tool, mold & die

SOLUTIONS

www.alliedmachine.com

TOOL UP TO

FIT THE MOLD

***solutions** to help you maximize performance in difficult applications*

- Improve process reliability
- Increase tool life
- Maximize penetration rates

AHB

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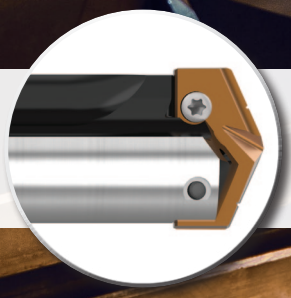


T-A PRO® REPLACEABLE INSERT DRILL

Cut through challenges like a pro.

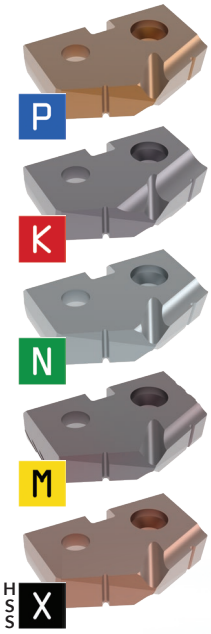
ALLIED MACHINE & ENGINEERING

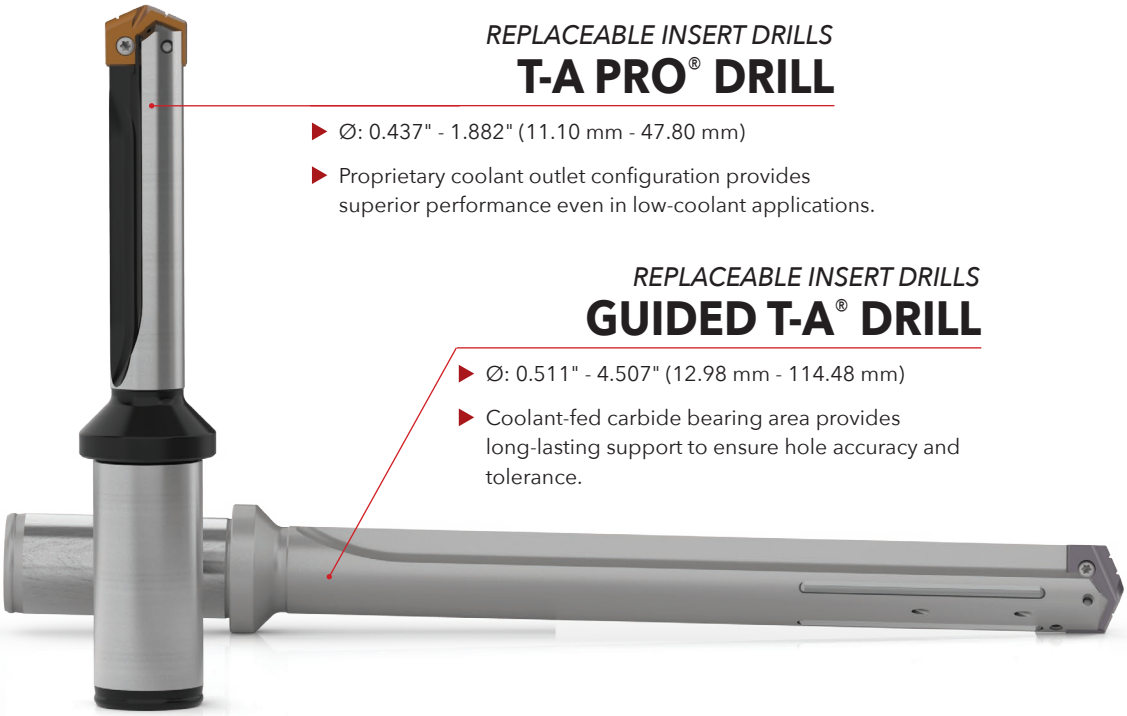
Allied Machine offers a wide range of drilling, boring, reaming, burnishing, and threading tools to lower your **cost per hole**.

WATERLINES

The guided T-A and T-A Pro drill use double-effective cutting that allows for better hole finish, straightness and process reliability.

T-A PRO® INSERTS





REPLACEABLE INSERT DRILLS

T-A PRO® DRILL

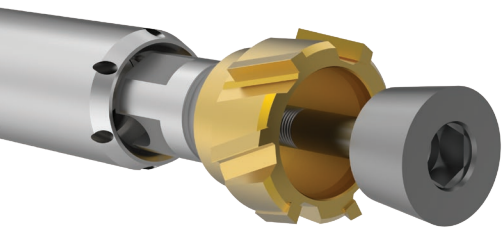
- Ø: 0.437" - 1.882" (11.10 mm - 47.80 mm)
- Proprietary coolant outlet configuration provides superior performance even in low-coolant applications.

REPLACEABLE INSERT DRILLS

GUIDED T-A® DRILL

- Ø: 0.511" - 4.507" (12.98 mm - 114.48 mm)
- Coolant-fed carbide bearing area provides long-lasting support to ensure hole accuracy and tolerance.

GUIDE PIN & BUSHING HOLES

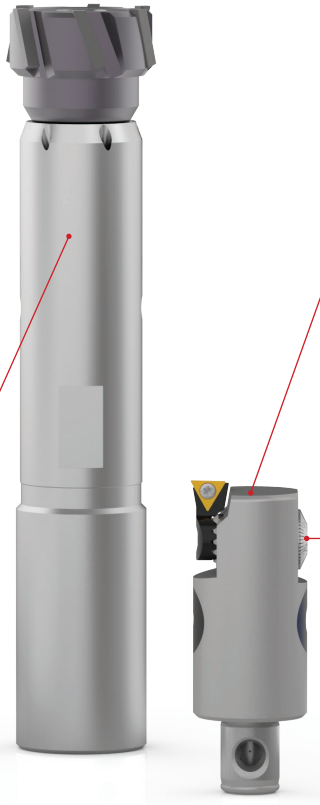


Diameter expansion provides tight tolerances of ±0.0002" (0.005 mm).

ALVAN REAMERS BY S.C.A.M.I.®

REPLACEABLE HEAD REAMER

- Ø: 0.465" - 2.386" (11.80 mm - 60.60 mm)
- Expandable or fixed diameter styles allow you to accommodate for wear or replace the reamer head with a precision-ground diameter quickly.



WOHLHAUPTER® FINE BORING HEAD

365 (364) BORING HEAD

- Ø: 0.787" - 1.988" (20.00 mm - 50.50 mm)
- Internal balancing improves tool life and surface finish.

Highly accurate adjustments through vernier scale

THREADS

SOLID CARBIDE THREAD MILLS

THREADMILLS USA™

- Thread mills drastically reduce the occurrences of scrap when compared to taps, and this advantage makes them desirable when manufacturing large and/or costly components.
- Produces threads in difficult-to-machine materials including those that are post-heat treated

SOLID CARBIDE THREAD MILLS

ACCUTHREAD® T3

- Built for machining hardened or hard-to-machine materials such as stainless steel, tool steel, and high-temp alloys
- Designed to machine only three threads at a time, reducing tool pressure and dramatically increasing the chances of tool survival

CASE STUDY

The internal ejection system flushes chips and debris from the hole with no interference to the cutting process.

105% TOOL LIFE INCREASE

BT-A DRILL

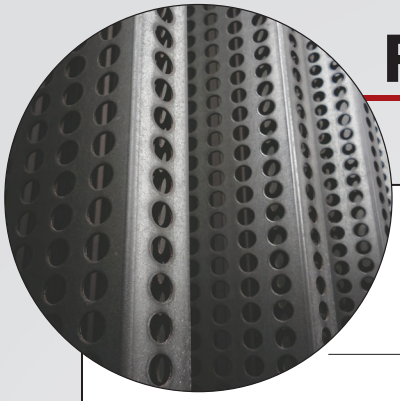
CUSTOMER'S OBJECTIVE:	INCREASE TOOL LIFE
PREVIOUS TOOL LIFE:	19 HOLES
NEW TOOL LIFE:	39 HOLES

Need a solution with better tool life?

The customer is a mold maker for the plastics industry that contacted Allied to test BT-A tooling. The workpiece is a 21" (533.4 mm) thick test block made of P20 material (28-32 Rc). They are using a Schienke gundrill machine with Hulcut 745D semisynthetic coolant (10% concentrate) at 1000 PSI (69 bar).

Turning to Allied for improvement, the customer wanted to reduce total hole costs and improve the tool life.

The BT-A drill was able to successfully meet the customer requests and delivered a 105% increase on tool life helping to lower their cost per hole.



P-20 HI HARD MOLD COMPONENTS

600% TOOL LIFE INCREASE

T-A PRO® DRILL

68.5% cycle time decrease

CUSTOMER'S OBJECTIVE: INCREASE TOOL LIFE

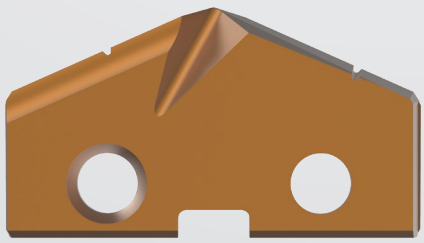
PREVIOUS TOOL LIFE	NEW TOOL LIFE
100 linear inches *(2.54 m)*	700 linear inches *(17.78 m)*

Product: T-A Pro
Objective: Increase tool life
Industry: Tool, mold, & die
Part: Mold components
Material: P-20 Hi hard
Hole Ø: 1.4689" *(37.31 mm)*
Hole Depth: 6.5000" *(165.1 mm)*

Measure	Competitor IC Drill	T-A Pro Drill
RPM	590	470
Speed	225 SFM *(68.58 m/min)*	180 SFM *(54.864 m/min)*
Feed Rate	0.0025 IPR *(0.064 mm/rev)*	0.010 IPR *(0.254 mm/rev)*
Penetration Rate	1.5 IPM *(38.1 mm/min)*	4.7 IPM *(119.38 mm/min)*
Cycle Time	4 min 30 sec	1 min 25 sec
Tool Life	100 linear inches *(2.54 m)*	700 linear inches *(17.78 m)*

T-A Pro offered *94.9%* cost per hole savings over the competitor tooling.

- T-A Pro
  5xD holder: ***HTA3A05-150F***
  P (steel) insert: ***TAP3-37.31***



The T-A Pro P geometry and the holder's coolant design provided:

- ✓ Decreased cycle time
- ✓ Increased tool life
- ✓ Decreased cost per hole

BOLSTER PLATES

INDEXABLE CARBIDE DRILLS

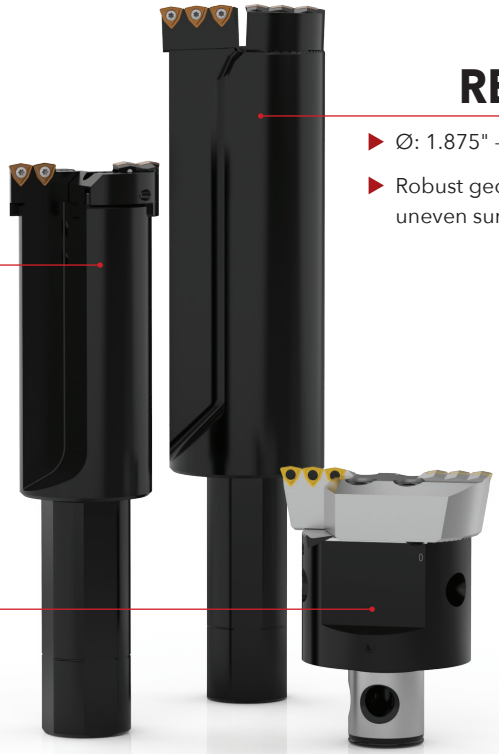
OPENING DRILL®

- Ø: 2.000" - 5.620" (50.80 mm - 142.75 mm)
- Provides ideal performance on low horsepower machines while maintaining high penetration rates

INDEXABLE CARBIDE DRILLS

REVOLUTION DRILL®

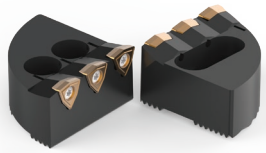
- Ø: 1.875" - 4.000" (47.63 mm - 101.60 mm)
- Robust geometry allows the tool to drill through uneven surfaces and interrupted cuts.



WOHLHAUPTER® ROUGH MACHINING

VOLCUT

- Ø: 2.559" - 128.150" (65.00 mm - 3255.00 mm)
- Engineered to remove a massive amount of material in just one cut in large diameter rough boring applications



Replaceable cartridges and inserts reduce machine downtime and protect your investment.

DIE SHOES

REPLACEABLE INSERT DRILLS

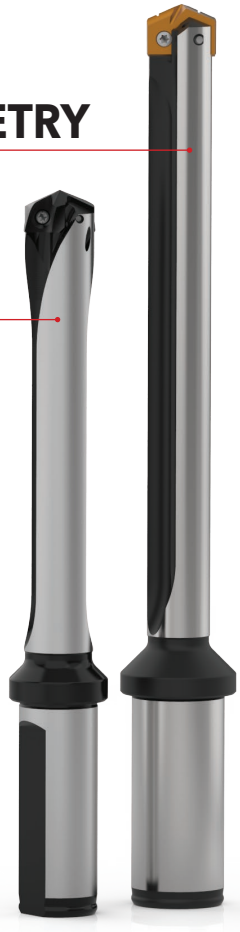
T-A PRO® STEEL (-P) GEOMETRY

- Ø: 0.437" - 1.882" (11.10 mm - 47.80 mm)
- Allied's multilayer AM300® coating increases heat resistance and improves tool life.

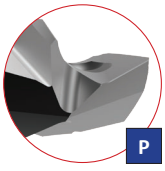
REPLACEABLE INSERT DRILLS

GEN3SYS XT PRO® DRILL

- Diameter range: 0.4311" - 1.3780" (11.00 mm - 35.00 mm)
- With increased coolant at the cutting zone, the XT Pro dissipates heat, which is critical in extending tool life.

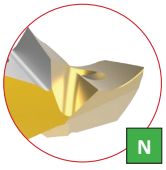


GEN3SYS® XT PRO INSERTS



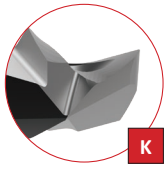
P - Steels

- Superior geometry and edge provide excellent chip control.
- Allied's multilayer AM420 coating increases heat resistance and improves tool life.



N - Non-ferrous Materials

- The geometry yields excellent chip control in these softer materials.
- TiN coating gives the versatility to run in a variety of materials while reducing buildup.



K - Cast Irons

- Geometry includes a corner radius for improved hole finish and heat dispersion.
- Allied's multilayer AM440 coating provides increased abrasion resistance and tool life.

No matter the type of holemaking, Allied is here to help you.

Whether you're a production facility producing thousands of parts for one customer or a job shop making a handful of parts for a thousand customers, we're here to make sure the job gets done. Our precision holemaking and finishing solutions are backed by our experienced staff of knowledgeable engineers who are standing by.

Don't hesitate to call us. Let us know what problems you're having, and we'll find the solution. Machining is what we do, and we don't mind showing off what we know.

After all, we are the holemaking experts. All you have to do is ask.

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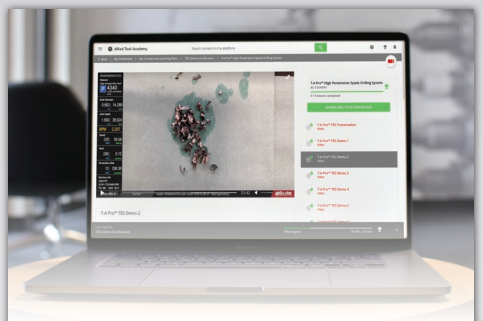

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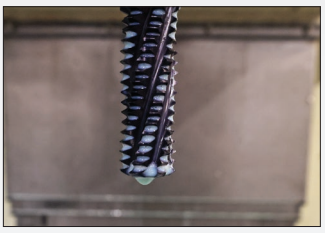
THE HOLEMAKING EXPERTS



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