. |
| Advanced Edge Power | Best for cutting machinable metals up to 1/4" thick where added beam strength is important. |
| Master Cobalt Metal | Best for cutting machinable metals up to 1/4" thick. Narrow blade options for radius cutting. |
| **Wood** | |
| **Bi-Metal** | |
| Master Cobalt Wood | Specifically designed for cutting all types of wood, wood composites and nail-embedded wood. Narrow blade options for radius cutting. |
| **Specialty** | |
| **Demolition** | |
| Renovator | Specifically designed for rough-in, plunge cutting and wider cuts in wood, wood composites or nail-embedded wood. |
| Havoc | Specifically designed for rough-in, plunge cutting and heavier feed pressure in wood, wood composites or nail-embedded wood. |
| **Automotive** | |
| Auto Salvage | Optimized for automotive reclamation/ recycling or other automotive modifications. |
| Pipe Boss | Specifically designed for tailpipe and muffler removal or other automotive modifications. |
| **Safety** | |
| Fire + Rescue | Specifically designed for rapid cutting for automotive extraction. |
| **Drywall & Plaster** | |
| Plaster | Designed for cutting drywall, plasterboard and plaster with wood or metal lath. |
| **Pallet** | |
| Pallet Dismantler | Specifically designed for pallet recycling. |
| **Grit** | |
| Diamond Grit | For use on extremely hard or abrasive materials including stone, porcelain/ ceramics, brick/masonry, architectural stone and composites. |
| Carbide Grit | Designed to cut materials too thin, hard or abrasive for conventional carbide tipped or bi-metal blades. |

# GENERAL PURPOSE CARBIDE TIPPED



## CTR CARBIDE TIPPED

The Morse CTR Recip is the best choice for thick metal cutting applications between 3⁄16" and ½". This high performance blade provides longer cutting life over traditional bi-metal blades.

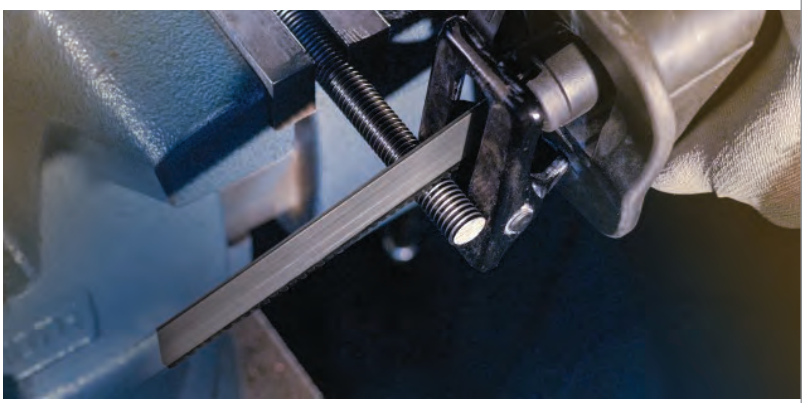
### Applications

- Cast Iron
- Threaded Rod
- Emt Conduit
- Stainless Steel
- Steel Plate
- Non-Ferrous Metal
- Rubber
- Steel Studs
- Rebar
- Black Iron Pipe
- Angle Iron
- Metal Alloys

### Benefits

- More cost effective than bi-metal blades when cutting stainless steel, high strength alloys and other tough metals
- Precision ground carbide teeth
- Maximum cutting performance in thick metal applications
- 1 in x .050" blade body for straighter cuts and less vibration

| TPI | in | | | mm | | | 1/Card | | 15/Tube | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Length | Width | Thickness | Length | Width | Thickness | Model | Part | Model | Part |
| 8 | 4 | 1 | .050 | 102 | 25 | 1.3 | CTR408MC1 | 405201 | | |
| 8 | 6 | 1 | .050 | 152 | 25 | 1.3 | CTR608MC1 | 405218 | CTR608MC15 | 405782 |
| 8 | 9 | 1 | .050 | 229 | 25 | 1.3 | CTR908MC1 | 405225 | CTR908MC15 | 405799 |
| 8 | 12 | 1 | .050 | 305 | 25 | 1.3 | CTR1208MC1 | 405232 | CTR1208MC15 | 405805 |



# GENERAL PURPOSE BI-METAL


## MASTER COBALT® HYBRID WOOD/METAL

The Morse Master Cobalt HYBRID® reciprocating saw blade is the best choice for applications that need a blade that cuts through a variety of materials ranging from wood and plastic to ferrous and non-ferrous metals.

### Features

- Available in .035" and .050" thickness
- Straight blade body
- Straight and variable tooth pitch
- Bi-metal construction

### Benefits

- .035 blades for flexibility in tight spaces
- .050 blades for rigidity and heavier feed pressure
- Greater beam strength
- Speed of cut
- Broader range of thickness applications
- Long cutting life
- Heat and wear resistant

| TPI | in | | | mm | | | 5/Card | | 25/Tube | | 50/Tube | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Length | Width | Thickness | Length | Width | Thickness | Model | Part | Model | Part | Model | Part |
|  | | | | | | | | | | | | |
| 8/12 | 12 | ¾ | .050 | 305 | 20 | 1.3 | RB1250812T05 | 400916 | | | RB1250812T50 | 400923 |
| 10/14 | 6 | ¾ | .050 | 152 | 20 | 1.3 | RB6501014TT05 | 398541 | | | RB6501014TT50 | 398534 |
| 10/14 | 12 | ¾ | .035 | 305 | 20 | 0.9 | RB121014T05 | 400114 | | | RB121014T50 | 400107 |
| 10/14 | 12 | ¾ | .050 | 305 | 20 | 1.3 | RB12501014T05 | 402095 | RB12501014T25 | 398640 | RB12501014T50 | 402088 |
|  | | | | | | | | | | | | |
| 8/12 | 8 | ¾ | .050 | 203 | 20 | 1.3 | RB850812T05 | 400930 | | | RB850812T50 | 400947 |
| **10** | **6** | ¾ | .035 | 152 | 20 | 0.9 | **RB610**T05 | 400398 | | | RB610T50 | 400381 |
| 10 | 8 | ¾ | .035 | 203 | 20 | 0.9 | RB810T05 | 400473 | | | RB810T50 | 400466 |
| 10 | 12 | ¾ | .035 | 305 | 20 | 0.9 | RB1210T05 | 400251 | | | RB1210T50 | 400244 |
| **10/14** | **6** | ¾ | .035 | 152 | 20 | 0.9 | **RB61014**T05 | 402002 | | | RB61014T50 | 402019 |
| **10/14** | **6** | ¾ | .050 | 152 | 20 | 1.3 | **RB6501014**T05 | 399234 | | | RB6501014T50 | 399227 |
| 10/14 | 8 | ¾ | .035 | 203 | 20 | 0.9 | RB81014T05 | 402118 | | | RB81014T50 | 402101 |
| **10/14** | **8** | 1 | .050 | 203 | 20 | 1.3 | **RB8501014**T05 | 402071 | | | RB8501014T50 | 402064 |
| 10/14 | 12 | 1 | .050 | 305 | 20 | 1.3 | RB12501014STT05 | 398435 | | | RB12501014STT50 | 398428 |
|  | | | | | | | | | | | | |
| 10 | 9 | 1 | .050 | 229 | 25 | 1.3 | RB95010T05 | 404303 | RB95010T25 | 404310 | | |
| 10 | 12 | 1 | .050 | 305 | 25 | 1.3 | RB125010T05 | 404242 | RB125010T25 | 404259 | | |

Items noted in **BOLD** also available in kits. See page 85.



## SPARC®

## SParc® RECIPROCATING SAW BLADES

The tooth angle is increased along the arc without sacrificing tooth size. This maintains the TOOTH STRENGTH while lowering cut temperatures and increasing the cutting speed.

### Features

- Increased tooth angle along the arc
- Arc preserves tooth life
- SParc's arched shape creates a shifting effect on each cutting stroke

### Benefits

- Faster cutting than traditional blades
- Eliminates tooth drag on the backstroke which provides a longer blade life
- Teeth stay sharper/longer

| TPI | in | | | mm | | | 5/Card | |
|---|---|---|---|---|---|---|---|---|
| | Length | Width | Thickness | Length | Width | Thickness | Model | Part |
| 10 | 6 | ¾ | .035 | 152 | 20 | 0.9 | RBAC610T05 | 405409 |
| 10 | 9 | ¾ | .035 | 229 | 20 | 0.9 | RBAC910T05 | 405430 |
| 10 | 12 | ¾ | .035 | 305 | 20 | 0.9 | RBAC1210T05 | 405461 |
| 14 | 6 | ¾ | .035 | 152 | 20 | 0.9 | RBAC614T05 | 405416 |
| 14 | 9 | ¾ | .035 | 229 | 20 | 0.9 | RBAC914T05 | 405447 |
| 14 | 12 | ¾ | .035 | 305 | 20 | 0.9 | RBAC1214T05 | 405478 |
| 18 | 6 | ¾ | .035 | 152 | 20 | 0.9 | RBAC618T05 | 405423 |
| 18 | 9 | ¾ | .035 | 229 | 20 | 0.9 | RBAC918T05 | 405454 |
| 18 | 12 | ¾ | .035 | 305 | 20 | 0.9 | RBAC1218T05 | 405485 |


## ADVANCED EDGE POWER®

The Morse Advanced Edge Power® reciprocating saw blade "powers" through the toughest applications. This heavy duty blade is perfect for cutting any machinable metal, as well as wood, wood composite, plastic, or rubber.

### Features

- Available in 1" (25mm) width and .042" (1.00mm) thickness
- Straight tooth pitch
- Bi-metal construction

### Benefits

- 1" (25mm) width blades provide more rigidity and beam strength
- .042" (1.00mm) thick blades accept heavier feed pressure
- Smooth cutting action
- Long cutting life
- Heat and wear resistant

Items noted in **BOLD** also available in kits. See page 85.

| TPI | in | | | mm | | | 5/Card | | 25/Tube | | 100/Box | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Length | Width | Thickness | Length | Width | Thickness | Model | Part | Model | Part | Model | Part |
| 10 | 6 | 1 | .042 | 152 | 25 | 1.1 | RBWP64210T05 | 392006 | RBWP64210T25 | 392013 | | |
| 10 | 9 | 1 | .042 | 229 | 25 | 1.1 | RBWP94210T05 | 392068 | RBWP94210T25 | 392075 | | |
| 10 | 12 | 1 | .042 | 305 | 25 | 1.1 | RBWP124210T05 | 392129 | BWP124210T25 | 392136 | | |
| 14 | 6 | 1 | .042 | 152 | 25 | 1.1 | RBWP64214T05 | 392020 | RBWP64214T25 | 392037 | | |
| **14** | **9** | 1 | .042 | 229 | 25 | 1.1 | **RBWP94214**T05 | 392082 | RBWP94214T25 | 392099 | | |
| 14 | 12 | 1 | .042 | 305 | 25 | 1.1 | RBWP124214T05 | 392143 | BWP124214T25 | 392150 | | |
| **18** | **6** | 1 | .042 | 152 | 25 | 1.1 | **RBWP64218**T05 | 392044 | RBWP64218T25 | 392051 | RBWP64218B100 | 392266 |
| 18 | 9 | 1 | .042 | 229 | 25 | 1.1 | RBWP94218T05 | 392105 | RBWP94218T25 | 392112 | RBWP94218B100 | 392273 |
| 18 | 12 | 1 | .042 | 305 | 25 | 1.1 | RBWP124218T05 | 392167 | BWP124218T25 | 392174 | RBWP124218B100 | 392280 |


## MASTER COBALT® METAL

The Morse Master Cobalt Metal reciprocating blade is the best choice for cutting any machinable metal up to ¼" (6.4mm) in thickness.

### Features

- Available in .035", .042, and .050" thickness
- Tapered blade body
- Straight and variable tooth pitch
- Reinforced tooth design with compound relief
- Positive rake on .050 x 6 TPI blades
- Bi-metal construction

### Benefits

- .035 blades for flexibility in tight spaces
- .050 blades for increased rigidity and heavier feed pressure
- Best for plunge cutting
- Easier feed in wood
- High impact resistance
- More aggressive cutting
- Long cutting life
- Heat and wear resistant

Items noted in **BOLD** also available in kits. See page 85.

| TPI | in | | | mm | | | 5/Card | | 25/Tube | | 50/Tube | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Length | Width | Thickness | Length | Width | Thickness | Model | Part | Model | Part | Model | Part |
| **14** | **4** | ¾ | .035 | 102 | 20 | 0.9 | **RB414**T05 | 400237 | | | RB414T50 | 400220 |
| **14** | **6** | ¾ | .035 | 152 | 20 | 0.9 | **RB614**T05 | 400411 | RB614T25 | 398671 | RB614T50 | 400404 |
| **14** | **6** | ¾ | .050 | 152 | 20 | 1.3 | **RB65014**T05 | 399623 | | | RB65014T50 | 399616 |
| **14** | **8** | ¾ | .035 | 203 | 20 | 0.9 | **RB814**T05 | 400497 | RB814T25 | 398763 | RB814T50 | 400480 |
| 14 | 9 | ¾ | .035 | 229 | 20 | 0.9 | RB914T05 | 400985 | | | RB914T50 | 400992 |
| 14 | 12 | ¾ | .035 | 305 | 20 | 0.9 | RB1214T05 | 400138 | | | RB1214T50 | 400121 |
| **18** | **4** | ¾ | .035 | 102 | 20 | 0.9 | **RB418**T05 | 400275 | | | RB418T50 | 400268 |
| **18** | **6** | ¾ | .035 | 152 | 20 | 0.9 | **RB618**T05 | 400435 | RB618T25 | 398688 | RB618T50 | 400428 |
| 18 | 8 | ¾ | .035 | 203 | 20 | 0.9 | RB818T05 | 402590 | RB818T25 | 398770 | RB818T50 | 402583 |
| 18 | 9 | ¾ | .035 | 229 | 20 | 0.9 | RB918T05 | 401005 | | | RB918T50 | 401012 |
| 18 | 10 | ¾ | .035 | 254 | 20 | 0.9 | RB1018T05 | 398497 | | | RB1018T50 | 398480 |
| 18 | 12 | ¾ | .035 | 305 | 20 | 0.9 | RB1218T05 | 400213 | RB1218T25 | 398619 | RB1218T50 | 400206 |
| 24 | 4 | ¾ | .035 | 102 | 20 | 0.9 | RB424T05 | 400312 | | | RB424T50 | 400305 |
| 24 | 6 | ¾ | .035 | 152 | 20 | 0.9 | RB624T05 | 400459 | RB624T25 | 398701 | RB624T50 | 400442 |
| 14 | 9 | 1 | .050 | 229 | 25 | 1.3 | RB95014T05 | 404327 | RB95014T25 | 404334 | | |
| 14 | 12 | 1 | .050 | 305 | 25 | 1.3 | RB125014T05 | 404266 | RB125014T50 | 404273 | | |
| 18 | 9 | 1 | .050 | 229 | 25 | 1.3 | RB95018T05 | 404341 | RB95018T25 | 404358 | | |
| 18 | 12 | 1 | .050 | 305 | 25 | 1.3 | RB125018T05 | 404280 | RB125018T25 | 404297 | | |


MORSE MASTER COBALT®

## MASTER COBALT® WOOD

The Morse Master Cobalt Wood reciprocating blade is specifically designed for cutting all types of wood, wood composites, and nail embedded wood.

### FEATURES

- Available in .035" and .050" thickness
- Tapered blade body
- Straight and variable tooth pitch
- Reinforced tooth design with compound relief
- Positive rake on .035 (0.90mm) and .050 (1.30mm) x 6 TPI blades
- Bi-metal construction

### BENEFITS

- .035 blades for flexibility in tight spaces
- .050 blades for increased rigidity
- Best for plunge cutting
- Easier feed in wood
- High impact resistance
- More aggressive cutting
- Long cutting life
- Heat and wear resistant

Items noted in **BOLD** also available in kits. See page 85.

| TPI | in | | | mm | | | 5/Card | | 25/Tube | | 50/Tube | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Length | Width | Thickness | Length | Width | Thickness | Model | Part | Model | Part | Model | Part |
| 6 | 6 | 7/16 | .050 | 152 | 12 | 1.3 | RB65006CT05 | 399517 | | | RB65006CT50 | 399500 |
| **5/8** | **6** | ¾ | .050 | 152 | 20 | 1.3 | **RB65058**T05 | 398510 | | | RB65058T50 | 398503 |
| 5/8 | 12 | ¾ | .050 | 305 | 20 | 1.3 | | | | | RB125058T50 | 398442 |
| **6** | **6** | ¾ | .035 | 152 | 20 | 0.9 | **RB63506**T05 | 400190 | | | RB63506T50 | 400183 |
| **6** | **6** | ¾ | .050 | 152 | 20 | 1.3 | **RB65006**T05 | 402040 | RB65006T25 | 398732 | RB65006T50 | 402057 |
| 6 | 9 | ¾ | .035 | 229 | 20 | 0.9 | RB93506T05 | 400176 | | | RB93506T50 | 400169 |
| **6** | **9** | ¾ | .050 | 229 | 20 | 1.3 | **RB95006**T05 | 402026 | RB95006T25 | 398794 | RB95006T50 | 402033 |
| 6 | 12 | ¾ | .035 | 305 | 20 | 0.9 | RB123506T05 | 400152 | | | RB123506T50 | 400145 |
| 6 | 12 | ¾ | .050 | 305 | 20 | 1.3 | RB125006T05 | 402156 | RB125006T25 | 398633 | RB125006T50 | 402149 |



RENOVATOR®

## RENOVATOR®

The Morse RENOVATOR® reciprocating saw blade is the ultimate heavy duty, demolition/remodeling blade in the market. This blade cuts through wood and metals without leaving frayed or jagged cut edges, no need for additional finishing.

### Features

- Available in .062" (1.60mm) thickness
- Available in 1" (25mm) blade width
- Tapered blade body
- Variable tooth pitch
- Reinforced tooth design
- Bi-metal construction

### Benefits

- Provides increased rigidity for more stable cutting in wider cuts
- 1" (25mm) wide blades offer more beam strength
- Best for plunge cutting
- Fast cutting
- Smooth cut finish
- High impact resistant tooth
- Long cutting life
- Heat and wear resistant

Items noted in **BOLD** also available in kits. See page 85.

| TPI | in | | | mm | | | 3/Card | | 20/Tube | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Length | Width | Thickness | Length | Width | Thickness | Model | Part | Model | Part |
| **8/11** | **6** | 1 | .062 | 152 | 25 | 1.6 | **RBR662811**T03 | 392518 | RBR662811T20 | 392525 |
| **8/11** | **9** | 1 | .062 | 229 | 25 | 1.6 | **RBR962811**T03 | 392532 | RBR962811T20 | 392549 |
| 8/11 | 12 | 1 | .062 | 305 | 25 | 1.6 | RBR1262811T03 | 392556 | RBR1262811T20 | 392563 |


## HAVOC®

The Morse HAVOC® Demolition reciprocating saw blade is specifically designed for "roughing in" applications on the construction site. This blade will cut through all types of wood, wood composites, metal, and nail embedded wood.

### Features

- Available in .062" (1.60mm) thickness
- Available in ⅞" (22mm) blade width
- Tapered blade body
- Straight tooth pitch
- Reinforced, positive rake 6 TPI tooth design
- Bi-metal construction

### Benefits

- Provides minimum deflection for more stable cutting in wider cuts
- ⅞" (22mm) wide blades for increased rigidity and heavier feed pressure
- Best for plunge cutting
- Fast cutting
- High impact resistance
- More aggressive cutting
- Long cutting life
- Heat and wear resistant

Items noted in **BOLD** also available in kits. See page 85.

| TPI | in | | | mm | | | 3/Card | | 20/Tube | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Length | Width | Thickness | Length | Width | Thickness | Model | Part | Model | Part |
| **6** | **6** | ⅞ | .062 | 152 | 22 | 1.6 | **RB66206**T03 | 398350 | RB66206T20 | 398343 |
| **6** | **9** | ⅞ | .062 | 229 | 22 | 1.6 | **RB96206**T03 | 402422 | RB96206T20 | 402415 |
| 6 | 12 | ⅞ | .062 | 305 | 22 | 1.6 | RB126206T03 | 398312 | RB126206T20 | 398305 |
| **10** | **6** | ⅞ | .062 | 152 | 22 | 1.6 | **RB66210**T03 | 398374 | RB66210T20 | 398367 |
| **10** | **9** | ⅞ | .062 | 229 | 22 | 1.6 | **RB96210**T03 | 402446 | RB96210T20 | 402439 |
| 10 | 12 | ⅞ | .062 | 305 | 22 | 1.6 | RB126210T03 | 398336 | RB126210T20 | 398329 |


AUTO SALVAGE®

## AUTO SALVAGE

The Morse Auto SALVAGE® reciprocating blade is targeted for any automotive reclamation/recycling, but can also be used for other automotive modifications requiring metal cutting.

### Features

- Available in .035" (0.90mm) thickness
- Available in ¾" (20mm) blade width
- Straight and variable tooth pitch
- Bi-metal construction

### Benefits

- .035" (0.90mm) thick blades for flexibility in tight spaces
- Cut between body panels, gets under stripped/rusted fasteners
- ¾" (20mm) wide blades provide flexibility
- Allows for cutting in hard to reach places that a cutting torch would otherwise create more damage
- Smooth cutting action
- High impact resistant tooth
- Long cutting life
- Heat and wear resistant

| TPI | in | | | mm | | | 5/Card | | 50/Tube | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Length | Width | Thickness | Length | Width | Thickness | Model | Part | Model | Part |
| 14 | 8 | ¾ | .035 | 203 | 20 | 0.9 | RBSA814T05 | 395557 | RBSA814T50 | 395564 |
| 18 | 6 | ¾ | .035 | 152 | 20 | 0.9 | RBSA618T05 | 395533 | RBSA618T50 | 395540 |
| 18 | 8 | ¾ | .035 | 203 | 20 | 0.9 | RBSA818T05 | 395571 | RBSA818T50 | 395588 |



# PIPE BOSS

## PIPE BOSS®

The Morse PIPE BOSS reciprocating saw blade is specifically targeted for tailpipe and muffler removal, but can also be used for other automotive modifications where metal cutting is necessary.

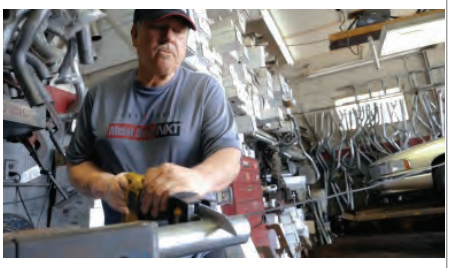
### Features

- Available in .050" (1.30mm) thickness
- Available in 1" (25mm) blade width
- Straight tooth pitch
- Bi-metal construction

### Benefits

- .050" (1.30mm) thick bladed accept heavier feed pressure
- 1" (25mm) wide blades provide more rigidity and beam strength
- Smooth cutting action
- Heat and wear resistant
- Long cutting life

| TPI | in | | | mm | | | 50/Tube | |
|---|---|---|---|---|---|---|---|---|
| | Length | Width | Thickness | Length | Width | Thickness | Model | Part |
| 14 | 6 | 1 | .050 | 152 | 25 | 1.3 | RBPB65014T50 | 395021 |
| 14 | 9 | 1 | .050 | 229 | 25 | 1.3 | RBPB95014T50 | 395045 |
| 14 | 12 | 1 | .050 | 305 | 25 | 1.3 | RBPB125014T50 | 395069 |




MORSE FIRE+RESCUE

## FIRE + RESCUE

The Morse FIRE + RESCUE reciprocating saw blade is preferred by professional firefighters who rely on quality and consistency. This blade is specifically designed for automotive extrication.

### Features

- Available in .062" thickness
- Available in ⅞" blade width
- Straight tooth pitch
- Optimized set pattern
- Bi-metal construction

### Benefits

- Provides minimum deflection for more stable cutting in wider cuts
- ⅞" wide blades for increased rigidity and heavier feed pressures
- Quick and more efficient cutting in multiple wall applications
- Reduces vibration and operator fatigue
- Reduces chance for blade binding in cut
- Long cutting life
- Heat and wear resistant

Items noted in **BOLD** also available in kits. See page 85.

| TPI | in | | | mm | | | 3/Card | | 20/Tube | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Length | Width | Thickness | Length | Width | Thickness | Model | Part | Model | Part |
| 10 | 6 | ⅞ | .062 | 152 | 22 | 1.6 | RBFR66210WT03 | 403665 | RBFR66210WT20 | 403511 |
| 10 | 9 | ⅞ | .062 | 229 | 22 | 1.6 | RBFR96210WT03 | 403689 | RBFR96210WT20 | 403528 |
| 10 | 12 | ⅞ | .062 | 305 | 22 | 1.6 | RBFR126210WT03 | 403702 | RBFR126210WT20 | 403504 |
| **14** | **6** | ⅞ | .062 | 152 | 22 | 1.6 | **RBFR66214W**T03 | 403672 | RBFR66214WT20 | 403542 |
| 14 | 9 | ⅞ | .062 | 229 | 22 | 1.6 | RBFR96214WT03 | 403696 | RBFR96214WT20 | 403559 |
| 14 | 12 | ⅞ | .062 | 305 | 22 | 1.6 | RBFR126214WT03 | 403719 | RBFR126214WT20 | 403535 |

# SPECIALTY DRYWALL & PLASTER


MORSE® PLASTER
PLASTER / LATH & DRYWALL CUTTING

## PLASTER

The Morse PLASTER reciprocating saw blade is specifically designed for cutting drywall, plasterboard, and plaster with wood or metal lath. With a "V" style tooth, cut edge fraying/chipping is significantly reduced, requiring less finishing.

## FEATURES

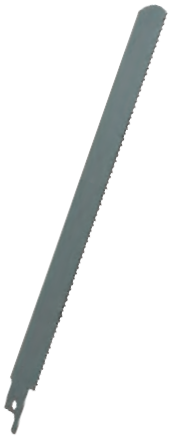
- Available in .050" thickness
- Blade width of ¾"
- Special "V" tooth design
- Bi-metal construction

## BENEFITS

- .050" blades for increased rigidity and heavier feed pressures
- ¾" wide blades provide flexibility
- Cuts in both directions
- Long cutting life
- Heat and wear resistant

| TPI | in | | | mm | | | 5/Card | | 50/Tube | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Length | Width | Thickness | Length | Width | Thickness | Model | Part | Model | Part |
| 6 | 6 | ¾ | .050 | 152 | 20 | 1.3 | RB606PT05 | 400350 | RB606PT50 | 400343 |

# SPECIALTY PALLET



## PALLET DISMANTLER

### PALLET DISMANTLER

The Morse PALLET DISMANTLER reciprocating saw blade is specifically designed for pallet recycling.

### Features

- Available in ¾" width by .035" thickness
- Round nose design
- Straight tooth pitch
- Narrow kerf

### Benefits

- .035" (0.90mm) blades for greater flexibility to get between boards
- Helps prevent blade from catching between boards
- Smooth cutting action
- Fast cutting
- Less damage to boards that can be re-used

| TPI | in | | | mm | | | 250/Box | | 500/Box | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Length | Width | Thickness | Length | Width | Thickness | Model | Part | Model | Part |
| 10 | 8 | ¾ | .035 | 203 | 20 | 0.9 | | | RB810RRPB500 | 401425 |
| 10 | 9 | ¾ | .035 | 229 | 20 | 0.9 | RB910RRPB250 | 401661 | | |
| 10 | 10 | ¾ | .035 | 254 | 20 | 0.9 | RB1010RRB250 | 401463 | | |

# SPECIALTY GRIT



## DIAMONDGRIT™

### DIAMOND GRIT®

The Morse DIAMOND GRIT reciprocating saw blade is specifically designed for the commercial or residential cutting of ceramics, granites, and stone.

### Features

- Available in ¾" width
- Tempered steel blade body
- Industrial diamond grit edge
- Narrow kerf

### Benefits

- Blades provide flexibility
- Durable, straighter cuts
- Smooth cutting action
- Longer life than carbide grit
- Fast cutting


| TPI | in | | | mm | | | 1/Card | |
|---|---|---|---|---|---|---|---|---|
| | Length | Width | Thickness | Length | Width | Thickness | Model | Part |
| Coarse | 6 | ¾ | | 152 | 20 | | RBDG6C | 129701 |
| Coarse | 9 | ¾ | | 229 | 20 | | RBDG9C | 129718 |

## CARBIDE GRIT

### CARBIDE GRIT

The Morse CARBIDE GRIT reciprocating saw blade is the best design for cutting materials too thin, hard, or abrasive for conventional carbide tipped or bi-metal blades. Applications such as hardened steel, formed glass, fiberglass, laminates and composites.

### Features

- Available in ¾" (20mm) width
- Tempered steel body
- Carbide grit edge
- Narrow kerf

### Benefits

- ¾" wide blades for greater flexibility
- Durable, straighter cuts
- Won't tear thin materials
- Resistant to heat
- Fast cutting

| TPI | in | | | mm | | | 1/Card | | 3/Card | | 25/Tube | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Length | Width | Thickness | Length | Width | Thickness | Model | Part | Model | Part | Model | Part |
| Coarse | 4 | ¾ | | 102 | 20 | | RCTCG4 | 402750 | RTCG4T03 | 403368 | RTCG4T25 | 402910 |
| Coarse | 6 | ¾ | | 152 | 20 | | RCTCG6 | 402767 | RTCG6T03 | 403375 | RTCG6T25 | 402927 |
| Coarse | 8 | ¾ | | 203 | 20 | | RCTCG8 | 402774 | RTCG8T03 | 403382 | RTCG8T25 | 402934 |

# RECIP KITS & ASSORTMENTS

Multi-pack assortments of popular blade types and sizes for a variety of applications. Kits come with plastic storage boxes or tubes.

MADE IN U.S.A.

| | | | | | | | | General Purpose | Heavy Duty | Demolition | | Contractor General Use | Contractor Heavy Duty | Assortment Card |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | |  |  |  |  |  |  |  |
| Component | TPI | in | | | mm | | | RBKITGP01 | RBKITHD01 | RBKITDM01 | RBKIT03 | RBKIT01 | RBKIT02 | RBP01 |
| | | length | width | Thickness | length | width | Thickness | 397483 | 397490 | 397971 | 405027 | 405003 | 405010 | 403030 |
| Master Cobalt Hybrid® | 10 | 6 | ¾ | .035 | 152 | 20 | 0.9 | | | | | 7 | | |
| | 10/14 | 6 | ¾ | .035 | 152 | 20 | 0.9 | | | | | 7 | | |
| | 10/14 | 6 | ¾ | .050 | 152 | 20 | 1.3 | | | | 5 | | 5 | |
| | 10/14 | 8 | ¾ | .050 | 203 | 20 | 1.3 | 2 | | | | | | |
| Advanced Edge Power® | 14 | 9 | 1 | .042 | 229 | 25 | 1.1 | | 2 | | | | | |
| | 18 | 6 | 1 | .042 | 152 | 25 | 1.1 | | 4 | | | | | |
| Master Cobalt® Metal | 14 | 4 | ¾ | .035 | 102 | 20 | 0.9 | | | | | | | 1 |
| | 14 | 6 | ¾ | .035 | 152 | 20 | 0.9 | | | | | 7 | | 1 |
| | 14 | 6 | ¾ | .050 | 152 | 20 | 1.3 | | | | | | 5 | |
| | 14 | 8 | ¾ | .035 | 203 | 20 | 0.9 | 2 | | | | | | |
| | 18 | 4 | ¾ | .035 | 102 | 20 | 0.9 | | | | | | | 1 |
| | 18 | 6 | ¾ | .035 | 152 | 20 | 0.9 | 5 | | | | 7 | | 1 |
| | 18 | 6 | ¾ | .050 | 152 | 20 | 1.3 | | | | | | 5 | |
| Master Cobalt® Wood | 5/8 | 6 | ¾ | .050 | 152 | 20 | 1.3 | | | | 5 | | 5 | |
| | 6 | 6 | ¾ | .035 | 152 | 20 | 0.9 | | | | | 14 | | |
| | 6 | 6 | ¾ | .050 | 152 | 20 | 1.3 | 6 | | | 5 | | 10 | 1 |
| | 6 | 9 | ¾ | .050 | 229 | 20 | 1.3 | 2 | | | | | | |
| Renovator® | 8/11 | 6 | 1 | .062 | 152 | 25 | 1.6 | | | 3 | | | | |
| | 8/11 | 9 | 1 | .062 | 229 | 25 | 1.6 | | | 2 | | | | |
| Havoc® | 6 | 6 | ⅞ | .062 | 152 | 22 | 1.6 | | | 2 | 4 | | | |
| | 6 | 9 | ⅞ | .062 | 229 | 22 | 1.6 | | | 2 | | | | |
| | 10 | 6 | ⅞ | .062 | 152 | 22 | 1.6 | | 2 | 2 | 8 | | | |
| | 10 | 9 | ⅞ | .062 | 229 | 22 | 1.6 | | 2 | | | | | |
| Fire + Rescue | 14 | 6 | ⅞ | .062 | 152 | 22 | 1.6 | | 2 | | | | | |


MORSE

# AIR SAW BLADES

| Blade Type | Application |
|---|---|
| **Metal** | |
| Bi-Metal | Designed for fast efficient pneumatic cutting of thin metal including radius cutting. Primarily used in auto body, trailer modification and sheet metal fabrication. |


# AIR SAW

## AIR SAW RECIPROCATING SAW BLADES

The Morse AIR SAW reciprocating saw blade is specifically designed for use in pneumatic saws for thin sheet metal applications. Primarily used for automotive body modification and sheet metal fabrication.

### Features

- Available in .025" and .035" thickness
- Blade widths of ½"
- Straight tooth pitch
- Bi-metal construction

### Benefits

- Cut between body panels and under stripped/rusted fasteners
- ½" wide blades provide flexibility for radius cuts
- Smooth cutting action
- Long cutting life
- Heat and wear resistant

| TPI | in | | | mm | | | 5/Card | | 25/Tube | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Length | Width | Thickness | Length | Width | Thickness | Model | Part | Model | Part |
| 10 | 4 | ½ | .025 | 102 | 13 | 0.6 | | | RBA410T25 | 396967 |
| 14 | 3 | ½ | .025 | 76 | 13 | 0.6 | RBA314T05 | 398220 | RBA314T25 | 398572 |
| 14 | 4 | ½ | .025 | 102 | 13 | 0.6 | RBA414T05 | 397506 | RBA414T25 | 397513 |
| 14 | 4 | ½ | .035 | 102 | 13 | 0.9 | RBA43514T05 | 396844 | RBA43514T25 | 396929 |
| 18 | 3 | ½ | .025 | 76 | 13 | 0.6 | RBA318T05 | 398244 | RBA318T25 | 398589 |
| 18 | 4 | ½ | .025 | 102 | 13 | 0.6 | RBA418T05 | 397520 | RBA418T25 | 397537 |
| 18 | 4 | ½ | .035 | 102 | 13 | 0.9 | RBA43518T05 | 396851 | RBA43518T25 | 396936 |
| 24 | 3 | ½ | .025 | 76 | 13 | 0.6 | RBA324T05 | 398268 | RBA324T25 | 398596 |
| 24 | 4 | ½ | .025 | 102 | 13 | 0.6 | RBA424T05 | 397544 | RBA424T25 | 397551 |
| 24 | 4 | ½ | .035 | 102 | 13 | 0.9 | RBA43524T05 | 396868 | RBA43524T25 | 396943 |
| 32 | 3 | ½ | .025 | 76 | 13 | 0.6 | RBA332T05 | 398282 | RBA332T25 | 398602 |
| 32 | 4 | ½ | .025 | 102 | 13 | 0.6 | RBA432T05 | 397568 | RBA432T25 | 397575 |

METAL DEVIL METAL CUTTING

# CIRCULAR SAWS AND BLADES

| Blade Type | Application |
|---|---|
| **Metal** | |
| Stainless Steel | Designed to cut all stainless steel including 1/4" or thinner plate, and 1/8" or thinner walled tubes. |
| Steel | Ideal for cutting angle iron, steel plate, channel iron, I-beams, pipe and other ferrous metal shapes up to 3/8" plate or wall thickness. |
| Thin Steel | Used to cut ferrous metals under 1/8" without bending the cut edge including corrugated roofing, sheet metal, conduit and steel studs. |
| Steel Studs | Specifically engineered to make quick and accurate, square or miter cuts on steel studs. |
| Aluminum | Designed to cut 3/8" or thinner aluminum parts including extrusions, plate angle and grating. |
| **Saws & Accessories** | |
| Circular Saws | Specifically designed for low-RPM metal cutting applications including 0-45° beveled cuts. |
| Chop Saw | Specifically designed for low-RPM metal cutting applications including 0-45° miter cuts. |
| Accessories | V-blocks improve efficiency and blade life when cutting round or square materials on the Morse chop saw. |


## METAL DEVIL METAL-CUTTING CIRCULAR SAW BLADES

Cut through steel and other tough metals faster than ever. Unique combinations of metallurgy and blade configurations are tailored for peak performance in specific applications.

### Applications

- Steel, angle iron, steel plate, channel iron, I-beams, pipe
- Thin Steel
- Stainless Steel (¼ or less)
- Aluminum
- Steel Studs (14˝ only)

### Benefits

- Optimized for cordless metal cutting circular saws
- Cuts thin material without bending the edge
- Quick, clean, accurate cutting without secondary work
- Cut edges cool enough to handle immediately

| Blade Diameter in | Blade Diameter mm | Applications | Teeth | Arbor | Max RPM | Model | Part | Machines |
|---|---|---|---|---|---|---|---|---|
| 5 ⅜ | 137 | Steel | 32 | ⅝ | 4,200 | CSM5383258NSC | 101332 | **Makita** BCS550; BSS501; XSC01Z; XSC01T; XSS03 **Bosch** CSM180B; CSM180-01 **Milwaukee** 2782-20; 2782-22 |
| | | Steel | 32 | 10 / 20 / ⅝ | 4,200 | CSM53832NSC | 101325 | **Milwaukee** M18 **Makita** BCS550; BSS501 **Panasonic** EY3530NQMKW; EY452LN2M |
| | | Aluminum | 48 | 10 / 20 / ⅝ | 4,200 | CSM53848NAC | 101578 | |
| | | Thin Steel | 50 | 20 | 4,200 | CSM53850CLTSC | 101769 | |
| 6 ¼ | 159 | Aluminum | 54 | ⅝ | 4,200 | CSM62554NAC | 101585 | **Makita** 5046DWDE |
| | | Steel | 48 | 16 / 20 | 4,200 | CSM62548NSIC | 101509 | **Standard** Circular Saws |
| | | Thin Steel | 56 | 20 | 4,200 | CSM62556CLTSC | 101776 | **Cordless** Circular Saws |
| 6 ½ | 165 | Steel | 40 | 20 | 4,200 | CSM6504020NSC | 101523 | **Panasonic** EY3552GQW **Hilti** SCM22-A; SCW22-A; 03490197 |
| | | Steel | 40 | ⅝ | 4,200 | CSM65040NSC | 101516 | **Bosch** CCS180K;1617K; XSS01 **Makita** BSS610 **Dewalt** DC310K; DC390; DC390K **Rigid** R3203 **Hilti** SCM22-A; DIO4891A **Porter** Cable PCC660B **Metabo** MKS18LTX; KS18LTX |
| | | Steel | 40 | ⅝ | 4,200 | CSM6504058CLSC | 100984 | |
| | | Stainless Steel | 48 | ⅝ | 4,200 | CSM6504858CLSSC | 101714 | |
| | | Aluminum | 56 | ⅝ | 4,200 | CSM6505658CLAC | 101738 | |
| | | Steel | 40 | 20 | 4,200 | CSM6504020CLSC | 101745 | **Panasonic** EY3552GQW **Hilti** SCM22-A; SCW22-A; 03490197 |
| | | Stainless Steel | 48 | 20 | 4,200 | CSM6504820CLSSC | 101707 | |
| | | Aluminum | 56 | 20 | 4,200 | CSM6505620CLAC | 101721 | |
| 6 ¾ | 171 | Steel | 40 | 20 | 4,200 | CSM67540NSC | 101530 | **Dewalt** DW934K-2 **Standard** Circular Saws |
| 7 | 178 | Steel | 40 | 20 | 5,800 | CSM740NSC | 101363 | **Morse** CSM7MB / CSM7NXTB **Evolution** Steel Saw **Jancy** MCSL07-2 **Milwaukee** 0740-20 **Unifire** (T-Rex) T-Rex7 |
| | | Stainless Steel | 44 | 20 | 5,800 | CSM744NSSC | 101677 | |
| | | Aluminum | 54 | 20 | 5,800 | CSM754NAC | 101608 | |
| | | Thin Steel | 68 | 20 | 5,800 | CSM768NTSC | 101783 | |
| 7 ¼ | 184 | Steel | 40 | ⅝ KO | 5,800 | CSM72540NSC | 101349 | **Morse** CSM7MB / CSM7NXTB **Bosch** CS5; CS10; CS20; 1677M; 1677MD **Dewalt** DC300K; 364; DW368; DW369CSK; DCS574; DCS578 **Makita** 4131; 5057KB; 5007FAK; 5007FK; 5740NB; 5377MG; 5277NB; XSR10; XSH01 **Milwaukee** 2733-20; 6390-20; 6391-21; 6394-21; 6477-20 |
| | | Steel | 48 | ⅝ KO | 5,800 | CSM72548NSC | 101356 | |
| | | Aluminum | 60 | ⅝ | 5,800 | CSM72560NAC | 101615 | |
| | | Thin Steel | 68 | ⅝ KO | 5,800 | CSM72568NTSC | 101790 | |
| | | Steel | 40 | 20 | 5,800 | CSM7254020NSC | 101547 | **Morse** CSM7MB / CSM7NXTB **Evolution** Fury; Outrage; Rage 1; **Rage** 4; EVOSAW185HD; EVOSAW180HD Steelmax SM-S7 XP **Fein** 6990812000 Alfra RS185 |
| | | Steel | 48 | 20 | 5,800 | CSM72548NSIC | 101554 | |

▼ Certain 5⅜ and 6 ¼ blades include special bushings that allow them to fit multiple arbor hole sizes.

▼ ⅝ KO fits both diamond and circular arbors. ▼ 10 / 16 / 20 are mm size arbors


| Blade Diameter in | Blade Diameter mm | Applications | Teeth | Arbor | Max RPM | Model | Part | Machine |
|---|---|---|---|---|---|---|---|---|
| 8 | 203 | Steel | 42 | 5/8 | 5,800 | CSM842NSC | 101387 | **Milwaukee** 6370-20; 6370-21; 2982-20/21<br>**Skilsaw** SPT78MMC-01; SPT78MMC-22 |
| | | Steel | 48 | 5/8 | 5,800 | CSM848NSC | 101394 | |
| | | Stainless Steel | 50 | 5/8 | 5,800 | CSM850NSSC | 101684 | |
| | | Aluminum | 60 | 5/8 | 5,800 | CSM860NAC | 101622 | |
| | | Thin Steel | 68 | 5/8 | 5,800 | CSM868NTSC | 101806 | |
| 8 1/4 | 210 | Steel | 48 | 5/8 KO | 5,800 | CSM82548NSC | 101370 | **Dewalt** DW384<br>**Makita** 5008MGA |
| 9 | 229 | Steel | 48 | 1 | 3,200 | CSM948NSC | 101400 | **Morse** CSM9MB; CSM9NXTB<br>**Evolution** Steel Saw 5; EVOSAW230<br>**Jancy** MCSL09; MCSL09-2<br>**Fein** (Slugger) 69908120001<br>**Slugger** MSCL09<br>**Steelmax** SM-S9<br>**Alfra** RS230<br>**Jepsen** 8230N |
| | | Stainless Steel | 56 | 1 | 3,200 | CSM956NSSC | 101691 | |
| | | Thin Steel | 68 | 1 | 3,200 | CSM968NTSC | 101813 | |
| | | Aluminum | 72 | 1 | 3,200 | CSM972NAC | 101639 | |
| 10 | 254 | Thin Steel | 52 | 5/8 | 5,200 | CSM1052NTSC | 101820 | **Bosch** 4410; 4405; GTS1031; 4100XC-10; 4100-1; CM10GD<br>**Dewalt** DW713<br>**Rigid** MS1065LZA |
| | | Aluminum | 72 | 5/8 | 5,200 | CSM1072NAC | 101646 | |
| 12 | 305 | Steel | 60 | 1 | 1,800 | CSM1260NSC | 101561 | **Makita** LC1230<br>**Milwaukee** 6955-20<br>**Skillsaw** SPT62MTC-22 |
| | | Aluminum | 80 | 1 | 3,800 | CSM1280NAC | 101653 | |
| | | Thin Steel | 80 | 1 | 2,000 | CSM1280NTSC | 101837 | |
| 14 | 356 | Steel | 66 | 1 | 1,800 | CSM1466NSC | 101318 | **Morse** CSM14MB<br>**Dewalt** DW872<br>**Evolution** Fury2; Rage2; Steel Saw2; EVOSAW380<br>**Jancy** MCCS14; MCCS14-2<br>**Milwaukee** 6190-20<br>**Rigid** 614<br>**Fein** MCCS14<br>**Unitec** 9435<br>**Steelmax** S14<br>**Alfra** RD355A<br>**Jepsen** 9435<br>**Hitachi** CD14F |
| | | Aluminum | 80 | 1 | 3,800 | CSM1480NAC | 101660 | |
| | | Steel Studs | 81 | 1 | 1,800 | CSM1481NSTC | 100786 | |
| | | Thin Steel | 90 | 1 | 1,800 | CSM1490NTSC | 101844 | |
| | | Stainless Steel | 90 | 1 | 1,800 | CSM1490NSSC | 100793 | |

# CIRCULAR SAW MACHINES

## METAL DEVIL NXT® CIRCULAR SAWS

M. K. Morse stocks factory original circular saw machine parts and offers machine repairs at our facility in Canton, Ohio.

### 7″ CSM7NXTB

PART 100960

**INCLUDES**

Laser Guide, 0-45° Beveling, Overload Switch, Cutting Guide, Ergonomically Designed Side Handle, Retracting Blade Guard, Quick Release Metal Chip Collection Chamber and Easy Blade Changes, 7' Power Cord, Carrying Case, Safety Goggles, Ear Plugs, Metal Devil NXT Steel Cutting Blade.

**CUTTING CAPABILITIES**

2⅜" Maximum Cutting Reach
¼" Maximum Thickness of Cut Mild Steel
0-45° Bevel Cut

**SPECIFICATIONS**

3800 RPM | 1560 Watts
120 V | 60Hz | 13 Amp
20mm Arbor
Weight: 18 lbs

### 9″ CSM9NXTB

PART 100977

**INCLUDES**

Laser Guide, 0-45° Beveling, Overload Switch, Cutting Guide, Ergonomically Designed Side Handle, Retracting Blade Guard, Quick Release Metal Chip Collection Chamber and Easy Blade Changes, 7' Power Cord, Carrying Case, Safety Goggles, Ear Plugs, Metal Devil NXT Steel Cutting Blade.

**CUTTING CAPABILITIES**

3¼" Maximum Cutting Reach
⅜" Maximum Thickness of Cut Mild Steel
0-45° Bevel Cut

**SPECIFICATIONS**

2300 RPM | 1800 Watts
120 V | 60Hz | 15 Amp
1" Arbor
Weight: 22 lbs

### 14″ CSM14MB

PART 101172

**INCLUDES**

0-45° Mitering Vice, Overload Switch, Retracting Blade Guard, Quick Release Metal Chip Collection Chamber, 6mm and 8mm, Blade Wrench, Safety Goggles, Ear Plugs, Metal Devil NXT, Steel Cutting Blade.

**CUTTING CAPABILITIES**

| | 45° | 90° |
|---|---|---|
| ROUND | 4⅛" | 5⅛" |
| SQUARE | 3½ X 3½" | 4¾" X 4¾" |
| RECTANGLE | 3⅛" X 4⅜" | 3¾" X 7¼" |

**SPECIFICATIONS**

1300 RPM
120 V | 60Hz | 15 Amp
1" Arbor
Weight: 53 lbs


Metal Devil V-BLOCKS

## METAL DEVIL V-BLOCKS

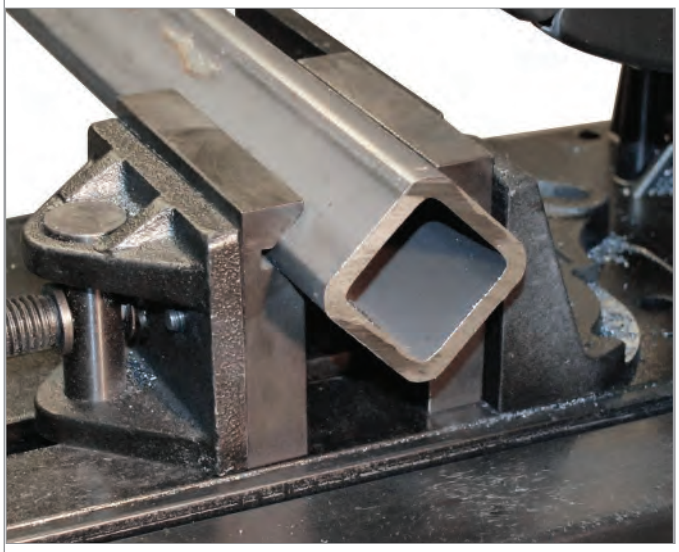
CSP14A01 / 100724

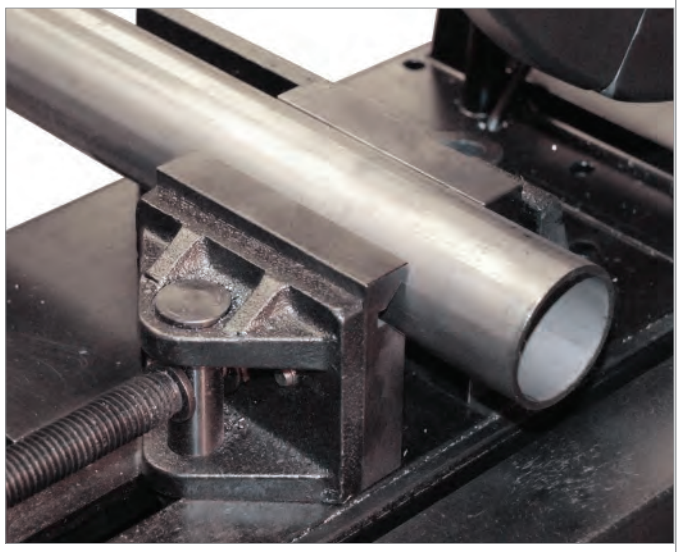
Maximum Material Dimensions to be used with V-Blocks:

- Square 3⅞"
- Round 3"

### BENEFITS

- Durable Steel Body
- Securely Holds Rounds, Squares and Rectangular Materials
- Can Employ Several Vice Configurations to Accommodate a Variety of Structural Materials
- Strengthen The Clamping Performance of the Vice System
- Improves Cutting Performance on Structural Shapes
- Optimizes Blade Life
- Provides Precise Cutting Results
- Reduces Opportunity for Machine Damage






MORSE

# PORTABLE BAND SAW BLADES

| Blade Type | Application |
|---|---|
| **Metal** | |
| 811 | General purpose blade designed for fastest cutting and longest life when cutting materials ¼" and thicker. Upgraded performance in applications where 10/14 blades are used. |
| 1216 | General purpose blade designed for fastest cutting and longest life when cutting materials 3⁄16" and thinner. Upgraded performance in applications where 18 tooth blades are used. |
| Master Cobalt | For reduced vibration cutting on machinable metals including stainless steel, pipe, tubing and solids. |
| Straight Pitch | For use on machinable metals including stainless steel, pipe, tubing and solids. |


## 811&1216

These high performance bi-metal portable band saw blades are the only two blades you'll need for the range of materials cut with this tool. They cut up to 2X faster and last up to 2X longer than conventional portable band saw blades. The Morse 811 outperforms 10/14 blades for cutting materials ¼" and thicker. The Morse 1216 outperforms 18 tooth blades when cutting materials 3/16" and thinner.

For longest blade life, the maximum recommended blade speed is 285 FPM.

### Applications

- Electrical Conduit
- Strut
- Threaded Rod
- Stainless steel
- Pipe
- Tubing
- Solids
- Structural Pipes
- Machinable Metals
- PVC
- Cast Iron

### Benefits

- Experience best in category performance from patent pending tooth designs
- Cut more in less time with up to 2X faster cut speed
- Spend more time cutting and less time changing blades with up to 2X longer blade life
- Cut longer with less fatigue with reduced vibration cutting
- Leaves a clean finish for welding
- Saw a wide range of materials with variable pitch blade
- Cut machinable metals with shock resistant bi-metal teeth



| Length x Width x Thickness | | TPI | Set | 3/Box | | 25/Box | | Bulk 100/Box | |
|---|---|---|---|---|---|---|---|---|---|
| in | mm | | | Model | Part | Model | Part | Model | Part |
| **811** - Cut Materials 1/4" and Thicker | | | | | | | | | |
| 27 3/16 X ½ X .020 | 691 X 13 X .50 | 8/11 | Modified Raker | ZWEP27811MC | 002653 | ZWEP27811MCB25 | 005203 | ZWEP27811MCB | 005241 |
| 28 13/16 X ½ X .020 | 732 X 13 X .50 | 8/11 | Modified Raker | ZWEP28811MC | 002660 | ZWEP28811MCB25 | 005210 | ZWEP28811MCB | 005258 |
| 32⅞ X ½ X .020 | 835 X 13 X .50 | 8/11 | Modified Raker | ZWEP32811MC | 002677 | ZWEP32811MCB25 | 005227 | ZWEP32811MCB | 005265 |
| 35⅜ X ½ X .020 | 899 X 13 X .50 | 8/11 | Modified Raker | ZWEP35811MC | 002684 | ZWEP35811MCB25 | 005234 | ZWEP35811MCB | 005272 |
| 44⅞ X ½ X .020 | 1140 X 13 X .50 | 8/11 | Modified Raker | ZWEP44811MC | 002486 | ZWEP44811MCB25 | 002462 | ZWEP44811MCB | 002455 |
| **1216** - Cut Materials 3/16" and Thinner | | | | | | | | | |
| 27 3/16 X ½ X .020 | 691 X 13 X .50 | 12/16 | Modified Raker | ZWEP271216MC | 002691 | ZWEP271216MCB25 | 005289 | ZWEP271216MCB | 005326 |
| 28 3/16 X ½ X .020 | 732 X 13 X .50 | 12/16 | Modified Raker | ZWEP281216MC | 002707 | ZWEP281216MCB25 | 005296 | ZWEP281216MCB | 005333 |
| 30 9/16 X ½ X .020 | 776 X 13 X .50 | 12/16 | Modified Raker | | | ZWEP301216MCB25 | 005661 | | |
| 32⅞ X ½ X .020 | 835 X 13 X .50 | 12/16 | Modified Raker | ZWEP321216MC | 002714 | ZWEP321216MCB25 | 005302 | ZWEP321216MCB | 005340 |
| 35⅜ X ½ X .020 | 899 X 13 X .50 | 12/16 | Modified Raker | ZWEP351216MC | 002721 | ZWEP351216MCB25 | 005319 | ZWEP351216MCB | 005357 |
| 44⅞ X ½ X .020 | 1140 X 13 X .50 | 12/16 | Modified Raker | ZWEP441216MC | 002738 | ZWEP441216MCB25 | 002745 | ZWEP441216MCB | 002752 |

## MASTER COBALT® VARIABLE PITCH

Featuring bi-metal construction for long blade life and variable pitch teeth for efficient, reduced vibration cutting. Available in standard .020"/.50mm.

For longest blade life, the maximum recommended blade speed is 285 FPM.

### Applications

- Electrical Conduit
- Strut
- Threaded Rod
- Stainless steel
- Pipe
- Tubing
- Solids
- Structural Pipes
- Machinable Metals
- PVC
- Cast Iron

### Benefits

- Variable pitch teeth allow for a broader range of applications
- Tooth design reduces cutting vibration
- Shock resistant bi-metal teeth efficiently cut machinable metals
- Tooth design leaves a clean, weldable finish



| Length x Width x Thickness | | TPI | Set | 3/box | | 25/Box | | Bulk 100/Box | |
|---|---|---|---|---|---|---|---|---|---|
| in | mm | | | Model | Part | Model | Part | Model | Part |
| **Variable Pitch** | | | | | | | | | |
| 27¾₆ X ½ X .020 | 691 X 13 X .50 | 14/18 | Wavy | ZWEP271418MC | 001823 | ZWEP271418MCB25 | 005395 | ZWEP271418MCB | 001847 |
| 28¹³⁄₁₆ X ½ X .020 | 732 X 13 X .50 | 10/14 | Modified Raker | ZWEP281014MC | 001755 | ZWEP281014MCB25 | 005364 | ZWEP281014MCB | 001786 |
| 28¹³⁄₁₆ X ½ X .020 | 732 X 13 X .50 | 14/18 | Wavy | ZWEP281418MC | 001748 | ZWEP281418MCB25 | 005401 | ZWEP281418MCB | 001779 |
| 32⅞ X ½ X .020 | 835 X 13 X .50 | 10/14 | Modified Raker | ZWEP321014MC | 001861 | ZWEP321014MCB25 | 005371 | ZWEP321014MCB | 003292 |
| 32⅞ X ½ X .020 | 835 X 13 X .50 | 14/18 | Wavy | ZWEP321418MC | 001892 | ZWEP321418MCB25 | 005418 | ZWEP321418MCB | 003308 |
| 35⅜ X ½ X .020 | 899 X 13 X .50 | 10/14 | Modified Raker | ZWEP351014MC | 003049 | ZWEP351014MCB25 | 005388 | ZWEP351014MCB | 003445 |
| 35⅜ X ½ X .020 | 899 X 13 X .50 | 14/18 | Wavy | ZWEP351418MC | 003056 | ZWEP351418MCB25 | 005425 | ZWEP351418MCB | 003452 |
| 44⅞ X ½ X .020 | 1140 X 13 X .50 | 10/14 | Modified Raker | ZWEP441014MC | 001175 | ZWEP441014MCB25 | 002356 | ZWEP441014MCB | 002233 |
| 44⅞ X ½ X .020 | 1140 X 13 X .50 | 14/18 | Wavy | ZWEP441418MC | 001182 | ZWEP441418MCB25 | 002295 | ZWEP441418MCB | 002240 |
| 44⅞ X ½ X .025 | 1140 X 13 X .63 | 10/14 | Modified Raker | ZWEP44251014 | 001953 | ZWEP44251014B25 | 001991 | ZWEP44251014WB | 005586 |
| 44⅞ X ½ X .025 | 1140 X 13 X .63 | 14/18 | Wavy | ZWEP44251418 | 001960 | ZWEP44251418B25 | 002004 | ZWEP44251418WB | 005593 |

## STRAIGHT PITCH BI-METAL

Featuring bi-metal construction for long blade life and straight pitch teeth for better chip clearance and fast cutting. Available in standard .020"/.50mm.

For longest blade life, the maximum recommended blade speed is 285 FPM.

### Applications

- Electrical Conduit
- Strut
- Threaded Rod
- Stainless steel
- Pipe
- Tubing
- Solids
- Structural Pipes
- Machinable Metals
- PVC
- Cast Iron

### Benefits

- Straight pitch teeth provide better chip clearance for fast cutting
- Shock resistant bi-metal teeth efficiently cut machinable metals
- Tooth design leaves a clean, weldable finish

| Length x Width x Thickness | | | | 3/box | | 25/Box | | Bulk 100/Box | |
|---|---|---|---|---|---|---|---|---|---|
| in | mm | TPI | Set | Model | Part | Model | Part | Model | Part |
| **Standard Pitch** | | | | | | | | | |
| 27 3/16 X ½ X .020 | 691 X 13 X .50 | 18 | Wavy | ZWEP2718W | 001830 | ZWEP2718WB25 | 005456 | ZWEP2718WB | 001854 |
| 28 13/16 X ½ X .020 | 732 X 13 X .50 | 24 | Wavy | ZWEP2824W | 001762 | ZWEP2824WB25 | 005463 | ZWEP2824WB | 001793 |
| 32⅞ X ½ X .020 | 835 X 13 X .50 | 14 | Wavy | ZWEP3214W | 001908 | ZWEP3214WB25 | 005487 | ZWEP3214WB | 003261 |
| 32⅞ X ½ X .020 | 835 X 13 X .50 | 18 | Wavy | ZWEP3218W | 001915 | ZWEP3218WB25 | 005494 | ZWEP3218WB | 003278 |
| 32⅞ X ½ X .020 | 835 X 13 X .50 | 24 | Wavy | ZWEP3224W | 001922 | ZWEP3224WB25 | 005500 | ZWEP3224WB | 003285 |
| 35⅜ X ½ X .020 | 899 X 13 X .50 | 14 | Wavy | ZWEP3514W | 003018 | ZWEP3514WB25 | 005524 | ZWEP3514WB | 003414 |
| 35⅜ X ½ X .020 | 899 X 13 X .50 | 18 | Wavy | ZWEP3518W | 003025 | ZWEP3518WB25 | 005531 | ZWEP3518WB | 003421 |
| 35⅜ X ½ X .020 | 899 X 13 X .50 | 24 | Wavy | ZWEP3524W | 003032 | ZWEP3524WB25 | 005548 | ZWEP3524WB | 003438 |
| 44⅞ X ½ X .020 | 1140 X 13 X .50 | 14 | Wavy | ZWEP4414W | 001212 | ZWEP4414WB25 | 002318 | ZWEP4414WB | 002165 |
| 44⅞ X ½ X .020 | 1140 X 13 X .50 | 18 | Wavy | ZWEP4418W | 001229 | ZWEP4418WB25 | 002301 | ZWEP4418WB | 002172 |
| 44⅞ X ½ X .020 | 1140 X 13 X .50 | 24 | Wavy | ZWEP4424W | 001236 | ZWEP4424WB25 | 005579 | ZWEP4424WB | 002189 |


MORSE

# HAND SAW BLADES

| Blade Type | Application |
|---|---|
| **Hack Saw Blades** | |
| **Metal** | |
| Bi-Metal | Used to cut pipe, tubing solids, wood, plastic or machinable metals. |
| **Hack Saw Frames** | |
| Hack Saw Frames | For use with hack saw blades including a mini for tight spaces. |
| **Specialty Hand Saws** | |
| PVC/ABS Saws & Blades | Designed to cut PVC and ABS pipe quickly and efficiently. |
| Jab Saw | Heavy duty, ergonomic handle for use with reciprocating saw blades. |

# HACK SAW BLADES & FRAMES BI-METAL



## BI-METAL HACK SAW BLADES

Bi-metal hack blades will bend and flex, resisting shattering for safer sawing and longer lasting blades. Use to cut pipe, tubing or any machinable metal.

### Features

- Vacuum heat treating
- Straight blade body
- Bi-metal construction
- Made in USA

### Benefits

- Harder edge for fast cutting
- Greater beam strength
- Long cutting life
- Heat and wear resistant
- Flexible to prevent shattering during use

| | in | | | mm | | | 2/Card - 5/Pack | | 10/Tube | | 100/Tube | | 100/Box | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPI | Length | Width | Thickness | Length | Width | Thickness | Model | Part | Model | Part | Model | Part | Model | Part |
| **Straight Pitch** | | | | | | | | | | | | | | |
| 18 | 12 | ½ | .023 | 300 | 12.7 | .6 | HHCB1218 | 304047 | HHB1218T10 | 302180 | HHB1218T100 | 300117 | HHB1218 | 362184 |
| 24 | 12 | ½ | .023 | 300 | 12.7 | .6 | HHCB1224 | 304054 | HHB1224T10 | 302241 | HHB1224T100 | 300124 | HHB1224 | 362245 |
| 32 | 12 | ½ | .023 | 300 | 12.7 | .6 | HHCB1232 | 304108 | HHB1232T10 | 302326 | HHB1232T100 | 300131 | HHB1232 | 362320 |

Note: 100/Box for Variable and Straight Pitch blades must be ordered by blade in multiples of 100

## CONTRACTOR HIGH TENSION

### Benefits

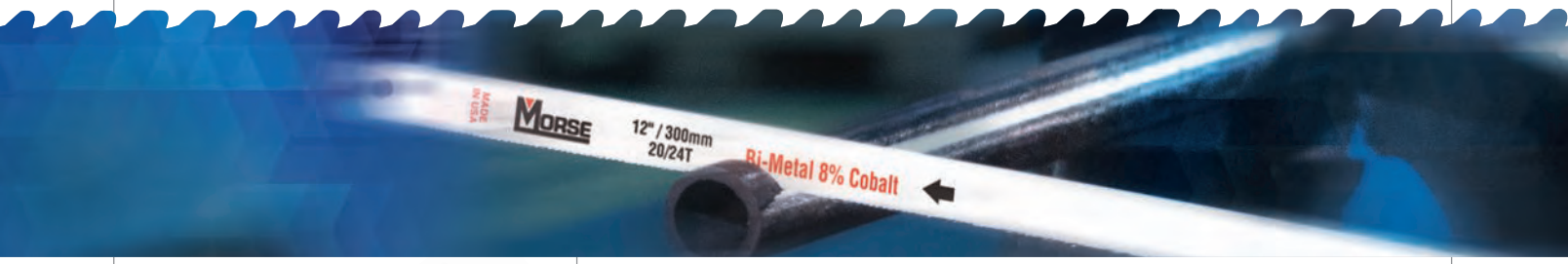
- Exceptionally light for handling ease
- Aluminum frame offers extra blade storage space

| | Frame | | Blade Included | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1/Card | | | in | | | mm | | |
| Product | Model | Part | TPI | Length | Width | Thickness | Length | Width | Thickness |
| Contractor High Tension | HHBF04 | 300056 | 24 | 12 | ½ | .023 | 300 | 12.7 | .6 |

## MINI

| Frame | Frame | | Blade Included | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1/Card - 5/Pack | | | in | | | mm | | |
| Product | Model | Part | TPI | Length | Width | Thickness | Length | Width | Thickness |
| Mini | HHBF05 | 330077 | 24 | 10 | ½ | .023 | 250 | 12.7 | .6 |

# SPECIALTY HAND SAWS




## PVC/ABS SAW AND REPLACEMENT BLADES

A handy carbon steel saw for plumbers, electricians and DIY. These saws are light and comfortable with replaceable spring-tempered steel blades. Cuts on the pull stroke for quick, accurate cutting action.

### Applications

- PVC
- Plastic
- Wood

### Benefits

- Spring tempered carbon steel blade for superior wear resistance and long life
- Tooth hardness 65Rc for cutting PVC/ABS
- Precision-milled teeth for smooth cutting
- Comfort-grip cast aluminum handle
- Single screw attachment - no tools required for blade changes

| | Frame 1/Card | | | Blade Included | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | in | | | mm | | |
| Product | Model | Part | TPI | Length | Width | Thickness | Length | Width | Thickness |
| 12" PVC/ABS Saw | HPVC1201 | 330107 | 10 | 12 | 2½ | .370 | 305 | 63.5 | 9.4 |
| 18" PVC/ABS Saw | HPVC1801 | 330114 | 10 | 18 | 2½ | .370 | 450 | 63.5 | 9.4 |
| | Blade 1/Card | | | Replacement Blades | | | | | |
| PVC/ABS Blade | HPVC812 | 330121 | 10 | 12 | 2½ | .370 | 305 | 63.5 | 9.4 |
| PVC/ABS Blade | HPVC818 | 330138 | 10 | 18 | 2½ | .370 | 450 | 63.5 | 9.4 |

JABSAW

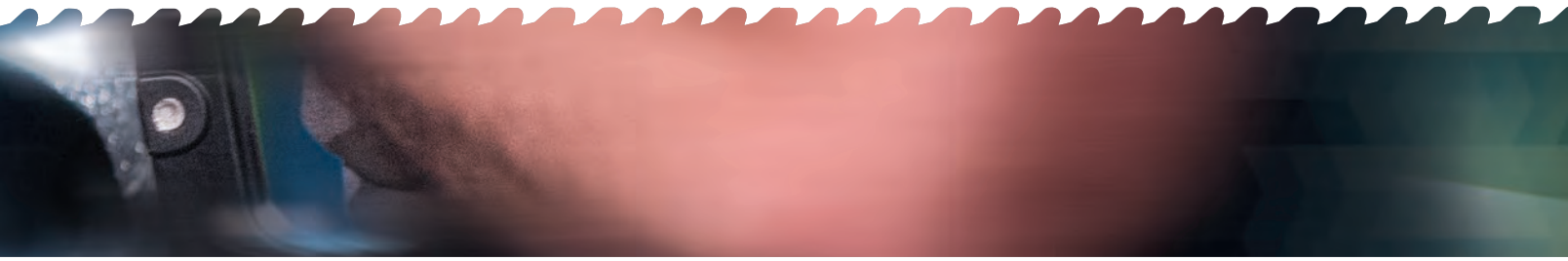
## JAB SAWS

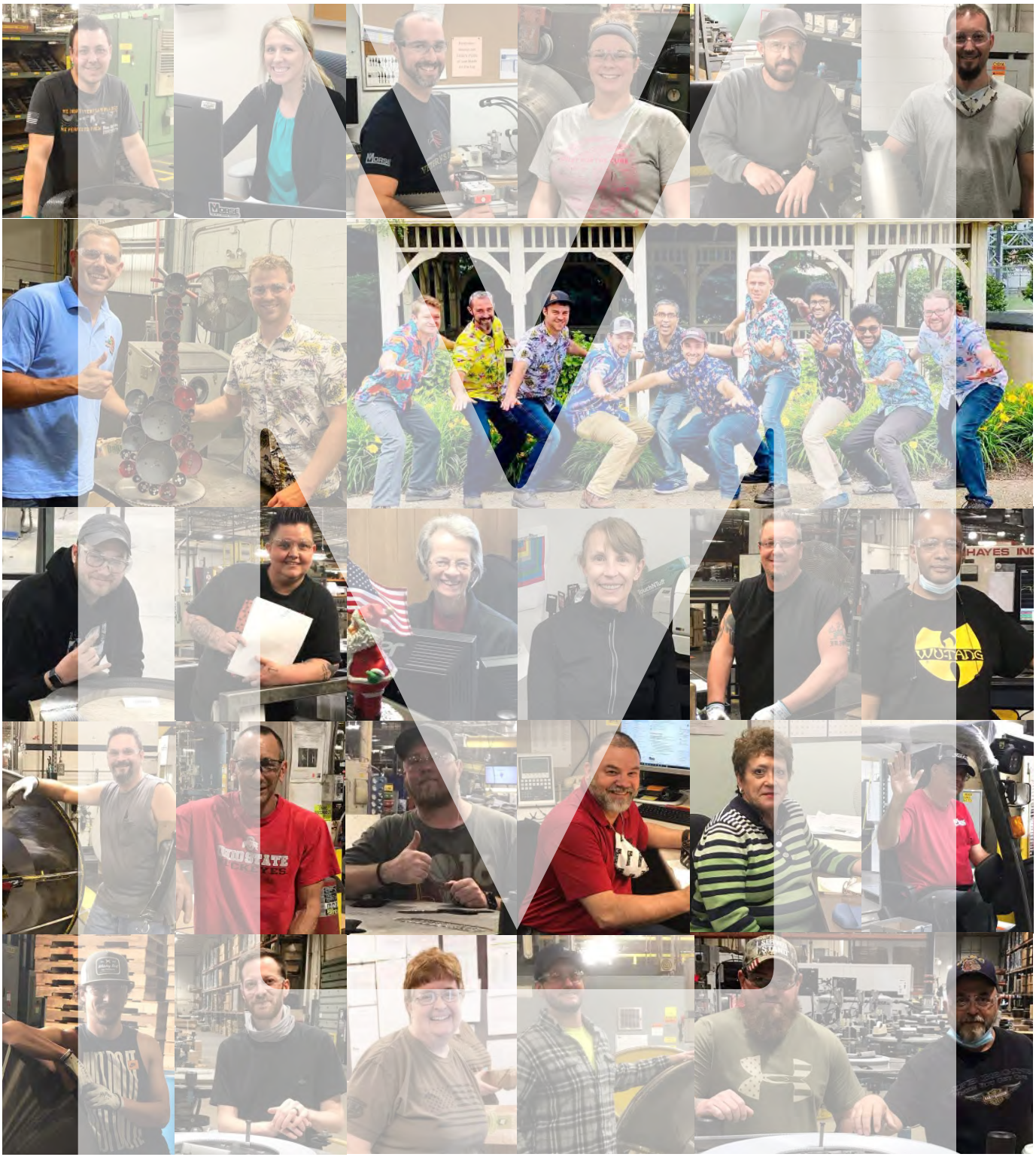
Heavy duty, ergonomic handle to use with either a reciprocating or a hack saw blade. Allows for quick blade changes for various applications.

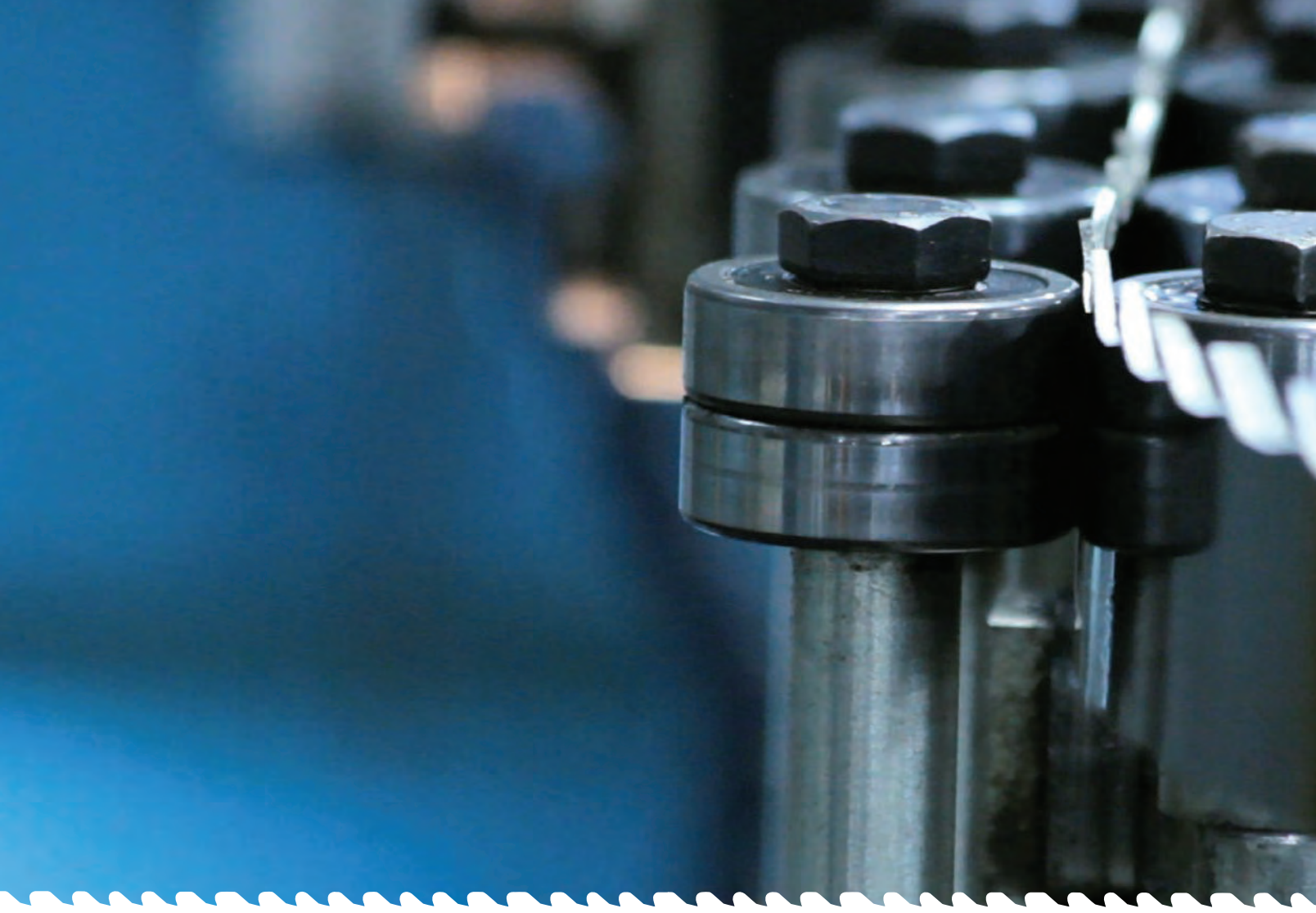

| Description | 1/Card Model | 1/Card Part |
|---|---|---|
| Jab Saw with 6" .050" (1.30mm) 6 TPI Blade included | JSHRBC01 | 397063 |

Minimum order Qty: 6

# WE ARE MORSE





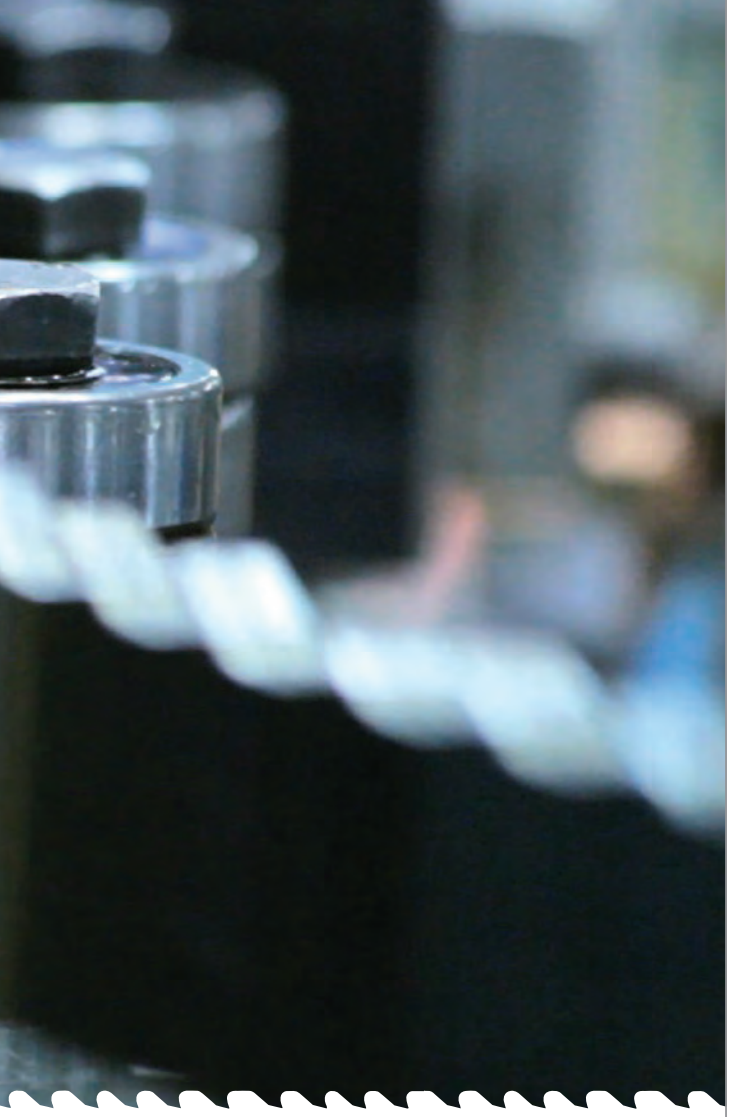


## WARNING ABOUT SAW BLADE USAGE

CUTTING TOOLS CAN SHATTER AND/OR BREAK UNDER IMPROPER OR SEVERE USE. WEAR SAFETY EQUIPMENT, PARTICULARLY GOGGLES, GLOVES AND HEARING PROTECTION, AT ALL TIMES IN THE VICINITY OF THEIR USE. ALWAYS FOLLOW BAND SAW MACHINE MANUFACTURERS' RECOMMENDATIONS.

## THE M. K. MORSE COMPANY WARRANTY

The M. K. Morse Company warrants each new product manufactured and sold by it or one of its authorized distributors only against defects in workmanship and/or materials under normal service, proper installation and use. THIS WARRANTY IS LIMITED TO REPAIR OR REPLACEMENT OF VERIFIED DEFECTIVE PRODUCTS AND EXCLUDES ANY AND ALL IMPLIED WARRANTY OF MERCHANTABILITY AND ALL RISK AND LIABILITY WHATSOEVER RESULTING FROM ANY USE OF SAID PRODUCTS, INCLUDING INCIDENTAL AND CONSEQUENTIAL DAMAGES. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE THEREOF. The provisions of this warranty and limitation of liability shall not be modified in any respect except by written document signed by an officer of The M. K. Morse Company.



# THE M. K. MORSE COMPANY
## WAREHOUSE ADDRESSES

### NORTH AMERICA

**OHIO**
1101 – 11th Street SE
Canton, OH 44707
Phone: 330-453-8187

**CALIFORNIA**
7900 Balboa Blvd, Hanger B6
Van Nuys, CA 91406
Phone: 818-510-0601
*(To get to the CA warehouse turn from Balboa Blvd. on to Stagg Street and then enter the parking lot on the left)*

**CANADA**
4265 Phillips Ave
Burnaby BC V5A-2X4
Phone: (604) 942-1917

### EUROPE

**FINLAND**
Laippatie 3
FIN-00880 Helsinki Finland
Phone: 011-358-96 12 2740

**U. K.**
Unit 3 The Crossings, Crosshills
North Yorkshire England BD20 7
Phone: 011-441-535-634280

### ASIA

**INDIA**
MK MORSE COMPANY INDIA PVT LTD
GAT NO - 624 / 9,PLOT NO - 5,
GALA NO G-11,INDRAYANI INDUST PREM
CO-OP SOC LTD, KURLI, TAL-KHED
PUNE, MAHARASHTRA 410501
Phone: 91-9422-3300-36

THE M. K. MORSE COMPANY


PHONE: (330) 453-8187
HOTLINE: (800) 733-3377
FAX: (330) 453-1111
FAX HOTLINE: (800) 729-1112
EMAIL: mkmorse@mkmorse.com

WEBSITES
mkmorse.com
bladewizard.com

SOCIAL MEDIA

MAILING ADDRESS
P. O. BOX 8677
Canton, OH 44711 USA

SHIPPING ADDRESS
1101 – 11th ST SE
Canton, OH 44707 USA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