



Die & Mold Tooling
Solutions



Ingersoll
Cutting Tools



Ingersoll and Die & Mold

After a century of innovation in the metal removal industry, Ingersoll developed and introduced the first indexable ball nose end mill. You could say we invented ball nose end milling. Not long after that, we introduced the first two-effective ball nose end mill.

We were the first to introduce the On-Edge insert configuration so widely copied today. The combination of On-Edge inserts and single screw insert locking has proven to be the strongest yet conceived and is still designed into the majority of our tooling.

Our history of innovative product development still continues. Today, Ingersoll Cutting Tool Company offers the widest range of ball nose end mill sizes and options available on the market. In short,



one company, Ingersoll Cutting Tools, can supply virtually all your ball nose tooling requirements.

We supply ball nose end mills for an equally wide variety of applications from generating a form in a small job shop to major mold and die production where the cutter has to remain buried in the work for hours on end. A wide range of grade offerings covers the full range of die and mold materials.

Die Types

- Blank Dies
- Draw Dies
- Trim Dies
- Flange Dies
- Cam Flange Dies
- Drop Forge Dies
- Casting Dies

Mold Types

- Injection Molds
- Compression Molds
- Extrusion Molds
- Blow Molds

Die/Mold Milling Applications

- Roughing
- Semi-Finishing
- Finishing
- One-Cuts
- Profiling
- Pocketing
- Circular Ramping
- Slabbing
- Channel Milling
- Ramping
- Plunging
- Contouring
- Chamfering
- Face Milling

Die/Mold Tooling

- Indexable Ball Nose End Mills
- Indexable Button Cutters
- Indexable Plunge Cutters
- Grind-Style End Mills (brazed or solid)
- Indexable Extended Length End Mills
- Indexable Drills
- Solid Carbide Drills
- Wohlhaupter Multi-Bore® Precision Boring Systems
- Indexable Face Mills



Standard Solutions

Metal removal is an exacting science. Few standard products will do the job adequately. After years of development for mold and die metal removal, we offer several particularly well suited to mold and die work:

Ball Nose End Mills

- We invented the indexable ball nose end mill and we've been improving it ever since.
- Widest range in the industry.
- Ten completely different ball nose styles to best suit your particular needs.

Button Cutters

- Inserts from .375" I.C. to 1.000" I.C.
- Wide range of sizes and styles.
- Several insert options for problem-solving flexibility.

Plunge Cutters

- Directs cutting forces axially through the tool for strong, smooth cutting.
- Constant chip thickness reduces work hardening.
- Two geometries for expanded range.
- Higher MRR than peripheral milling.

Grind-Style Cutters

- Brazed carbide in right-hand 30° helix; left-hand 45° helix; and two-flute 30° helix for aluminum. Diameters from .750" to 2.000".
- Solid carbide 90° and ball nose end mills from .125" to .750" and from 3,0mm to 20,0mm.

Extended Length End Mills

- Maximum metal removal.
 - Positive rake face geometry provides smooth, efficient cutting.
 - Right-hand and left-hand helix.
 - Overcut shell mills.
 - Replaceable end caps for flexibility and protection.
 - Extended reach for deep work.
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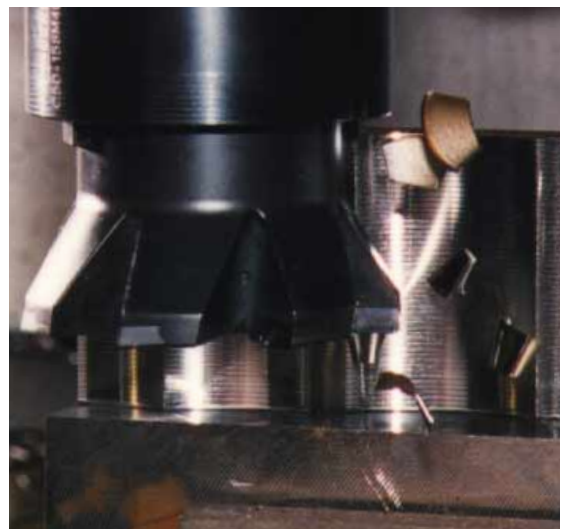
Specialized Solutions

Modified Standard Tooling

When Ingersoll standard tooling is close, but not precisely the right size or shape, our Modified Standards program will give you exactly what you need. With it, we can design and build custom cutters at a fraction of the price and lead time you might expect because much of the engineering has already been done.

Special Tooling

Ingersoll has been making special indexable tooling for over 100 years. Ingersoll tools helped produce the first Model T. That kind of experience is hard to come by. Ingersoll Cutting Tools has the experience and people required to design and build special indexable or grind-style metal removal tooling to suit virtually any application in virtually any work-piece material.



Other Products and Features

Ingersoll offers a complete range of standard indexable metal removal tooling for almost every type of application in virtually any workpiece material.

End Mills

We offer the widest range of indexable end mills in the world.

- Complete application range.
- Standard diameter range from .375" to 3.000".
- Wide variety of cutting geometries.

Face Mills

Various standard face mills feature radially and/or axially stepped inserts to reduce chip load, uneven insert spacing to reduce harmonic vibration, L-nest pocket protection and more.

- Standard diameter range from 2.00" to 12.00".
- Wide variety of cutting geometries.



Slotters

Ingersoll provides slotters from staggered tooth to half-side, from flat-bottom to form cutters, for stacking or spacing on arbors.

- Standard widths from .062" to 1.125" and diameters from 3.00" to 12.00".
- Double positive and negative/positive geometries available.
- Hubs available in four styles.

Holemaking Tools

Ingersoll offers a complete range of holemaking tooling from Trigon-style to flat-bottom drills, from roughing drills to high precision Wohlhaupter fine boring tools.

- Standard Trigon-style drill diameters range from .500" to 3.500".
- Standard flat-bottom drill diameters range from .843" to 2.000".
- Solid carbide drill diameters range from .250" to .500" and 6,0mm to 12,5mm.
- Wohlhaupter MultiBore™ precision fine boring tool diameters range from .118" to 79.527".

Complete Range of Services

From personalized sales and service support to complex specials and engineering services including part processing and methods, cutting tool maintenance and complete tooling packages.

Prototype and Repair Center

Our Prototype and Repair Center (PRC) repairs standard and special cutting tools –our competitors’ as well as our own– to blueprint specifications. PRC also provides resharpening services for regrindable tooling.



Rockford, Illinois / Burbach, Germany
ISO 9001 registered

U.S. Based Operations

Ingersoll Cutting Tools*

505 Fulton Avenue, Rockford, IL 61103
815/987-6600
www.ingersollcuttingtools.com

Prototype & Repair Center

2422 N. Main Street, Rockford, IL 61103
815/966-7920

Detroit Service Center

1628 Northwood Drive, Troy, MI 48084
248/269-4500

Canada

Toronto, Ontario
800/892-6859

Mexico

Saltillo, Coahuila
84-32-2546 Fax: 84-32-2544

South America

Campinas, São Paulo, Brazil
Tel./Fax: (019)243-1566, (019)243-5007

Japan & Southeast Asia

Nagoya, Japan
0566-72-1321 Fax: 0566-72-2603

European Based Operations

Ingersoll Werkzeuge GmbH*

Daimlerstrasse 22, D 57299 Burbach, Germany
(02736)493-01 Fax: (02736)493-244

Office Locations

China, France, Great Britain, Italy, Singapore & Spain

*Contact for more specific information and
other agents and representatives not listed above.

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