ALLIED MACHINE & ENGINEERING

Holemaking Solutions for Today's Manufacturing

Boring

Reaming

Burnishing

Threading

Specials

Structural Steel Solutions

▶ *DRILLING*

Replaceable Insert Drills

North America

Allied Machine
120 Deeds Drive
Dover, OH 44622
United States

Allied Machine
485 West 3rd Street
Dover, OH 44622
United States

ThreadMills USA™
4185 Crosstowne Ct #B
Evans, GA 30809
United States

Superion™
1285 S Patton St.
Xenia, OH 45385
United States

Europe

Allied Machine Europe
93 Vantage Point
Pensnett Estate
Kingswinford
West Midlands
DY6 7FR, United Kingdom

Wohlhaupter® GmbH
Maybachstrasse 4
Postfach 1264
72636 Frickenhausen
Germany

Asia

Wohlhaupter® India
B-23, 2nd Floor
B Block Community Centre
Janakpuri, New Delhi - 110058
India

Allied Machine & Engineering is a worldwide leader in holemaking and finishing solutions. We are committed to providing practical and dependable solutions to our customers through innovative designs and superior customer and technical support.

We continue to expand our product offering in order to provide new and different solutions. With Field Sales Engineers located around the world, we position ourselves to provide technical support on site, right at your spindle.

ALLIED MACHINE & ENGINEERING®

www.alliedmachine.com

ALLIED MACHINE & ENGINEERING

Holemaking Solutions for Today's Manufacturing

Structural Steel Solutions

The Foundation

Since 1941, Allied Machine & Engineering has provided dependable and practical holemaking solutions to the world. What was once a small job shop in Ohio is now a worldwide leader in cutting tool technology. With three manufacturing facilities in Ohio, one in Georgia, another in Germany, and headquarters in both the United States and Europe, Allied Machine is positioned to bring innovative solutions and technical expertise directly to the customers' hands.

The Beginning

Harold E. Stokey founded Allied Machine & Engineering to aid the war effort, manufacturing taper bearing lock nuts for the production of M1 tanks. Years later, after a sales meeting gone wrong, Stokey possessed a warehouse stocked with spade drill inserts. He set forth into the industry that would become Allied Machine's thriving identity: holemaking.

The T-A®

When Harold's son, William H. Stokey, became the president and CEO, he developed the Throw Away, or T-A, spade drill insert system. The T-A revolutionized the holemaking industry, launching Allied Machine ahead of the competition. Since then, numerous innovations and advancements have been created from the T-A's inspiration.

The Innovation

Since the development of the T-A, Allied Machine has expanded its product offering to support a vast range of customer applications, including large diameter and deep hole drilling, boring, reaming, burnishing, porting, and threading.

The People

Allied Machine understands that high quality products are only one facet of success. Our customer support is crucial to what we do, and that's why we make sure the best engineers and customer service associates are in place to assist our customers around the world.

The Future

With over 75 years of experience, Allied Machine has encountered the challenges of growth and success. By investing in cutting edge technology and the brightest and sharpest minds, our knowledge and capabilities continue to expand and grow every day.

Steve Stokey
Executive Vice President

William H. Stokey
President and CEO

Mike Stokey
Executive Vice President

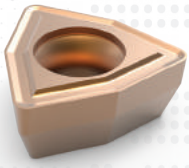
WOHLHAUPTER® ThreadMills USA SUPERION™ CRITERION™

Replaceable Insert Drills

- Reduce costs by decreasing set-up time and utilizing a single holder for the lives of multiple inserts
- Provide flexibility to quickly switch between inserts with different geometries
- Products:
  - **GEN3SYS® XT | GEN3SYS® XT Pro**
  - **Original T-A® | GEN2 T-A®**
  - **High Performance | Universal**

Indexable Insert Drills

- Protect your investment and reduce your inventory with replaceable cartridges that allow the same holder to be used repeatedly
- Indexable inserts increase productivity and tool life while reducing costs
- Products:
  - **4TEX® Drill**
  - **Revolution Drill®**
  - **Opening Drill®**



Replaceable / Indexable Insert Drills

- Allow for higher spindle speeds and take advantage of the power curve on modern CNC machines
- Achieve maximum penetration rates in deep hole drilling applications
- Holders cover a range of sizes with the replaceable heads determining the cutting diameter
- Products:
  - **APX™ Drill**

Solid Carbide Drills

- Offer greater strength and stability when drilling tougher materials
- Available in diameters from 3mm - 20mm
- Can be made-to-order specifically for your application (Superion™ quoted specials)
  - **ASC 320®**
  - **Superion™**

Structural Steel Solutions

- Deliver outstanding performance and durability in structural steel applications
- Designed to produce optimal results in difficult-to-machine materials
- Available in multiple lengths and diameters
- T-A® style drills have different insert geometry options to improve performance depending on material
- Products:
  - **Original T-A®** | **GEN2 T-A®**
  - **GEN3SYS® XT Pro**

BTA (STS) Machining Solutions

- The internal ejection system flushes chips and debris from the hole with no interference to the cutting process
- Utilizes the advantages of the T-A® drill insert
- Designed to significantly increase penetration rates over brazed heads and traditional gun drills
- Products:
  - **BT-A Drill**

Hydraulic Port Contour Cutters

- Save significant time and money by performing four processes in one step
- Replaceable insert design reduces costs, inventory, and set-up times
- Available in 4 industry specifications:
  - Imperial: SAE J-1926
  - Metric: ISO 6149-1:2006
  - Military: SAE AS5202
  - John Deere: JDS-G173.1
- Products:
  - **AccuPort 432®**

4 IN 1

Enhanced Special Drilling Capabilities

- Allied Machine Engineers are available to meet with you to evaluate your application and recommend the best solution for you
- Special drilling solutions can incorporate advanced features such as adjustable diameter locations, multiple steps, additional coolant designs, special lengths and diameters, and more
- Special drills can drastically reduce your cost-per-hole and increase your overall productivity by eliminating multiple processes and increasing tool life

WOHLHAUPTER®
High Precision Boring Systems

- Designs available for high volume applications that increase rigidity to improve performance
- Versatile boring heads that are flexible with changing applications while maintaining excellent performance
- Provides high precision with absolute repeatability to ensure every part is held to tolerance
- Offers an industry leading modular shank connection that maintains rigidity and reduces inventory on your boring system
- Available with both digital and analog settings
- Products:
  - **Wohlhaupter® Boring Tools**

CRITERION®
Modular Boring Systems

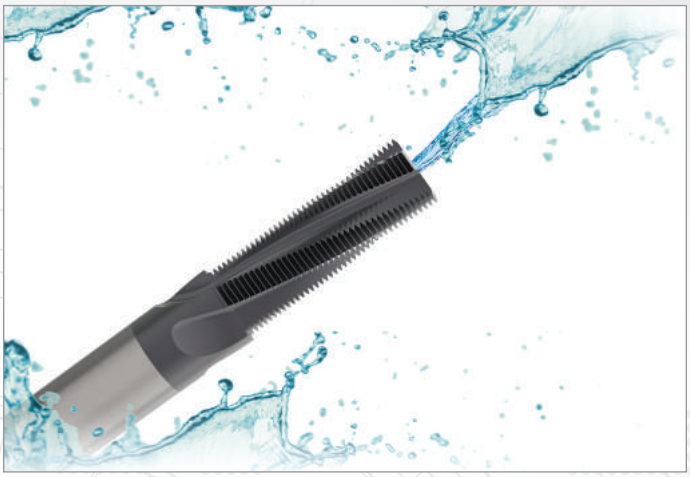
- The modular capabilities are ideal for use across multiple different projects
- Offers versatile boring heads suitable for all job shops and tooling rooms
- Provides an economical solution for low volume and/or short-term production applications
- Offers both rough and finish boring solutions
- Products:
  - **Criterion® Boring Tools**

S.C.A.M.I.®
Expandable Reaming Solutions

- Expandable cutting diameters accommodate for wear, which extends tool life
- Replaceable cutting heads and rings reduce waste and improve production time versus solid high speed steel and carbide reamers
- Hold tight tolerances to ensure processes are performed to accurate specifications
- Reduce tooling costs because many items are available for recondition
- Products:
  - **ALVAN® Reamers**

S.C.A.M.I.®
Roller Burnishing Solutions

- Produce excellent surface finishes
- Provide accurate size control
- Increase surface hardness
- Solutions for both through hole and blind hole applications
- Products:
  - **S.C.A.M.I.® Roller Burnishing Tools**



Solid Carbide Thread Mills

- Available with coolant through options
- Cover a wide range of thread forms
- Provide optimal solutions for both high production projects and short-run applications
- Products
  - **AccuThread™ 856**
  - **AccuThread™ T3**
  - **ThreadMills USA™**

Replaceable Insert Thread Mills

- 3 insert lengths are available that cover a wide range of thread forms
- Holders can utilize inserts with different pitches and thread forms
- Repeatability is achieved by both the bolt-in style and the pin style locking systems
- Increase tool life by 25 - 50% with Allied Machine's AM210® coating
- Products
  - **AccuThread™ 856: Bolt-in Style**
  - **AccuThread™ 856: Pin Style**

SPECIAL CAPABILITIES

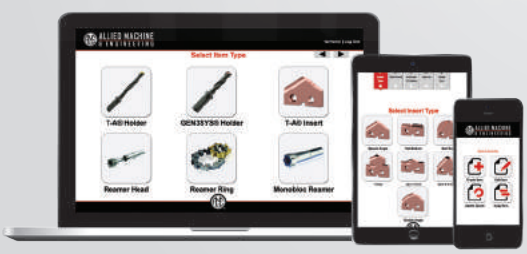
When it comes to designing and developing special solutions for customers, Allied Machine is the top choice. If your application requires special tooling, give us a call. Our engineered specials are developed by the brightest engineers in the industry. Most of our standard tooling can be altered as specials, or we can create entirely new concepts for particularly unique applications.

One special tooling solution is Insta-Quote®, the online system that allows you to design your own special tooling 24/7. Receive a quote and drawings within minutes just by following the steps.

And with the addition of Superion™ technology and capabilities, we can customize made-to-order solid carbide tools to achieve optimal results for your applications.

Whatever your application, Allied Machine has the answer.

Insta-Quote®



SUPERION™

ToolMD™

Increase the production and success of your applications today.

- Offers direct access to 2D drawings and 3D models
- Assemble and view tool images in your browser
- Download drawings for use in most machining software programs
- Browse products, search item numbers, and save assemblies for future use

toolmd.com

WOHLHAUPTER® Tool-Architect

Find the right Wohlhaupter® solution for your application.

- Configure your complete tool assembly
- Compile an order list to be quoted
- Search and quickly find components using various criteria
- Adjust your language and measurement preferences

tool-architect.com

Insta-Quote®

Design your custom tooling and receive a drawing and quote...all within minutes.

- Design and quote your own tooling
- Guides you through steps to generate the solution you need
- Features the following products
  - **T-A® Inserts**
  - **T-A® Holders**
  - **GEN3SYS® XT Holders**
  - **ALVAN® Reamers**

iq.alliedmachine.com

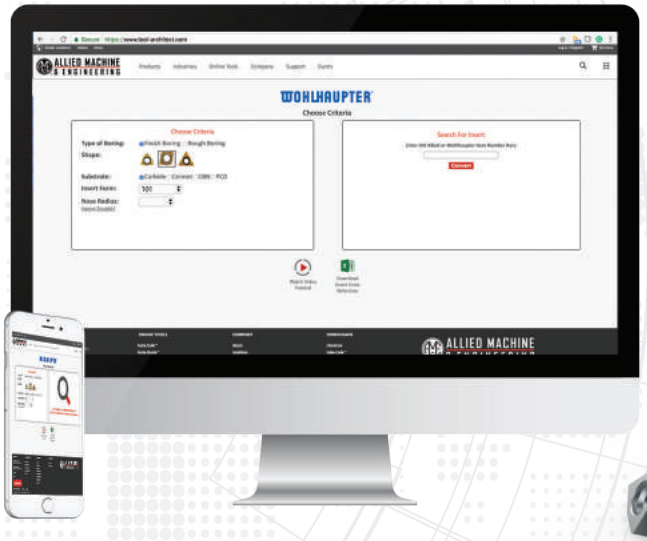
Insta-Code®

Eliminate the wait. Get your program now.

- Choose the best thread mill for your application
- Create program code for your machine
- Available as a PC download app (that can be used offline)
- Website app available 24/7

Insta-Code also has a **Cycle Time Calculator**

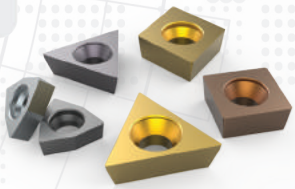
alliedmachine.com/InstaCode



WOHLHAUPTER® Boring Insert Selector

Find the best insert for your application.

- Generate the correct boring insert for your job in just six easy steps
- Choose type, shape, substrate, insert form, nose radius, and material
- Easily order by adding the item to your cart



www.alliedmachine.com/bis

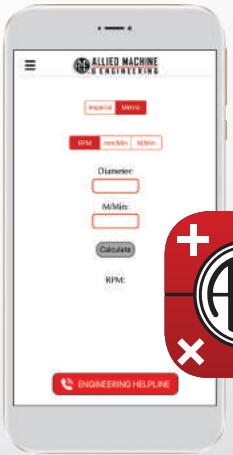
Product Selector

Use the product selector to find the right tool for your application.

- Guides you through steps to generate the right tool for your application
- Learn about your recommended tool and how to maximize its performance

www.alliedmachine.com/productselector

Machinist Tool App



Quickly convert cutting tool parameters for the machine inputs you need.

- Input data to calculate the RPM and speed and feed rates
- Also features the Boring Insert Selector
- Access product literature right at your fingertips

ANDROID APP ON Google play

Available on the App Store

Structural Steel Drilling Solutions

Replaceable Insert Drilling System | GEN3SYS® XT Pro | Original T-A® and GEN2 T-A®

- **GEN3SYS XT Pro Diameter Range:** 0.4331" - 1.3780" (11.00mm - 35.00mm)
- **T-A Diameter Range:** 0.511" - 1.882" (12.98mm - 47.80mm)

Take on Tough Drilling

Allied Machine's Structural Steel Drilling System is designed for maximum performance in structural steel materials and applications. These solutions utilize the GEN3SYS XT Pro, Original T-A, and GEN2 T-A designs and capabilities.

With multiple geometries and coatings, you're sure to find the solution that is right for you. Tough drilling is tough no more.

Excellent chip control	Improves hole quality and surface finish	Provides maximum durability and stability

Applicable Industries

Structural Steel

Your safety and the safety of others is very important. This catalog contains important safety messages. Always read and follow all safety precautions.

This triangle is a safety hazard symbol. It alerts you to potential safety hazards that can cause tool failure and serious injury.

When you see this symbol in the catalog, look for a related safety message that may be near this triangle or referred to in the nearby text.

There are safety signal words also used in the catalog. Safety messages follow these words.

⚠ WARNING

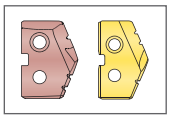
WARNING (shown above) means that failure to follow the precautions in this message could result in tool failure and serious injury.

NOTICE means that failure to follow the precautions in this message could result in damage to the tool or machine but not result in personal injury.

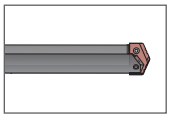
NOTE and **IMPORTANT** are also used. These are important that you read and follow but are not safety-related.

Visit www.alliedmachine.com for the most up-to-date information and procedures.

Reference Icons
The following icons will appear throughout the catalog to help you navigate between products.

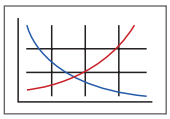


Corresponding T-A Inserts
Refers to the corresponding T-A insert items that connect with each specific holder series



Corresponding T-A Holders
Refers to the corresponding T-A holder items that connect with each specific insert series

Setup / Assembly Information
Detailed instructions and information regarding the corresponding part(s)



Recommended Cutting Data
Speed and feed recommendations for optimum and safe drilling

Series	GEN3SYS XT Pro Diameter Range	
	Imperial (inch)	Metric (mm)
12	0.4724 - 0.5117	12.00 - 12.99
13	0.5118 - 0.5511	13.00 - 13.99
14	0.5512 - 0.5905	14.00 - 14.99
15	0.5906 - 0.6298	15.00 - 15.99
16	0.6299 - 0.6692	16.00 - 16.99
17	0.6693 - 0.7086	17.00 - 17.99
18	0.7087 - 0.7873	18.00 - 19.99
20	0.7874 - 0.8660	20.00 - 21.99
22	0.8661 - 0.9448	22.00 - 23.99
24	0.9449 - 1.0235	24.00 - 25.99
26	1.0236 - 1.1416	26.00 - 28.99
29	1.1417 - 1.2597	29.00 - 31.99
32	1.2598 - 1.3780	32.00 - 35.00

Series	T-A Diameter Range	
	Imperial (inch)	Metric (mm)
0	0.511 - 0.695	12.98 - 17.65
1	0.690 - 0.960	17.53 - 24.38
2	0.961 - 1.380	24.41 - 35.05
3	1.353 - 1.882	34.36 - 47.80

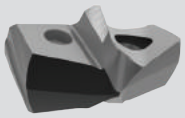
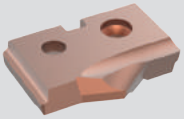
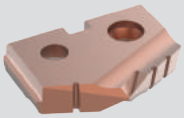
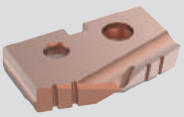
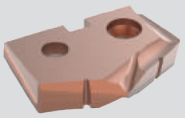
Structural Steel Drilling Solutions Contents

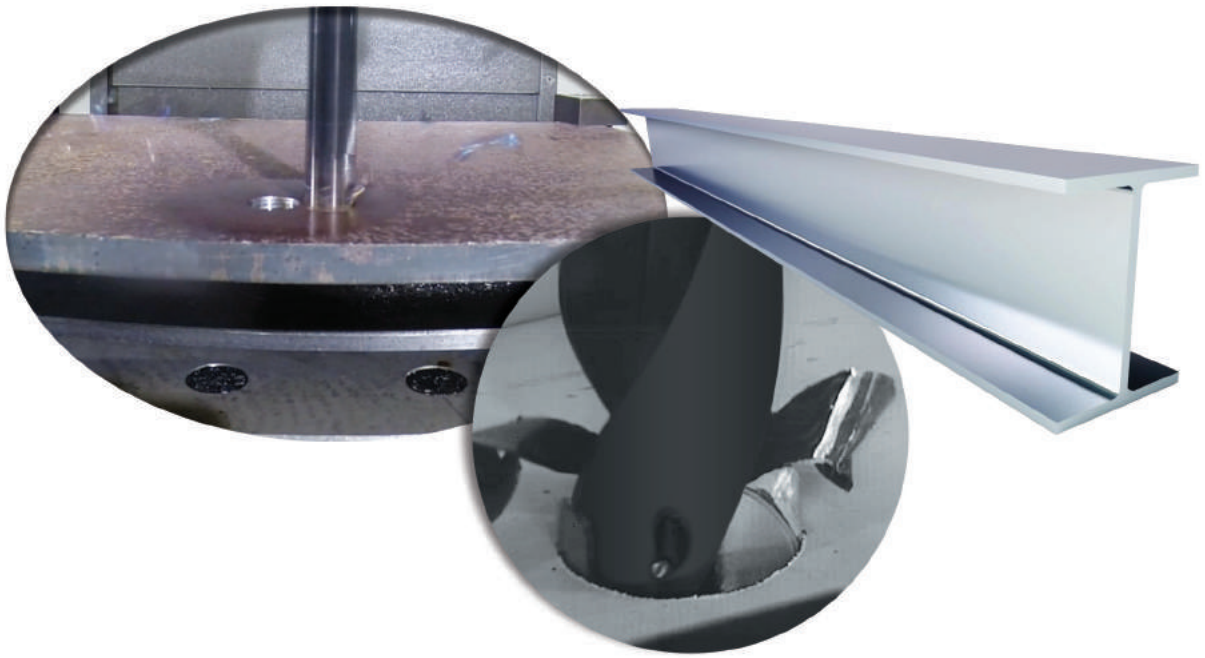
Structural Steel Drilling

Achieving Optimal Results in Structural Steel

Drilling in structural steel materials can be a difficult process, and achieving optimal results becomes a major issue. Allied Machine's structural steel drilling solutions have been specifically designed to produce the best results in the toughest materials. With solutions in both the T-A® and GEN3SYS® XT Pro product lines, you have multiple options to solve your application problems.

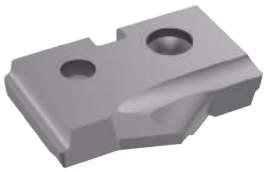
Insert Style Comparison

	 GEN3SYS® XT Pro Structural Steel	 Original T-A® Thin Wall	 Original T-A® Notch Point®	 Original T-A® 150° Structural Steel	 GEN2 T-A® High Efficiency
High penetration	✓				
Material less than 7/16" thick		✓			
Material over 7/16" thick	✓		✓	✓	✓
Reduced exit burr			✓	✓	
Includes Notch Point® geometry			✓	✓	✓
Available from carbide	✓				✓
Stocked in common sizes for the Structural Steel industry	✓	✓	✓	✓	✓



Case Study Example

CASE STUDY



Project Profile:	Structural Steel I-Beam Construction
Tooling Solution:	T-A® Structural Steel Drilling System

The Problem:

Previously, the customer was using a competitor spade drill running at the following parameters:

- 650 RPM
- 0.010 IPR (0.25 mm/rev)
- 6.5 IPM (165.1 mm/min)

The tool drilled a 0.875" (22.23mm) diameter hole to a 0.4375" (11.11mm) depth. The drill had a tool life of **only 20 holes**.

The poor tool performance was brought to the attention of the technician, who was familiar with Allied Machine products. The following day, Allied Machine tooling was brought in for testing. The customer needed improvement in the tool life of the inserts.

The Solution:

Allied Machine recommended the T-A Structural Steel Drilling System.

- **Insert** = 151A-0028-TW (#1 series T-A insert with TiAlN coating and Thin Wall geometry)
- **Holder** = 25010H-004IS052 (#1 series T-A holder with #4 Morse Taper shank and helical flute)

The tool ran at the following parameters:

- 440 RPM
- 0.010 IPR (0.25 mm/rev)
- 4.4 IPM (111.7 mm/min)

The tool achieved the desired diameter and depth. But most of all, the tool produced **1,500 holes**.

Summary:

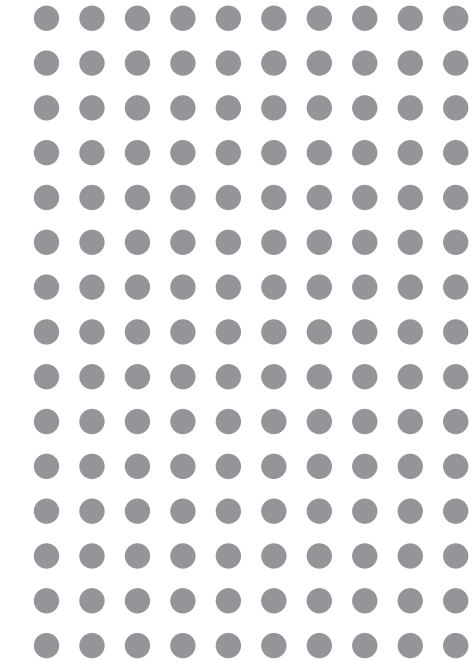
The customer was able to take advantage of Allied Machine's vast experience in the structural steel drilling niche. Allied's wide variety of stocked solutions for specific customer problems allows for a remarkable increase in tool life.

The T-A Structural Steel Drilling System defeated the competition, decreasing the total cost-per-hole from $2.02 to just $0.22. This reduction resulted in a **savings of 89%** for the customer.

The **PROOF** is in the **NUMBERS**

Competitor Insert Tool Life
(number of holes = 20)

T-A Structural Steel Insert Tool Life
(number of holes = 1,500)



Overall ***SAVINGS*** of

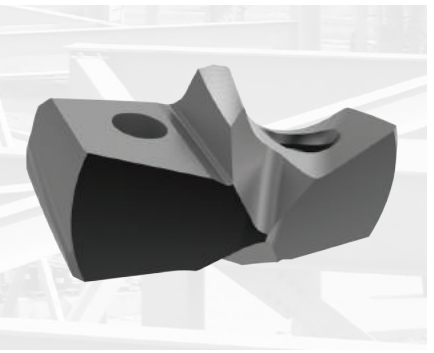
89%

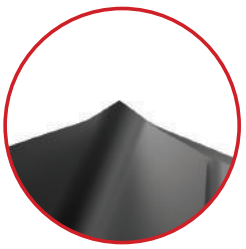
PREMIUM SOLUTION

GEN3SYS® XT Pro Structural Steel Drilling System

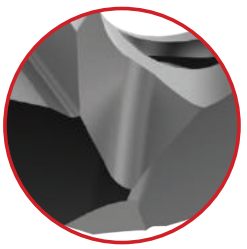
GEN3SYS® XT Pro *ST*

STRUCTURAL STEEL ENHANCEMENTS

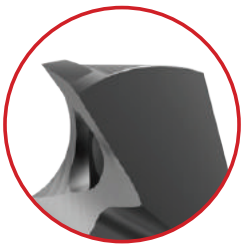




New Point Design
Increases stability without hindering penetration



Redesigned Insert
Provides consistent performance and adds durability



Improved Geometry
Extends tool life and increases insert strength without increasing horsepower consumption

AM420

AM420 Coating
Increases heat threshold and extends tool life

3xD **5xD** **7xD**

Get the Consistency You Need

The challenge of drilling structural steel materials is about to get a whole lot easier. Developed through a rigorous and thorough testing process, the modified and improved XTST insert is a product of innovation.

Achieve the ***consistent performance*** you need while matching or even exceeding your current parameters.

Tough Drilling is Tough No More

Structural steel applications can prove to be difficult to machine, so you need a drill that's been put through the fire to ensure it can conquer those challenging applications.

Rigorous testing and countless hours of design and programming make the XT Pro structural steel insert the optimal drill for structural steel applications.

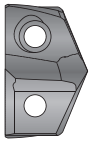
- Diameter range: 12mm - 35mm
- Holders available in 3xD, 5xD, and 7xD lengths
- Flanged shank with flat

NOTICE: Structural Steel GEN3SYS holders are specifically designed to be used only with XTST geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure. Contact Application Engineering for questions regarding proper use of tools.

GEN3SYS® XT Pro Drill Nomenclature

GEN3SYS XT Pro Drill Inserts

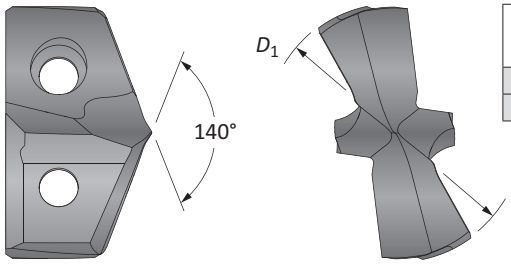
XT	ST	20	–	20.00
1	2	3		4



1. XT Pro Drill Insert	2. Geometry	3. Series	4. Diameter (mm)
XT = XT Pro insert	**ST** = Structural Steel	**12** = 12 series **13** = 13 series **14** = 14 series **15** = 15 series **16** = 16 series **17** = 17 series **18** = 18 series **20** = 20 series **22** = 22 series **24** = 24 series **26** = 26 series **29** = 29 series **32** = 32 series	For complete list of diameter ranges by series, see contents page.

Reference Key

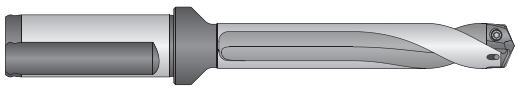
Symbol	Attribute
D_1	Insert diameter



Sizes not shown are available upon request. When ordering, please follow the example below:	
Imperial:	0.7913", 20 series = use Part No. **XTST20-20.10**
Metric:	20.10mm, 20 series = use Part No. **XTST20-20.10**

GEN3SYS Structural Steel Drill Holders

ST	03	12	0	–	20	FM
1	2	3	4		5	6

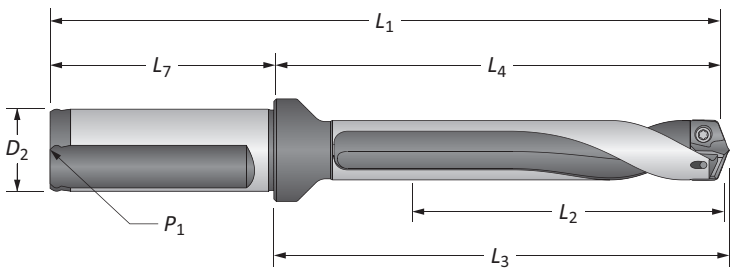


1. Holder	2. Length	3. Series	4. Body Diameter
ST = Structural steel holder	**03** = 3x Diameter **05** = 5x Diameter **07** = 7x Diameter	**12** = 12 series **13** = 13 series **14** = 14 series **15** = 15 series **16** = 16 series **17** = 17 series **18** = 18 series **20** = 20 series **22** = 22 series **24** = 24 series **26** = 26 series **29** = 29 series **32** = 32 series	**0** = Standard **5** = Oversized

5. Shank Diameter				6. Shank Style
Imperial (in)		**Metric (mm)**		**F** = Flanged with flat
063 = 5/8"	**125** = 1-1/4"	**16** = 16mm	**32** = 32mm	**FM** = Flanged metric with flat
075 = 3/4"	**150** = 1-1/2"	**20** = 20mm	**40** = 40mm	**C** = Cylindrical (no flat)
100 = 1"		**25** = 25mm		**CM** = Cylindrical metric (no flat)

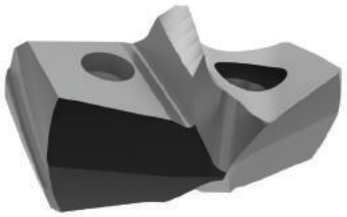
Reference Key

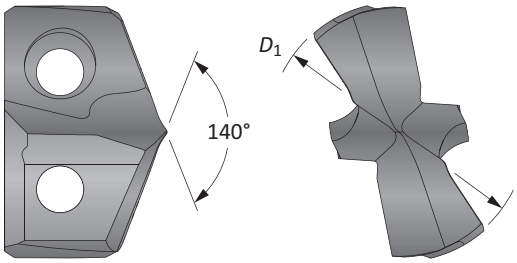
Symbol	Attribute
D_2	Shank diameter
L_1	Overall length
L_2	Drill depth
L_3	Holder reference length
L_4	Holder body length
L_7	Shank length
P_1	Rear pipe tap



GEN3SYS® XT Pro Structural Steel Drilling System

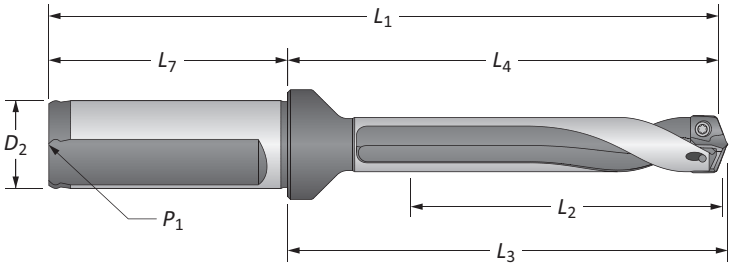
12 Series | Diameter Range: 0.4724” - 0.5117” (12.00mm - 12.99mm)





Inserts

Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
–	0.4724	12.00	**XTST12-12.00**

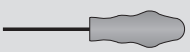
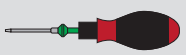
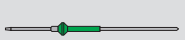


Holders

	Length	Body L_2	Body L_4	Body L_3	Body L_1	Shank L_7	Shank D_2	Shank P_1	Flat	Part No.
i	3xD	1-17/32	2-5/8	2-45/64	4-21/32	2-1/32	3/4	1/8	YES	**ST03120-075F**
i	5xD	2-9/16	3-41/64	3-47/64	5-43/64	2-1/32	3/4	1/8	YES	**ST05120-075F**
i	7xD	3-37/64	4-43/64	4-3/4	6-45/64	2-1/32	3/4	1/8	YES	**ST07120-075F**
m	3xD	39.0	68.8	68.8	118.8	50	20	1/8*	YES	**ST03120-20FM**
m	5xD	65.0	94.8	94.8	144.8	50	20	1/8*	YES	**ST05120-20FM**
m	7xD	90.9	120.8	120.8	170.8	50	20	1/8*	YES	**ST07120-20FM**

*Thread to BSP and ISO 7-1

Connection Accessories

 Insert Screws	 Nylon Locking Screws	 Insert Driver	 Preset Torque Hand Driver	 Replacement Tips	Admissible Tightening Torque*
7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	7.4 in-lbs (84 N-cm)

*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength

A91: 38 - 39
Key on A91: 1
A91: 4

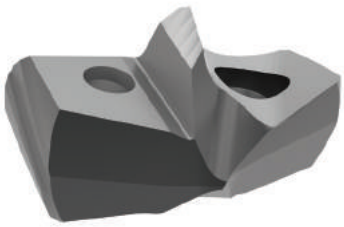
i = Imperial (in)
m = Metric (mm)

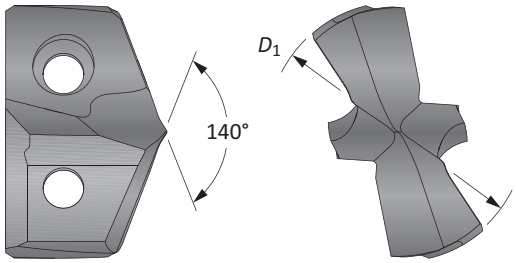
Inserts sold in multiples of 1 | Screws sold in multiples of 10

NOTICE: Structural Steel GEN3SYS holders are specifically designed to be used only with XTST geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure. Contact Application Engineering for questions regarding proper use of tools.

GEN3SYS® XT Pro Structural Steel Drilling System

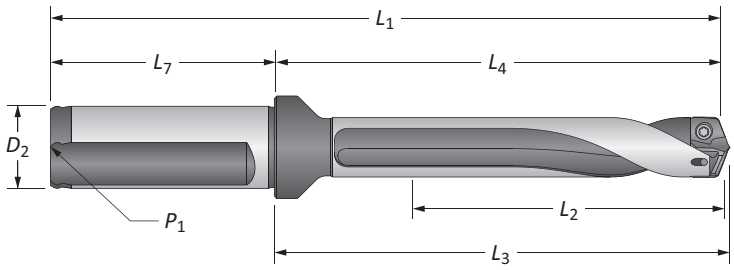
13 Series | Diameter Range: 0.5118” - 0.5511” (13.00mm - 13.99mm)





Inserts

Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
–	0.5118	13.00	**XTST13-13.00**

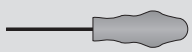
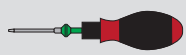
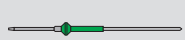


Holders

	Length	Body L_2	Body L_4	Body L_3	Body L_1	Shank L_7	Shank D_2	Shank P_1	Flat	Part No.
ⓘ	3xD	1-21/32	2-23/32	2-13/16	4-3/4	2-1/32	3/4	1/8	YES	**ST03130-075F**
ⓘ	5xD	2-3/4	3-53/64	3-29/32	5-55/64	2-1/32	3/4	1/8	YES	**ST05130-075F**
ⓘ	7xD	3-55/64	4-15/16	5-1/32	6-31/32	2-1/32	3/4	1/8	YES	**ST07130-075F**
ⓜ	3xD	42.1	69.1	71.3	120.7	50	20	1/8*	YES	**ST03130-20FM**
ⓜ	5xD	69.9	97.2	99.4	148.8	50	20	1/8*	YES	**ST05130-20FM**
ⓜ	7xD	97.9	125.4	127.6	177.0	50	20	1/8*	YES	**ST07130-20FM**

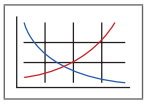
*Thread to BSP and ISO 7-1

Connection Accessories

 Insert Screws	 Nylon Locking Screws	 Insert Driver	 Preset Torque Hand Driver	 Replacement Tips	Admissible Tightening Torque*
7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	7.4 in-lbs (84 N-cm)

*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength

A91: 38 - 39



A91: 4

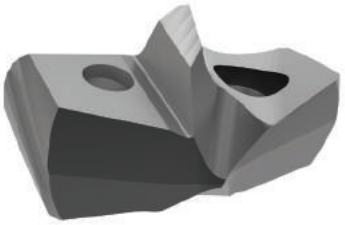
ⓘ = Imperial (in)
ⓜ = Metric (mm)

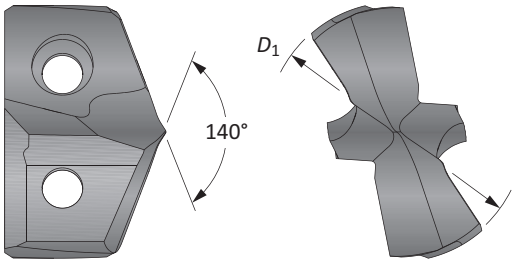
Inserts sold in multiples of 1 | Screws sold in multiples of 10

NOTICE: Structural Steel GEN3SYS holders are specifically designed to be used only with XTST geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure. Contact Application Engineering for questions regarding proper use of tools.

GEN3SYS® XT Pro Structural Steel Drilling System

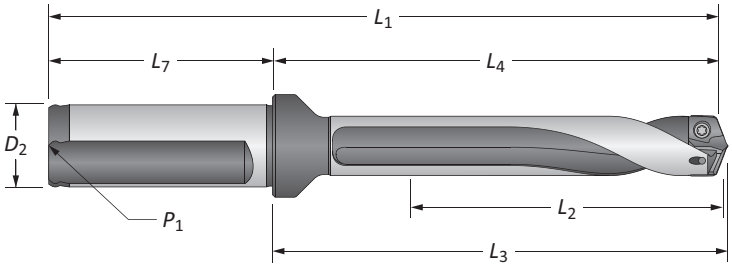
14 Series | Diameter Range: 0.5512” - 0.5905” (14.00mm - 14.99mm)





Inserts

Fractional Equivalent	Insert D_1 inch	Insert D_1 mm	XTST Part No.
–	0.5512	14.00	**XTST14-14.00**
9/16	0.5625	14.29	**XTST14-14.29**



Holders

	Length	Body L_2	Body L_4	Body L_3	Body L_1	Shank L_7	Shank D_2	Shank P_1	Flat	Part No.
ⓘ	3xD	1-25/32	2-27/32	2-61/64	4-7/8	2-1/32	3/4	1/8	YES	**ST03140-075F**
ⓘ	5xD	2-61/64	4-1/32	4-1/8	6-1/16	2-1/32	3/4	1/8	YES	**ST05140-075F**
ⓘ	7xD	4-9/64	5-13/64	5-5/16	7-15/64	2-1/32	3/4	1/8	YES	**ST07140-075F**
ⓜ	3xD	45.0	72.4	75.0	122.4	50	20	1/8*	YES	**ST03140-20FM**
ⓜ	5xD	75.0	102.4	104.9	152.4	50	20	1/8*	YES	**ST05140-20FM**
ⓜ	7xD	104.9	132.3	134.9	182.3	50	20	1/8*	YES	**ST07140-20FM**

*Thread to BSP and ISO 7-1

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	7.4 in-lbs (84 N-cm)

*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength

A91: 38 - 39
Key on A91: 1
A91: 4

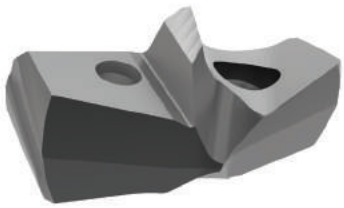
ⓘ = Imperial (in)
ⓜ = Metric (mm)

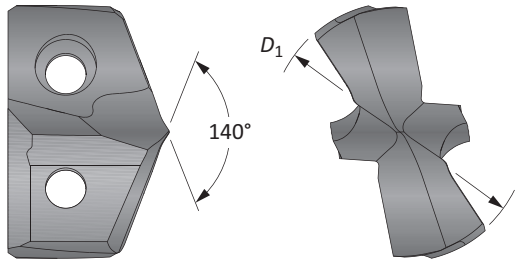
Inserts sold in multiples of 1 | Screws sold in multiples of 10

NOTICE: Structural Steel GEN3SYS holders are specifically designed to be used only with XTST geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure. Contact Application Engineering for questions regarding proper use of tools.

GEN3SYS® XT Pro Structural Steel Drilling System

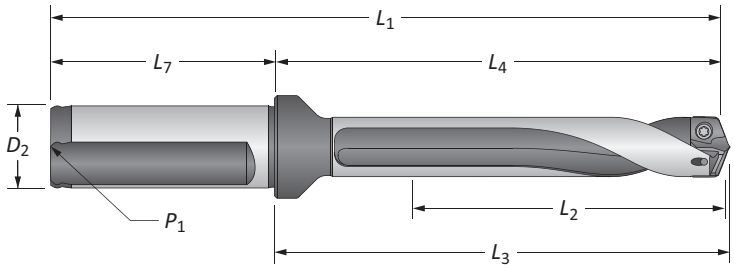
15 Series | Diameter Range: 0.5906” - 0.6298” (15.00mm - 15.99mm)





Inserts

Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
	0.5906	15.00	**XTST15-15.00**
5/8	0.6250	15.88	**XTST15-15.88**

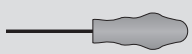
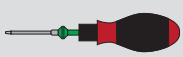
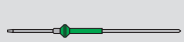


Holders

		Body				Shank				
	Length	L_2	L_4	L_3	L_1	L_7	D_2	P_1	Flat	Part No.
ⓘ	3xD	1-57/64	2-61/64	3-3/64	4-63/64	2-1/32	3/4	1/8	YES	**ST03150-075F**
ⓘ	5xD	3-5/32	4-7/32	4-5/16	6-1/4	2-1/32	3/4	1/8	YES	**ST05150-075F**
ⓘ	7xD	4-27/64	5-15/32	5-37/64	7-1/2	2-1/32	3/4	1/8	YES	**ST07150-075F**
ⓜ	3xD	48.0	75.1	77.6	125.1	50	20	1/8*	YES	**ST03150-20FM**
ⓜ	5xD	80.0	107.0	109.6	157.0	50	20	1/8*	YES	**ST05150-20FM**
ⓜ	7xD	111.9	139.0	141.6	189.0	50	20	1/8*	YES	**ST07150-20FM**

*Thread to BSP and ISO 7-1

Connection Accessories

 Insert Screws	 Nylon Locking Screws	 Insert Driver	 Preset Torque Hand Driver	 Replacement Tips	Admissible Tightening Torque*
7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	7.4 in-lbs (84 N-cm)

*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength

A91: 38 - 39
Key on A91: 1
A91: 4

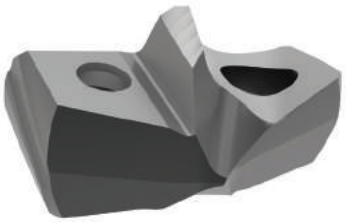
ⓘ = Imperial (in)
ⓜ = Metric (mm)

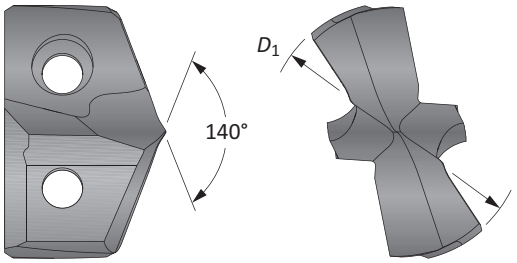
Inserts sold in multiples of 1 | Screws sold in multiples of 10

NOTICE: Structural Steel GEN3SYS holders are specifically designed to be used only with XTST geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure. Contact Application Engineering for questions regarding proper use of tools.

GEN3SYS® XT Pro Structural Steel Drilling System

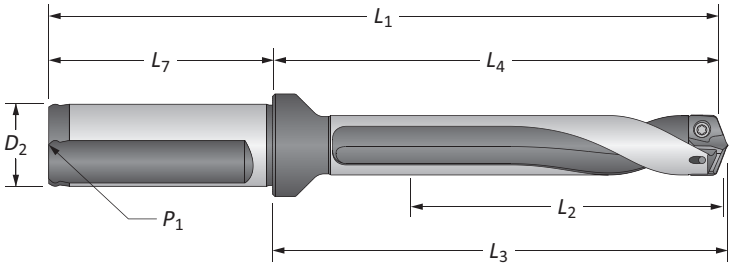
16 Series | Diameter Range: 0.6299” - 0.6692” (16.00mm - 16.99mm)





Inserts

Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
–	0.6299	16.00	**XTST16-16.00**

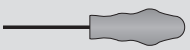
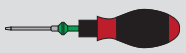
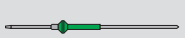


Holders

		Body				Shank				
	Length	L_2	L_4	L_3	L_1	L_7	D_2	P_1	Flat	Part No.
(i)	3xD	3-1/64	3-13/64	3-5/16	5-15/64	2-1/32	3/4	1/8	YES	**ST03160-075F**
	5xD	3-23/64	4-17/32	4-21/32	6-9/16	2-1/32	3/4	1/8	YES	**ST05160-075F**
	7xD	4-11/16	5-7/8	5-63/64	7-29/32	2-1/32	3/4	1/8	YES	**ST07160-075F**
(m)	3xD	51.0	81.3	84.2	131.3	50	20	1/8*	YES	**ST03160-20FM**
	5xD	84.9	115.3	118.2	165.3	50	20	1/8*	YES	**ST05160-20FM**
	7xD	118.9	149.3	152.2	199.3	50	20	1/8*	YES	**ST07160-20FM**

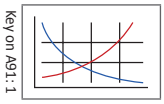
*Thread to BSP and ISO 7-1

Connection Accessories

 Insert Screws	 Nylon Locking Screws	 Insert Driver	 Preset Torque Hand Driver	 Replacement Tips	Admissible Tightening Torque*
72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	15.5 in-lbs (175 N-cm)

*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength

A91: 38 - 39



A91: 4

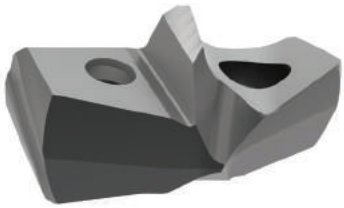
(i) = Imperial (in)
(m) = Metric (mm)

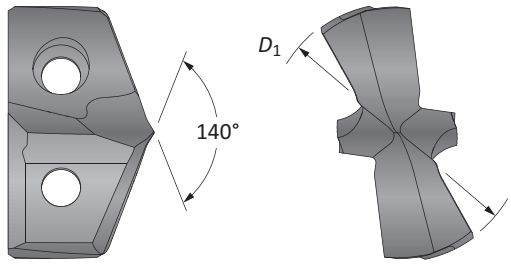
Inserts sold in multiples of 1 | Screws sold in multiples of 10

NOTICE: Structural Steel GEN3SYS holders are specifically designed to be used only with XTST geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure. Contact Application Engineering for questions regarding proper use of tools.

GEN3SYS® XT Pro Structural Steel Drilling System

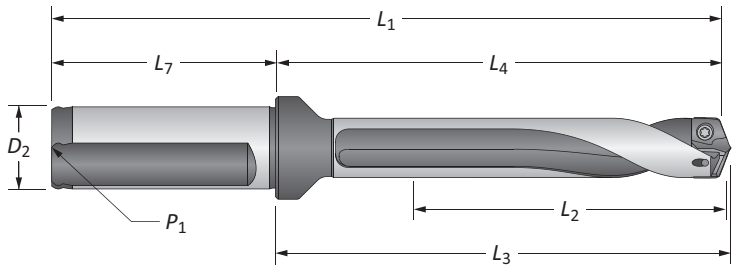
17 Series | Diameter Range: 0.6693” - 0.7086” (17.00mm - 17.99mm)





Inserts

Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
–	0.6693	17.00	**XTST17-17.00**
11/16	0.6875	17.46	**XTST17-17.46**

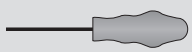
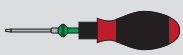
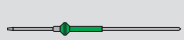


Holders

	Length	Body L_2	Body L_4	Body L_3	Body L_1	Shank L_7	Shank D_2	Shank P_1	Flat	Part No.
ⓘ	3xD	2-1/8	3-5/16	3-27/64	5-11/32	2-1/32	3/4	1/8	YES	**ST03170-075F**
ⓘ	5xD	3-35/64	4-23/32	4-27/32	6-3/4	2-1/32	3/4	1/8	YES	**ST05170-075F**
ⓘ	7xD	4-31/32	6-9/64	6-1/4	8-11/64	2-1/32	3/4	1/8	YES	**ST07170-075F**
ⓜ	3xD	54.0	84.1	87.0	134.1	50	20	1/8*	YES	**ST03170-20FM**
ⓜ	5xD	89.9	120.0	122.9	170.0	50	20	1/8*	YES	**ST05170-20FM**
ⓜ	7xD	125.9	156.0	158.9	206.0	50	20	1/8*	YES	**ST07170-20FM**

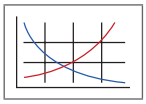
*Thread to BSP and ISO 7-1

Connection Accessories

 Insert Screws	 Nylon Locking Screws	 Insert Driver	 Preset Torque Hand Driver	 Replacement Tips	Admissible Tightening Torque*
72567-IP8-1	72567N-IP8-1	8IP-8	8IP-8TL	8IP-8B	15.5 in-lbs (175 N-cm)

*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength

A91: 38 - 39



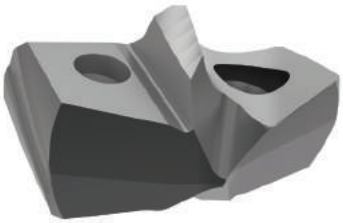
A91: 4

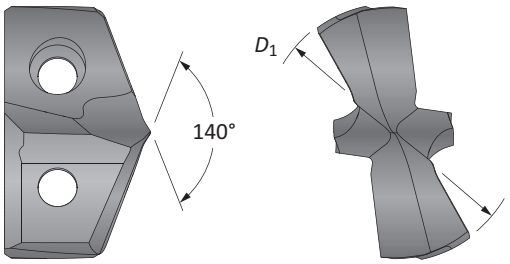
ⓘ = Imperial (in)
ⓜ = Metric (mm)
Inserts sold in multiples of 1 | Screws sold in multiples of 10

NOTICE: Structural Steel GEN3SYS holders are specifically designed to be used only with XTST geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure. Contact Application Engineering for questions regarding proper use of tools.

GEN3SYS® XT Pro Structural Steel Drilling System

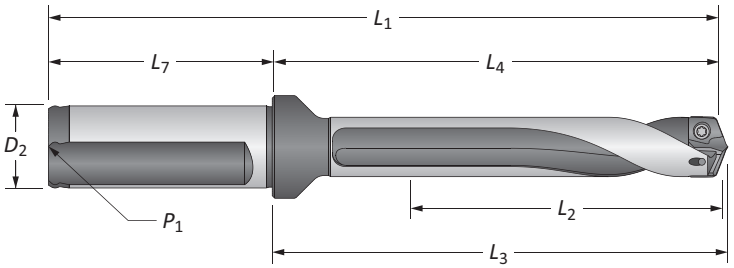
18 Series | Diameter Range: 0.7087” - 0.7873” (18.00mm - 19.99mm)





Inserts

Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
–	0.7087	18.00	**XTST18-18.00**
–	0.7480	19.00	**XTST18-19.00**

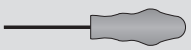
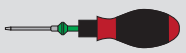
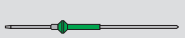


Holders

		Body				Shank				
	Length	L_2	L_4	L_3	L_1	L_7	D_2	P_1	Flat	Part No.
ⓘ	3xD	2-3/8	3-45/64	3-53/64	5-63/64	2-9/32	1	1/8	YES	**ST03180-100F**
ⓘ	5xD	3-15/16	5-9/32	5-25/64	7-9/16	2-9/32	1	1/8	YES	**ST05180-100F**
ⓘ	7xD	5-33/64	6-27/32	6-31/32	9-1/8	2-9/32	1	1/8	YES	**ST07180-100F**
ⓜ	3xD	60.0	94.0	97.1	144.0	50	20	1/8*	YES	**ST03180-20FM**
ⓜ	5xD	99.9	134.0	137.1	184.0	50	20	1/8*	YES	**ST05180-20FM**
ⓜ	7xD	139.9	174.0	177.1	224.0	50	20	1/8*	YES	**ST07180-20FM**

*Thread to BSP and ISO 7-1

Connection Accessories

 Insert Screws	 Nylon Locking Screws	 Insert Driver	 Preset Torque Hand Driver	 Replacement Tips	Admissible Tightening Torque*
7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	27.0 in-lbs (305 N-cm)

*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength

A91: 38 - 39
Key on A91: 1
A91: 4

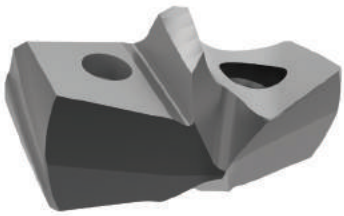
ⓘ = Imperial (in)
ⓜ = Metric (mm)

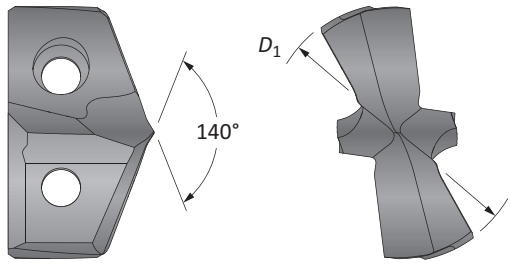
Inserts sold in multiples of 1 | Screws sold in multiples of 10

NOTICE: Structural Steel GEN3SYS holders are specifically designed to be used only with XTST geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure. Contact Application Engineering for questions regarding proper use of tools.

GEN3SYS® XT Pro Structural Steel Drilling System

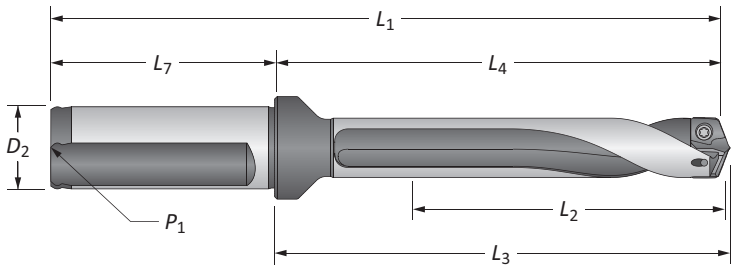
20 Series | Diameter Range: 0.7874” - 0.8660” (20.00mm - 21.99mm)





Inserts

Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
–	0.7874	20.00	**XTST20-20.00**
13/16	0.8125	20.64	**XTST20-20.64**
–	0.8268	21.00	**XTST20-21.00**
–	0.8594	21.82	**XTST20-21.82**

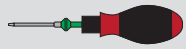


Holders

	Length	Body L_2	Body L_4	Body L_3	Body L_1	Shank L_7	Shank D_2	Shank P_1	Shank Flat	Part No.
ⓘ	3xD	2-17/32	3-15/16	4-1/16	6-7/32	2-9/32	1	1/8	YES	**ST03200-100F**
ⓘ	5xD	4-11/32	5-43/64	5-51/64	7-61/64	2-9/32	1	1/8	YES	**ST05200-100F**
ⓘ	7xD	6-1/16	7-13/32	7-17/32	9-11/16	2-9/32	1	1/8	YES	**ST07200-100F**
ⓜ	3xD	66.0	100.1	103.3	156.1	56	25	1/8*	YES	**ST03200-25FM**
ⓜ	5xD	110.0	144.1	147.2	200.1	56	25	1/8*	YES	**ST05200-25FM**
ⓜ	7xD	153.9	188.1	191.2	244.1	56	25	1/8*	YES	**ST07200-25FM**

*Thread to BSP and ISO 7-1

Connection Accessories

 Insert Screws	 Nylon Locking Screws	 Insert Driver	 Preset Torque Hand Driver	 Replacement Tips	Admissible Tightening Torque*
7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	27.0 in-lbs (305 N-cm)

*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength

A91: 38 - 39
Key on A91: 1
A91: 4

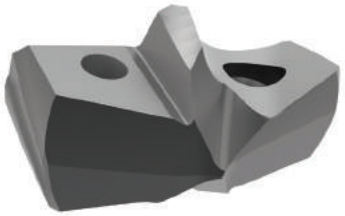
ⓘ = Imperial (in)
ⓜ = Metric (mm)

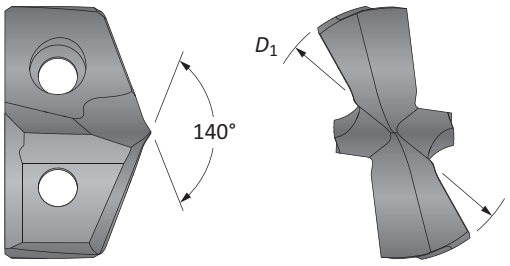
Inserts sold in multiples of 1 | Screws sold in multiples of 10

NOTICE: Structural Steel GEN3SYS holders are specifically designed to be used only with XTST geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure. Contact Application Engineering for questions regarding proper use of tools.

GEN3SYS® XT Pro Structural Steel Drilling System

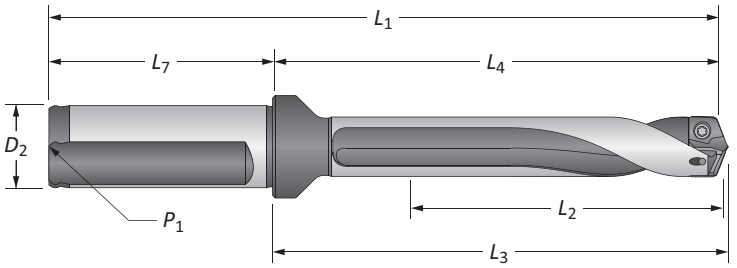
22 Series | Diameter Range: 0.8661" - 0.9448" (22.00mm - 23.99mm)





Inserts

Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
–	0.8661	22.00	**XTST22-22.00**
7/8	0.8750	22.23	**XTST22-22.23**
–	0.9055	23.00	**XTST22-23.00**
15/16	0.9375	23.81	**XTST22-23.81**

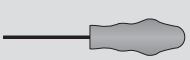
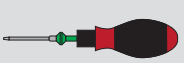
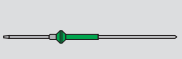


Holders

		Body				Shank				
	Length	L_2	L_4	L_3	L_1	L_7	D_2	P_1	Flat	Part No.
i	3xD	2-53/64	4-9/64	4-9/32	6-27/64	2-9/32	1	1/8	YES	**ST03220-100F**
i	3xD	2-53/64	4-9/64	4-9/32	6-27/64	2-9/32	1	1/8	YES	**ST03225-100F****
i	5xD	4-23/32	6-1/32	6-11/64	8-5/16	2-9/32	1	1/8	YES	**ST05220-100F**
i	5xD	4-23/32	6-1/32	6-11/64	8-5/16	2-9/32	1	1/8	YES	**ST05225-100F****
i	7xD	6-39/64	7-59/64	8-1/16	10-13/64	2-9/32	1	1/8	YES	**ST07220-100F**
i	7xD	6-39/64	7-59/64	8-1/16	10-13/64	2-9/32	1	1/8	YES	**ST07225-100F****
m	3xD	72.0	105.3	108.7	161.3	56	25	1/8*	YES	**ST03220-25FM**
m	3xD	72.0	105.3	108.7	161.3	56	25	1/8*	YES	**ST03225-25FM****
m	5xD	119.9	153.3	156.7	209.3	56	25	1/8*	YES	**ST05220-25FM**
m	5xD	119.9	153.3	156.7	209.3	56	25	1/8*	YES	**ST05225-25FM****
m	7xD	167.9	201.3	204.7	257.3	56	25	1/8*	YES	**ST07220-25FM**
m	7xD	167.9	201.3	204.7	257.3	56	25	1/8*	YES	**ST07225-25FM****

*Thread to BSP and ISO 7-1 | **Oversized body holder (minimum drill diameter = 23mm)

Connection Accessories

 Insert Screws	 Nylon Locking Screws	 Insert Driver	 Preset Torque Hand Driver	 Replacement Tips	Admissible Tightening Torque*
739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	27.0 in-lbs (305 N-cm)

*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength

A91: 38 - 39
Key on A91: 1
A91: 4

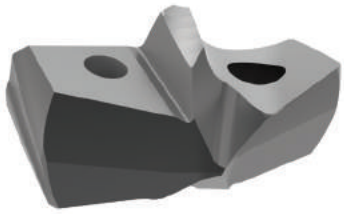
i = Imperial (in)
m = Metric (mm)

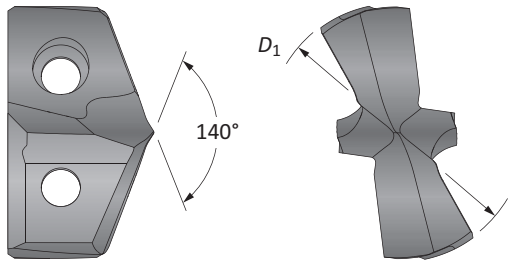
Inserts sold in multiples of 1 | Screws sold in multiples of 10

NOTICE: Structural Steel GEN3SYS holders are specifically designed to be used only with XTST geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure. Contact Application Engineering for questions regarding proper use of tools.

GEN3SYS® XT Pro Structural Steel Drilling System

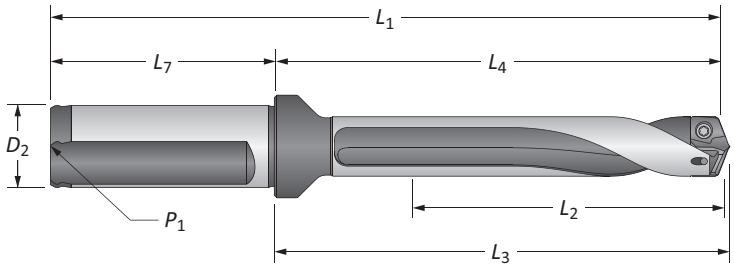
24 Series | Diameter Range: 0.9449” - 1.0235” (24.00mm - 25.99mm)





Inserts

Fractional Equivalent	Insert D_1 inch	Insert D_1 mm	XTST Part No.
–	0.9449	24.00	**XTST24-24.00**
–	0.9685	24.60	**XTST24-24.60**
1	1.0000	25.40	**XTST24-25.40**
–	1.0150	25.78	**XTST24-25.78**



Holders

	Length	Body L_2	Body L_4	Body L_3	Body L_1	Shank L_7	Shank D_2	Shank P_1	Flat	Part No.
ⓘ	3xD	3-5/64	4-31/64	4-5/8	6-49/64	2-9/32	1	1/8	YES	**ST03240-100F**
ⓘ	5xD	5-1/8	6-17/32	6-21/32	8-13/16	2-9/32	1	1/8	YES	**ST05240-100F**
ⓘ	7xD	7-11/64	8-37/64	8-45/64	10-55/64	2-9/32	1	1/8	YES	**ST07240-100F**
ⓜ	3xD	78.0	113.8	117.3	169.8	56	25	1/8*	YES	**ST03240-25FM**
ⓜ	5xD	129.9	165.8	169.2	221.8	56	25	1/8*	YES	**ST05240-25FM**
ⓜ	7xD	181.9	217.8	221.2	273.8	56	25	1/8*	YES	**ST07240-25FM**

*Thread to BSP and ISO 7-1

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	27.0 in-lbs (305 N-cm)

*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength

A91: 38 - 39
Key on A91: 1
A91: 4

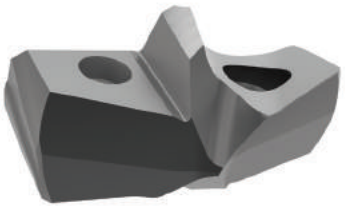
ⓘ = Imperial (in)
ⓜ = Metric (mm)

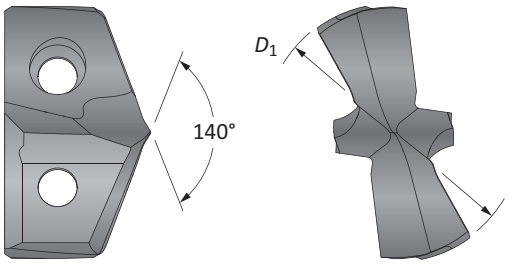
Inserts sold in multiples of 1 | Screws sold in multiples of 10

NOTICE: Structural Steel GEN3SYS holders are specifically designed to be used only with XTST geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure. Contact Application Engineering for questions regarding proper use of tools.

GEN3SYS® XT Pro Structural Steel Drilling System

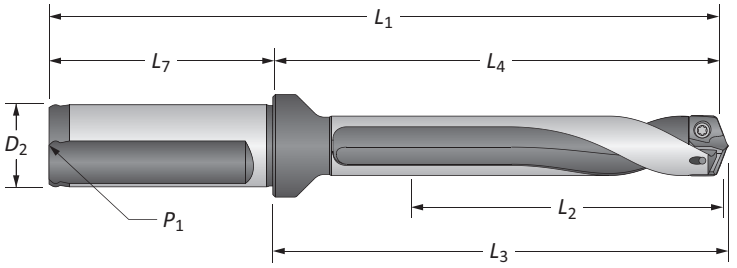
26 Series | Diameter Range: 1.0236” - 1.1416” (26.00mm - 28.99mm)





Inserts

Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
–	1.0236	26.00	**XTST26-26.00**
1-1/16	1.0625	26.99	**XTST26-26.99**
–	1.0630	27.00	**XTST26-27.00**
–	1.1024	28.00	**XTST26-28.00**
1-1/8	1.1250	28.58	**XTST26-28.58**

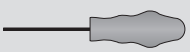
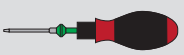


Holders

	Length	Body L_2	Body L_4	Body L_3	Body L_1	Shank L_7	Shank D_2	Shank P_1	Flat	Part No.
i	3xD	3-27/64	5-1/16	5-3/16	7-11/32	2-9/32	1-1/4	1/4	YES	**ST03260-125F**
i	5xD	5-23/32	7-11/32	7-31/64	9-5/8	2-9/32	1-1/4	1/4	YES	**ST05260-125F**
i	7xD	7-63/64	9-5/8	9-49/64	11-29/32	2-9/32	1-1/4	1/4	YES	**ST07260-125F**
m	3xD	87.0	128.1	131.4	188.1	60	32	1/4*	YES	**ST03260-32FM**
m	5xD	145.0	186.1	189.4	246.1	60	32	1/4*	YES	**ST05260-32FM**
m	7xD	202.9	244.0	247.4	304.0	60	32	1/4*	YES	**ST07260-32FM**

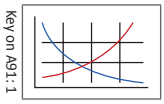
*Thread to BSP and ISO 7-1

Connection Accessories

 Insert Screws	 Nylon Locking Screws	 Insert Driver	 Preset Torque Hand Driver	 Replacement Tips	Admissible Tightening Torque*
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	61.0 in-lbs (690 N-cm)

*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength

A91: 38 - 39



A91: 4

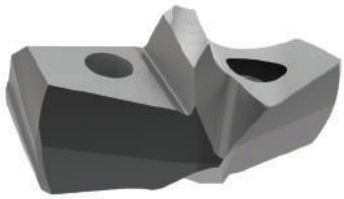
ⓘ = Imperial (in)
ⓜ = Metric (mm)

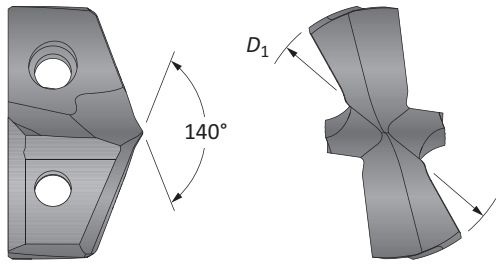
Inserts sold in multiples of 1 | Screws sold in multiples of 10

NOTICE: Structural Steel GEN3SYS holders are specifically designed to be used only with XTST geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure. Contact Application Engineering for questions regarding proper use of tools.

GEN3SYS® XT Pro Structural Steel Drilling System

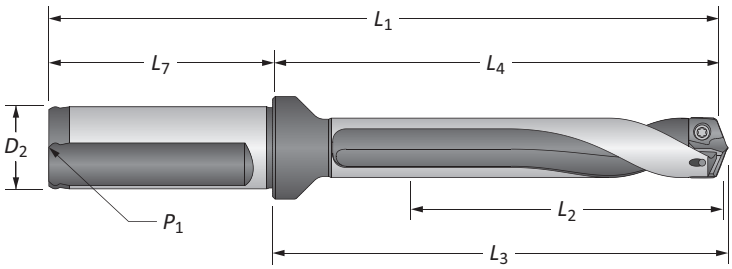
29 Series | Diameter Range: 1.1417” - 1.2597” (29.00mm - 31.99mm)





Inserts

Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
–	1.1417	29.00	**XTST29-29.00**
–	1.1811	30.00	**XTST29-30.00**
1-3/16	1.1875	30.16	**XTST29-30.16**
–	1.2205	31.00	**XTST29-31.00**
1-1/4	1.2500	31.75	**XTST29-31.75**

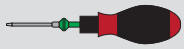


Holders

	Length	Body				Shank				Part No.
		L_2	L_4	L_3	L_1	L_7	D_2	P_1	Flat	
ⓘ	3xD	3-25/32	5-3/8	5-33/64	7-21/32	2-9/32	1-1/4	1/4	YES	**ST03290-125F**
ⓘ	5xD	6-19/64	7-29/32	8-3/64	10-3/16	2-9/32	1-1/4	1/4	YES	**ST05290-125F**
ⓘ	7xD	8-13/16	10-27/64	10-9/16	12-45/64	2-9/32	1-1/4	1/4	YES	**ST07290-125F**
ⓜ	3xD	96.0	136.2	139.7	196.2	60	32	1/4*	YES	**ST03290-32FM**
ⓜ	5xD	159.9	200.1	203.7	260.1	60	32	1/4*	YES	**ST05290-32FM**
ⓜ	7xD	223.9	264.1	267.7	324.1	60	32	1/4*	YES	**ST07290-32FM**

*Thread to BSP and ISO 7-1

Connection Accessories

 Insert Screws	 Nylon Locking Screws	 Insert Driver	 Preset Torque Hand Driver	 Replacement Tips	Admissible Tightening Torque*
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	61.0 in-lbs (690 N-cm)

*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength

A91: 38 - 39
Key on A91: 1
A91: 4

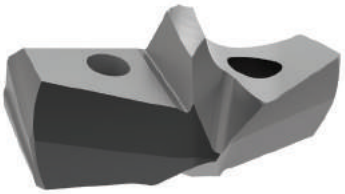
ⓘ = Imperial (in)
ⓜ = Metric (mm)

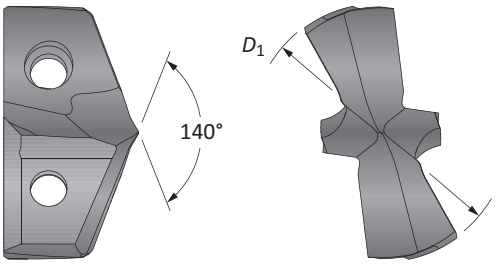
Inserts sold in multiples of 1 | Screws sold in multiples of 10

NOTICE: Structural Steel GEN3SYS holders are specifically designed to be used only with XTST geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure. Contact Application Engineering for questions regarding proper use of tools.

GEN3SYS® XT Pro Structural Steel Drilling System

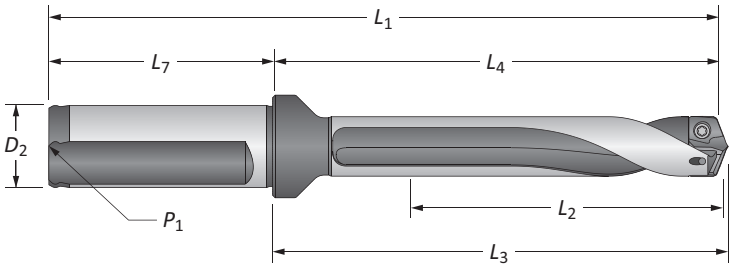
32 Series | Diameter Range: 1.2598” - 1.3780” (32.00mm - 35.00mm)





Inserts

Fractional Equivalent	Insert D_1 inch	D_1 mm	XTST Part No.
–	1.2598	32.00	**XTST32-32.00**
–	1.2992	33.00	**XTST32-33.00**
1-5/16	1.3125	33.34	**XTST32-33.34**
–	1.3386	34.00	**XTST32-34.00**
1-3/8	1.3750	34.93	**XTST32-34.93**



Holders

	Length	Body L_2	Body L_4	Body L_3	Body L_1	Shank L_7	Shank D_2	Shank P_1	Flat	Part No.
ⓘ	3xD	4-9/64	6-7/32	6-3/8	8-29/32	2-11/16	1-1/2	1/4	YES	**ST03320-150F**
ⓘ	5xD	6-59/64	8-31/32	9-1/8	11-21/32	2-11/16	1-1/2	1/4	YES	**ST05320-150F**
ⓘ	7xD	9-41/64	11-23/32	11-57/64	14-13/32	2-11/16	1-1/2	1/4	YES	**ST07320-150F**
ⓜ	3xD	105.0	157.7	162.0	217.7	60	32	1/4*	YES	**ST03320-32FM**
ⓜ	3xD	105.0	157.7	162.0	227.7	70	40	1/4*	YES	**ST03320-40FM**
ⓜ	5xD	175.0	227.7	232.0	287.7	60	32	1/4*	YES	**ST05320-32FM**
ⓜ	5xD	175.0	227.7	232.0	297.7	70	40	1/4*	YES	**ST05320-40FM**
ⓜ	7xD	244.9	297.7	302.2	357.7	60	32	1/4*	YES	**ST07320-32FM**
ⓜ	7xD	244.9	297.7	302.2	367.7	70	40	1/4*	YES	**ST07320-40FM**

*Thread to BSP and ISO 7-1

Connection Accessories

Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	61.0 in-lbs (690 N-cm)

*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength

A91: 38 - 39 (Key on A91: 1)

A91: 4

ⓘ = Imperial (in)
ⓜ = Metric (mm)

Inserts sold in multiples of 1 | Screws sold in multiples of 10

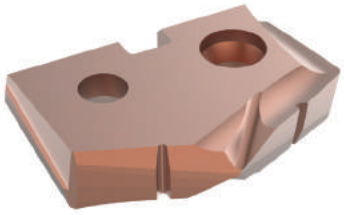
NOTICE: Structural Steel GEN3SYS holders are specifically designed to be used only with XTST geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure. Contact Application Engineering for questions regarding proper use of tools.

Notes

T-A® Structural Steel Drilling System

STRUCTURAL STEEL
ENHANCEMENTS
Original T-A & GEN2 T-A

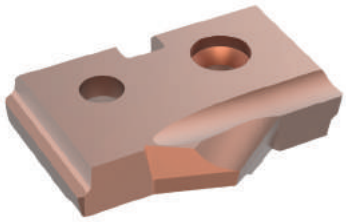
GEN2 T-A Insert
Available in AM200® Coating



High Efficiency (-HE)

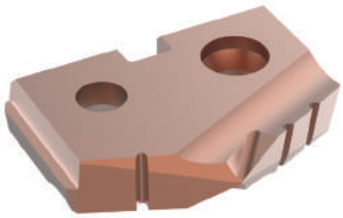
- Improves performance
- Improves tool life
- Improves chip formation in structural steel materials

Original T-A Inserts
Available in AM200® and TiAlN Coatings



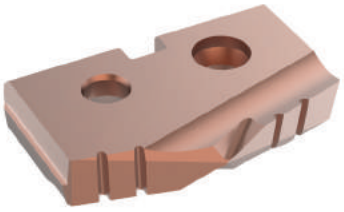
Thin Wall (-TW)

- Designed for drilling 7/16” thick or less I-Beam or structural materials
- Increases hole diameter tolerance
- Improves hole roundness
- Decreases material deflection



Notch Point® (-NP)

- Provides excellent self-centering characteristics
- Reduces bell mouth and tool lead-off
- Reduces axial thrust requirements



Structural Steel (-SS)

- Designed for drilling 7/16” thick or thicker I-Beam or structural materials
- Reduces exit burrs
- Increases stability
- Lowers drilling forces
- Includes Notch Point® web geometry

Holder Anatomy

1. Morse Taper Shank
2. Coolant Inlet
3. Flute (straight or helical)
4. Built-up Body Diameter
5. Coolant Outlets

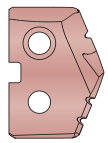
Straight Flute

Helical Flute

T-A® Drill Nomenclature

T-A Drill Inserts

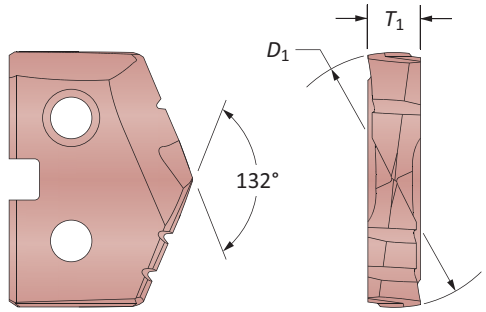
4	5	3	H	–	0115	–	HE
1	2	3	4		5		6



1. Insert	2. Material	3. Series	4. Coating	5. Diameter	6. Geometry
1 = Original T-A **4** = GEN2 T-A	**5** = Super cobalt **C1** = C1 (K35) carbide	**0** = 0 series **1** = 1 series **2** = 2 series **3** = 3 series	**H** = AM200® **A** = TiAlN	**0017** = Inch **.515** = Decimal **13** = Metric	**TW** = Thin Wall **NP** = Notch Point® **SS** = Structural Steel **HE** = High Efficiency

Reference Key

Symbol	Attribute
D_1	Insert diameter
T_1	Insert thickness



T-A Drill Holders

2	40	20	S	–	004	IS	060
1	2	3	4		5	6	7

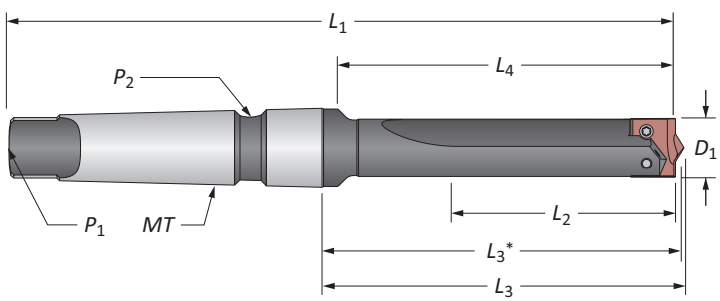
1. Holder	2. Length	3. Series	4. Flute
2 = T-A holder	**20** = Short **40** = Standard **50** = Extended **60** = Long	**00** = 0 series **05** = 0.5 series **10** = 1 series **15** = 1.5 series **20** = 2 series **25** = 2.5 series **30** = 3 series	**S** = Straight **H** = Helical

5. Shank Designator	6. Shank Code	7. Minimum Insert Diameter
003 = 3MT **004** = 4MT	**IS** = Imperial Morse taper structural steel	In increments of 1/64 of an inch

Reference Key

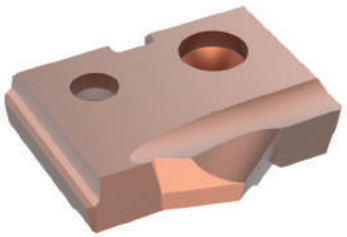
Symbol	Attribute	Symbol	Attribute
D_1	Drill insert range	L_4	Flute length
L_1	Overall length	P_1	Rear pipe tap
L_2	Drill depth	P_2	Side pipe tap
L_3	Holder reference length	*MT*	Morse taper size
L_3*	Holder reference length		

*If using Structural Steel holder with Notch Point®, GEN2 T-A, or 150° Structural Steel T-A drill insert geometry

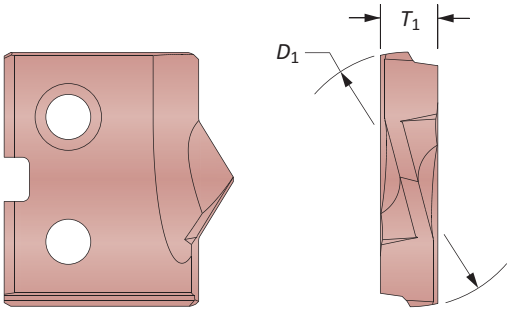


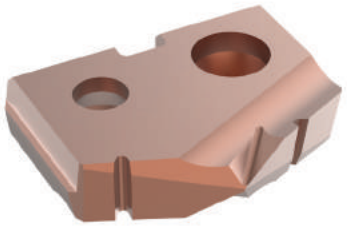
Original T-A® Structural Steel Drill Inserts

0 Series | Diameter Range: 0.5512” - 0.6875” (14.00mm - 17.46mm)

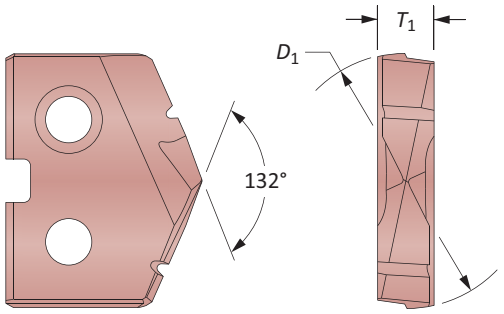


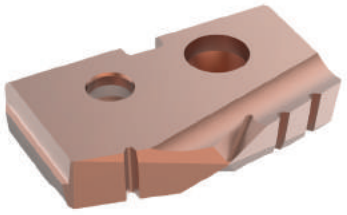
Thin Wall
For material up to 7/16” thick



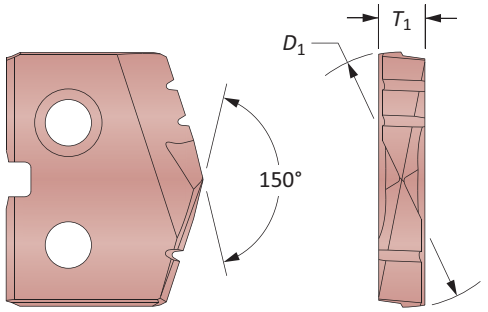


Notch Point®
For material over 7/16” thick





150° Structural Steel
For material over 7/16” thick
and for reduced exit burr



HSS Inserts – Super Cobalt

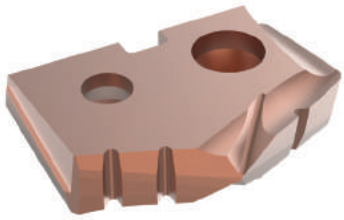
Series	Insert: Fractional Equivalent	Insert: D_1 inch	Insert: D_1 mm	Insert: T_1	Thin Wall: AM200 Part No.	Thin Wall: TiAlN Part No.	Notch Point: AM200 Part No.	Notch Point: TiAlN Part No.	150° Structural Steel: AM200 Part No.	150° Structural Steel: TiAlN Part No.
0	–	0.5512	14.00	1/8	**150H-14-TW**	**150A-14-TW**	**150H-14-NP**	**150A-14-NP**	**150H-14-SS**	**150A-14-SS**
	9/16	0.5625	14.29	1/8	**150H-0018-TW**	**150A-0018-TW**	**150H-0018-NP**	**150A-0018-NP**	**150H-0018-SS**	**150A-0018-SS**
0.5	5/8	0.6250	15.88	1/8	**150H-0020-TW**	**150A-0020-TW**	**150H-0020-NP**	**150A-0020-NP**	**150H-0020-SS**	**150A-0020-SS**
	–	0.6299	16.00	1/8	**150H-16-TW**	**150A-16-TW**	**150H-16-NP**	**150A-16-NP**	**150H-16-SS**	**150A-16-SS**
	11/16	0.6875	17.46	1/8	**150H-0022-TW**	**150A-0022-TW**	**150H-0022-NP**	**150A-0022-NP**	**150H-0022-SS**	**150A-0022-SS**

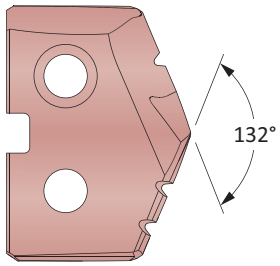
A91: 40 - 41
Key on A91: 1
A91: 20
A91: 24 - 25

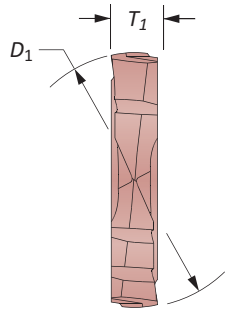
Inserts sold in multiples of 2

GEN2 T-A® Structural Steel Drill Inserts

0 Series | Diameter Range: 0.5512” - 0.6875” (14.00mm - 17.46mm)







HSS Inserts – Super Cobalt | Carbide Inserts – C1 (K35)

Series	Insert: Fractional Equivalent	Insert: D_1 inch	Insert: D_1 mm	Insert: T_1	Part No.: Super Cobalt	Part No.: C1 (K35)
0	–	0.5512	14.00	1/8	**450H-14-HE**	**4C10H-14-HE**
	9/16	0.5625	14.29	1/8	**450H-0018-HE**	**4C10H-0018-HE**
0.5	5/8	0.6250	15.88	1/8	**450H-0020-HE**	**4C10H-0020-HE**
	–	0.6299	16.00	1/8	**450H-16-HE**	**4C10H-16-HE**
	11/16	0.6875	17.46	1/8	**450H-0022-HE**	**4C10H-0022-HE**

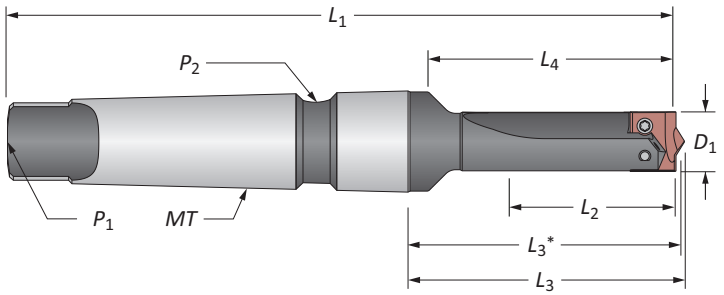
A91: 40 - 41 A91: 20 A91: 24 - 25

Key on A91: 1

Inserts sold in multiples of 2

T-A® Structural Steel Drill Insert Holders

0 Series | Taper Shank



Straight Flute #3 Morse Taper

	Series	Length	D_1	Body L_2	Body L_4	Body L_3	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
i	0	Short	9/16	1-3/8	2-3/16	2-35/64	2-31/64	6-1/16	#3	TTC	TSC	**22000S-003IS036**
	0.5	Short	5/8	1-3/8	2-3/16	2-35/64	2-31/64	6-1/16	#3	TTC	TSC	**22005S-003IS040**
		Short	11/16	1-3/8	2-3/16	2-35/64	2-31/64	6-1/16	#3	TTC	TSC	**22005S-003IS044**
m	0	Short	14	35	56	64.7	63.1	154	#3	TTC	TSC	**22000S-003IS036**
		Short	16	35	56	64.7	63.1	154	#3	TTC	TSC	**22000S-003IS040**
		Short	17.5	35	56	64.7	63.1	154	#3	TTC	TSC	**22000S-003IS044**

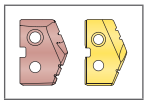
*If using Structural Steel holder with Notch Point®, GEN2 T-A, or 150° Structural Steel T-A drill insert geometry

Connection Accessories

Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
0	72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	15.5 in-lbs (175 N-cm)
0.5	72567-IP8-1	72567N-IP8-1	8IP-8	8IP-8TL	8IP-8B	15.5 in-lbs (175 N-cm)

*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength

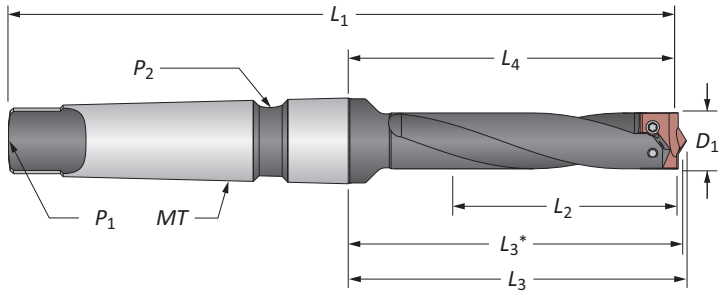
A91: 20 

A91: 22 - 23 

i = Imperial (in)
m = Metric (mm)
Screws sold in multiples of 10

T-A® Structural Steel Drill Insert Holders

0 Series | Taper Shank



Helical Flute #3 Morse Taper

	Series	Length	D_1	Body L_2	Body L_4	Body L_3	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
i	0	Standard	9/16	2-1/2	3-5/16	3-43/64	3-39/64	7-3/16	#3	TTC	TSC	24000H-003IS036
		Extended	9/16	6-1/2	9-7/16	9-51/64	9-19/32	13-5/64	#3	TTC	TSC	⚠ 25000H-003IS036
	0.5	Standard	5/8	2-1/2	3-5/16	3-43/64	3-39/64	7-3/16	#3	TTC	TSC	24005H-003IS040
		Standard	11/16	2-1/2	3-5/16	3-43/64	3-39/64	7-3/16	#3	TTC	TSC	24005H-003IS044
		Extended	11/16	6-1/2	9-7/16	9-51/64	9-19/32	13-5/64	#3	TTC	TSC	⚠ 25005H-003IS044
m	0	Standard	14	64	84	93.3	91.7	183	#3	TTC	TSC	24000H-003IS036
		Extended	14	165	240	248.8	243.7	338	#3	TTC	TSC	⚠ 25000H-003IS036
	0.5	Standard	16	64	84	93.3	91.7	183	#3	TTC	TSC	24005H-003IS040
		Standard	17.5	64	84	93.3	91.7	183	#3	TTC	TSC	24005H-003IS044
		Extended	17.5	165	240	248.8	243.7	338	#3	TTC	TSC	⚠ 25005H-003IS044

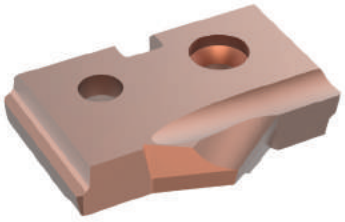
*If using Structural Steel holder with Notch Point®, GEN2 T-A, or 150° Structural Steel T-A drill insert geometry

i = Imperial (in)
m = Metric (mm)
Screws sold in multiples of 10

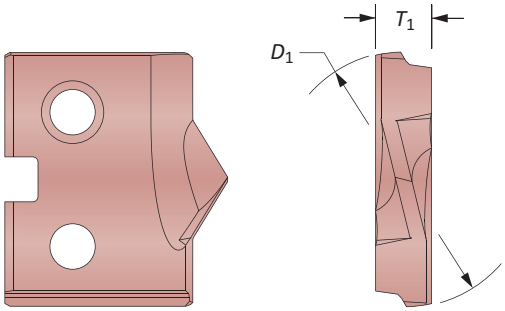
⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A91: 35 for deep hole drilling guidelines in this section of the catalog. Visit **www.alliedmachine.com/DeepHoleGuidelines** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

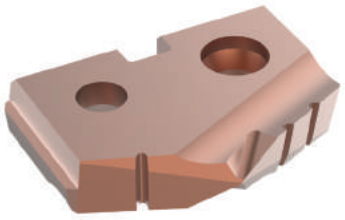
Original T-A® Structural Steel Drill Inserts

1 Series | Diameter Range: 0.7087” - 0.9449” (18.00mm - 24.00mm)

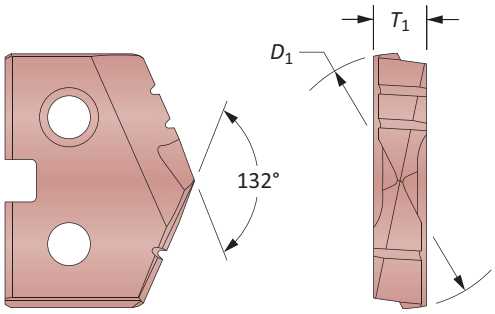


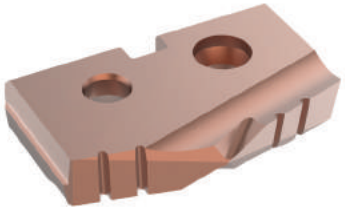
Thin Wall
For material up to 7/16” thick



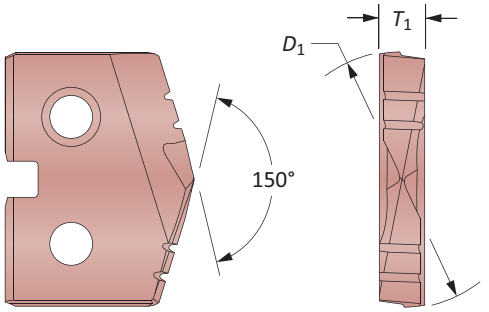


Notch Point®
For material over 7/16” thick





150° Structural Steel
For material over 7/16” thick
and for reduced exit burr



HSS Inserts – Super Cobalt

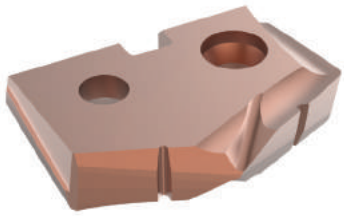
Series	Insert: Fractional Equivalent	Insert: D_1 inch	Insert: D_1 mm	Insert: T_1	Thin Wall: AM200 Part No.	Thin Wall: TiAlN Part No.	Notch Point: AM200 Part No.	Notch Point: TiAlN Part No.	150° Structural Steel: AM200 Part No.	150° Structural Steel: TiAlN Part No.
1	–	0.7087	18.00	5/32	151H-18-TW	151A-18-TW	151H-18-NP	151A-18-NP	151H-18-SS	151A-18-SS
	13/16	0.8125	20.64	5/32	151H-0026-TW	151A-0026-TW	151H-0026-NP	151A-0026-NP	151H-0026-SS	151A-0026-SS
	–	0.8268	21.00	5/32	151H-21-TW	151A-21-TW	151H-21-NP	151A-21-NP	151H-21-SS	151A-21-SS
	–	0.8661	22.00	5/32	151H-22-TW	151A-22-TW	151H-22-NP	151A-22-NP	151H-22-SS	151A-22-SS
1.5	7/8	0.8750	22.23	5/32	151H-0028-TW	151A-0028-TW	151H-0028-NP	151A-0028-NP	151H-0028-SS	151A-0028-SS
	15/16	0.9375	23.81	5/32	151H-0030-TW	151A-0030-TW	151H-0030-NP	151A-0030-NP	151H-0030-SS	151A-0030-SS
	–	0.9449	24.00	5/32	151H-24-TW	151A-24-TW	151H-24-NP	151A-24-NP	151H-24-SS	151A-24-SS

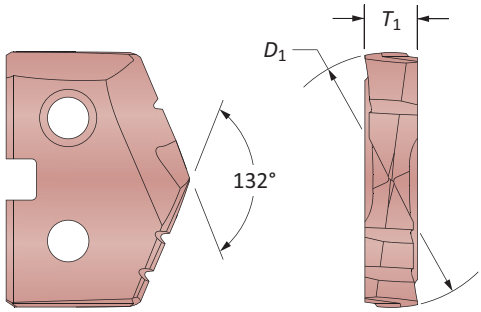
A91: 40 - 41
Key on A91: 1
A91: 20
A91: 28 - 29

Inserts sold in multiples of 2

GEN2 T-A® Structural Steel Drill Inserts

1 Series | Diameter Range: 0.7087” - 0.9449” (18.00mm - 24.00mm)





HSS Inserts – Super Cobalt | Carbide Inserts – C1 (K35)

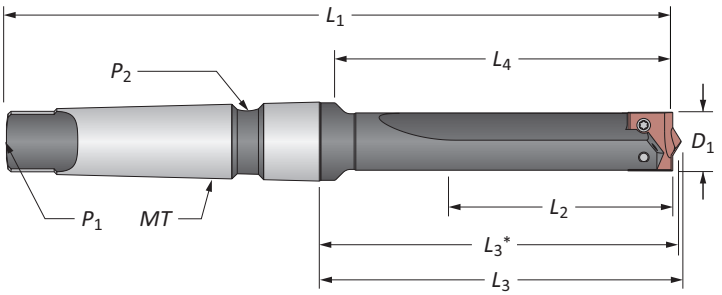
Series	Insert: Fractional Equivalent	Insert: D_1 inch	Insert: D_1 mm	Insert: T_1	Part No.: Super Cobalt	Part No.: C1 (K35)
1	–	0.7087	18.00	5/32	**451H-18-HE**	**4C11H-18-HE**
	13/16	0.8125	20.64	5/32	**451H-0026-HE**	**4C11H-0026-HE**
	–	0.8268	21.00	5/32	**451H-21-HE**	**4C11H-21-HE**
	–	0.8661	22.00	5/32	**451H-22-HE**	**4C11H-22-HE**
1.5	7/8	0.8750	22.23	5/32	**451H-0028-HE**	**4C11H-0028-HE**
	15/16	0.9375	23.81	5/32	**451H-0030-HE**	**4C11H-0030-HE**
	–	0.9449	24.00	5/32	**451H-24-HE**	**4C11H-24-HE**

A91: 40 - 41
Key on A91: 1
A91: 20
A91: 28 - 29

Inserts sold in multiples of 2

T-A® Structural Steel Drill Insert Holders

1 Series | Taper Shank



Straight Flute #3 Morse Taper

	Series	Length	D_1	Body L_2	Body L_4	Body L_3	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
i	1	Short	18mm	2-3/4	3-7/8	4-17/64	4-13/64	7-3/4	#3	TTC	TSC	**22010S-003IS045**
		Short	13/16	2-3/4	3-7/8	4-17/64	4-13/64	7-3/4	#3	TTC	TSC	**22010S-003IS052**
	1.5	Short	7/8	2-3/4	3-7/8	4-17/64	4-13/64	7-3/4	#3	TTC	TSC	**22015S-003IS056**
		Short	15/16	2-3/4	3-7/8	4-17/64	4-13/64	7-3/4	#3	TTC	TSC	**22015S-003IS060**
m	1	Short	18	70	98	108.4	106.8	197	#3	TTC	TSC	**22010S-003IS045**
		Short	21	70	98	108.4	106.8	197	#3	TTC	TSC	**22010S-003IS052**
	1.5	Short	22	70	98	108.4	106.8	197	#3	TTC	TSC	**22015S-003IS056**
		Short	24	70	98	108.4	106.8	197	#3	TTC	TSC	**22015S-003IS060**

*If using Structural Steel holder with Notch Point®, GEN2 T-A, or 150° Structural Steel T-A drill insert geometry

Straight Flute #4 Morse Taper

	Series	Length	D_1	Body L_2	Body L_4	Body L_3	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
i	1	Short	18mm	2-3/4	3-7/8	4-21/64	4-17/64	8-3/4	#4	TTC	TSC	**22010S-004IS045**
		Short	13/16	2-3/4	3-7/8	4-21/64	4-17/64	8-3/4	#4	TTC	TSC	**22010S-004IS052**
	1.5	Short	7/8	2-3/4	3-7/8	4-21/64	4-17/64	8-3/4	#4	TTC	TSC	**22015S-004IS056**
		Short	15/16	2-3/4	3-7/8	4-21/64	4-17/64	8-3/4	#4	TTC	TSC	**22015S-004IS060**
m	1	Short	18	70	98	109.9	108.3	222	#4	TTC	TSC	**22010S-004IS045**
		Short	21	70	98	109.9	108.3	222	#4	TTC	TSC	**22010S-004IS052**
	1.5	Short	22	70	98	109.9	108.3	222	#4	TTC	TSC	**22015S-004IS056**
		Short	24	70	98	109.9	108.3	222	#4	TTC	TSC	**22015S-004IS060**

*If using Structural Steel holder with Notch Point®, GEN2 T-A, or 150° Structural Steel T-A drill insert geometry

Connection Accessories

Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
1	7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	27.0 in-lbs (305 N-cm)
1.5	739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	27.0 in-lbs (305 N-cm)

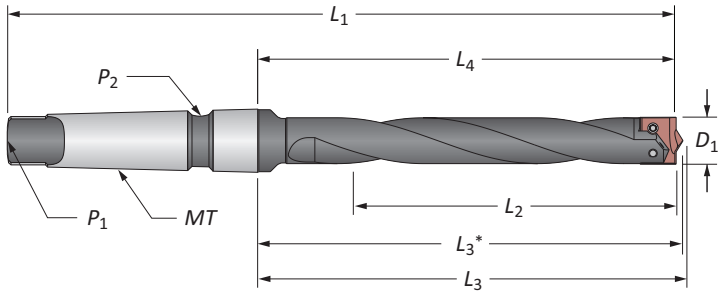
*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength

A91: 20
Key on A91: 1
A91: 26 - 27

i = Imperial (in)
m = Metric (mm)
Screws sold in multiples of 10

T-A® Structural Steel Drill Insert Holders

1 Series | Taper Shank



Helical Flute #3 Morse Taper

	Series	Length	D_1	Body L_2	Body L_4	Body L_3	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
	1	Standard	18mm	4-3/4	5-7/8	6-17/64	6-13/64	9-3/4	#3	TTC	TSC	24010H-003IS045
		Standard	13/16	4-3/4	5-7/8	6-17/64	6-13/64	9-3/4	#3	TTC	TSC	24010H-003IS052
		Extended	18mm	6-1/2	9-11/32	9-47/64	9-1/2	13-7/32	#3	TTC	TSC	⚠ 25010H-003IS045
ⓘ		Extended	13/16	6-1/2	9-11/32	9-47/64	9-1/2	13-7/32	#3	TTC	TSC	⚠ 25010H-003IS052
	1.5	Standard	7/8	4-3/4	5-7/8	6-17/64	6-13/64	9-3/4	#3	TTC	TSC	24015H-003IS056
		Standard	15/16	4-3/4	5-7/8	6-17/64	6-13/64	9-3/4	#3	TTC	TSC	24015H-003IS060
		Extended	15/16	6-1/2	9-11/32	9-47/64	9-15/32	13-7/32	#3	TTC	TSC	⚠ 25015H-003IS060
	1	Standard	18	121	149	159.2	157.6	248	#3	TTC	TSC	24010H-003IS045
		Standard	21	121	149	159.2	157.6	248	#3	TTC	TSC	24010H-003IS052
		Extended	18	165	237	247.3	241.3	336	#3	TTC	TSC	⚠ 25010H-003IS045
ⓜ		Extended	22	165	237	247.3	241.3	336	#3	TTC	TSC	⚠ 25010H-003IS052
	1.5	Standard	22	121	149	159.2	157.6	248	#3	TTC	TSC	24015H-003IS056
		Standard	24	121	149	159.2	157.6	248	#3	TTC	TSC	24015H-003IS060
		Extended	24	165	237	247.3	234.5	336	#3	TTC	TSC	⚠ 25015H-003IS060

*If using Structural Steel holder with Notch Point®, GEN2 T-A, or 150° Structural Steel T-A drill insert geometry

Helical Flute #4 Morse Taper

	Series	Length	D_1	Body L_2	Body L_4	Body L_3	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
	1	Standard	18mm	4-3/4	5-7/8	6-21/64	6-17/64	10-3/4	#4	TTC	TSC	24010H-004IS045
		Standard	13/16	4-3/4	5-7/8	6-21/64	6-17/64	10-3/4	#4	TTC	TSC	24010H-004IS052
		Extended	13/16	6-1/2	9-9/32	9-47/64	9-43/64	14-5/32	#4	TTC	TSC	⚠ 25010H-004IS052
ⓘ		Long	13/16	6-1/2	15-25/32	16-15/64	16-11/64	20-21/32	#4	TTC	TSC	⚠ 26010H-004IS052
	1.5	Standard	7/8	4-3/4	5-7/8	6-21/64	6-17/64	10-3/4	#4	TTC	TSC	24015H-004IS056
		Standard	15/16	4-3/4	5-7/8	6-21/64	6-17/64	10-3/4	#4	TTC	TSC	24015H-004IS060
		Extended	15/16	6-1/2	9-9/32	9-47/64	9-43/64	14-5/32	#4	TTC	TSC	⚠ 25015H-004IS060
		Long	15/16	6-1/2	15-13/16	16-17/64	16-13/64	20-11/16	#4	TTC	TSC	⚠ 26015H-004IS060
	1	Standard	18	121	149	159.2	157.6	248	#4	TTC	TSC	24010H-004IS045
		Standard	21	121	149	159.2	157.6	248	#4	TTC	TSC	24010H-004IS052
		Extended	22	165	237	247.3	241.3	336	#4	TTC	TSC	⚠ 25010H-004IS052
ⓜ		Long	22	165	237	247.3	241.3	336	#4	TTC	TSC	⚠ 26010H-004IS052
	1.5	Standard	22	121	149	159.2	157.6	248	#4	TTC	TSC	24015H-004IS056
		Standard	24	121	149	159.2	157.6	248	#4	TTC	TSC	24015H-004IS060
		Extended	24	165	149	159.2	157.6	248	#4	TTC	TSC	⚠ 25015H-004IS060
		Long	24	165	237	247.3	234.5	336	#4	TTC	TSC	⚠ 26015H-004IS060

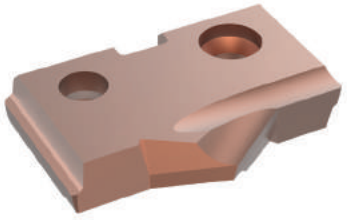
*If using Structural Steel holder with Notch Point®, GEN2 T-A, or 150° Structural Steel T-A drill insert geometry

ⓘ = Imperial (in)
ⓜ = Metric (mm)
Screws sold in multiples of 10

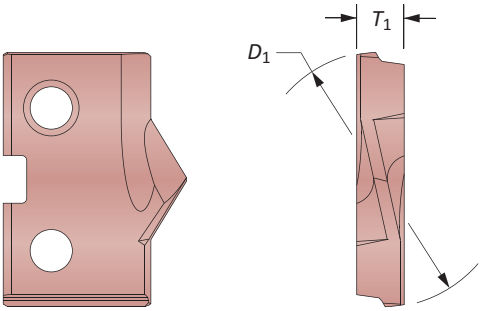
⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A91: 35 for deep hole drilling guidelines in this section of the catalog. Visit **www.alliedmachine.com/DeepHoleGuidelines** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

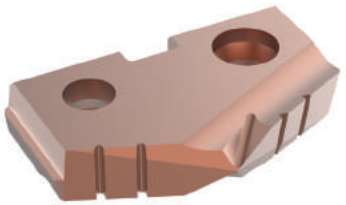
Original T-A® Structural Steel Drill Inserts

2 Series | Diameter Range: 1.0000” - 1.3750” (25.40mm - 34.93mm)

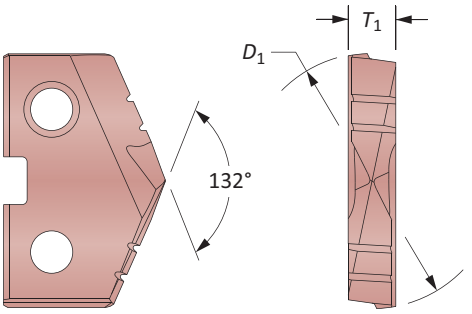


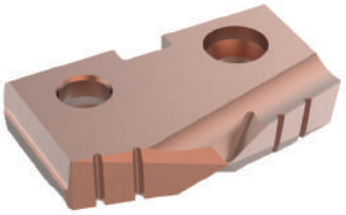
Thin Wall
For material up to 7/16” thick



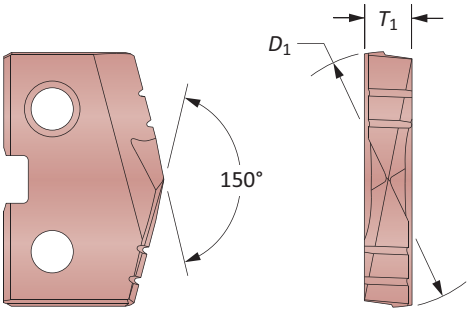


Notch Point®
For material over 7/16” thick





150° Structural Steel
For material over 7/16” thick
and for reduced exit burr



HSS Inserts – Super Cobalt

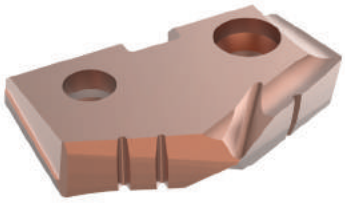
Series	Insert: Fractional Equivalent	Insert: D_1 inch	Insert: D_1 mm	Insert: T_1	Thin Wall: AM200 Part No.	Thin Wall: TiAlN Part No.	Notch Point: AM200 Part No.	Notch Point: TiAlN Part No.	150° Structural Steel: AM200 Part No.	150° Structural Steel: TiAlN Part No.
2	1	1.0000	25.40	3/16	152H-0100-TW	152A-0100-TW	152H-0100-NP	152A-0100-NP	152H-0100-SS	152A-0100-SS
	–	1.0236	26.00	3/16	152H-26-TW	152A-26-TW	152H-26-NP	152A-26-NP	152H-26-SS	152A-26-SS
	1-1/16	1.0625	26.99	3/16	152H-0102-TW	152A-0102-TW	152H-0102-NP	152A-0102-NP	152H-0102-SS	152A-0102-SS
	–	1.0630	27.00	3/16	152H-27-TW	152A-27-TW	152H-27-NP	152A-27-NP	152H-27-SS	152A-27-SS
	1-1/8	1.1250	28.58	3/16	152H-0104-TW	152A-0104-TW	152H-0104-NP	152A-0104-NP	152H-0104-SS	152A-0104-SS
2.5	1-3/16	1.1875	30.16	3/16	152H-0106-TW	152A-0106-TW	152H-0106-NP	152A-0106-NP	152H-0106-SS	152A-0106-SS
	–	1.2205	31.00	3/16	152H-31-TW	152A-31-TW	152H-31-NP	152A-31-NP	152H-31-SS	152A-31-SS
	1-1/4	1.2500	31.75	3/16	152H-0108-TW	152A-0108-TW	152H-0108-NP	152A-0108-NP	152H-0108-SS	152A-0108-SS
	–	1.2992	33.00	3/16	152H-33-TW	152A-33-TW	152H-33-NP	152A-33-NP	152H-33-SS	152A-33-SS
	1-5/16	1.3125	33.34	3/16	152H-0110-TW	152A-0110-TW	152H-0110-NP	152A-0110-NP	152H-0110-SS	152A-0110-SS
	1-3/8	1.3750	34.93	3/16	152H-0112-TW	152A-0112-TW	152H-0112-NP	152A-0112-NP	152H-0112-SS	152A-0112-SS

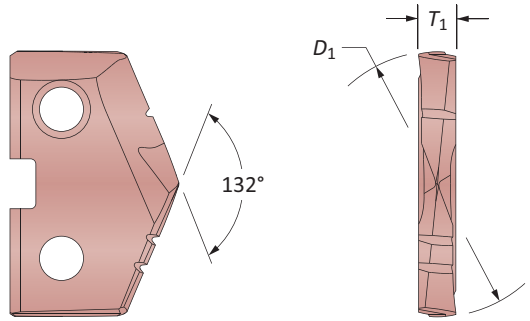
A91: 40 - 41
Key on A91: 1
A91: 20
A91: 32 - 33

Inserts sold in multiples of 2

GEN2 T-A® Structural Steel Drill Inserts

2 Series | Diameter Range: 1.0000” - 1.3750” (25.40mm - 34.93mm)





HSS Inserts – Super Cobalt | Carbide Inserts – C1 (K35)

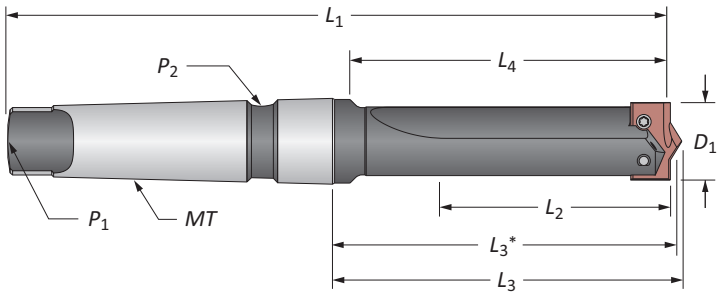
Series	Insert: Fractional Equivalent	Insert: D_1 inch	Insert: D_1 mm	Insert: T_1	Part No.: Super Cobalt	Part No.: C1 (K35)
2	1	1.0000	25.40	3/16	**452H-0100-HE**	**4C12H-0100-HE**
	–	1.0236	26.00	3/16	**452H-26-HE**	**4C12H-26-HE**
	1-1/16	1.0625	26.99	3/16	**452H-0102-HE**	**4C12H-0102-HE**
	–	1.0630	27.00	3/16	**452H-27-HE**	**4C12H-27-HE**
	1-1/8	1.1250	28.58	3/16	**452H-0104-HE**	**4C12H-0104-HE**
2.5	1-3/16	1.1875	30.16	3/16	**452H-0106-HE**	**4C12H-0106-HE**
	–	1.2205	31.00	3/16	**452H-31-HE**	**4C12H-31-HE**
	1-1/4	1.2500	31.75	3/16	**452H-0108-HE**	**4C12H-0108-HE**
	–	1.2992	33.00	3/16	**452H-33-HE**	**4C12H-33-HE**
	1-5/16	1.3125	33.34	3/16	**452H-0110-HE**	**4C12H-0110-HE**
	1-3/8	1.3750	34.93	3/16	**452H-0112-HE**	**4C12H-0112-HE**

A91: 40 - 41
Key on A91: 1
A91: 20
A91: 32 - 33

Inserts sold in multiples of 2

T-A® Structural Steel Drill Insert Holders

2 Series | Taper Shank



Straight Flute #4 Morse Taper

	Series	Length	D_1	Body L_2	Body L_4	Body L_3	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
ⓘ	2	Short	1 – 1-3/8	3-3/8	4-1/2	4-63/64	4-57/64	9-3/8	#4	TTC	TSC	**22020S-004IS100**
ⓘ	2.5	Short	1-3/16 – 1-3/8	3-3/8	4-1/2	4-63/64	4-57/64	9-3/8	#4	TTC	TSC	**22025S-004IS112**
ⓜ	2	Short	26	86	114	126.6	124.2	238	#4	TTC	TSC	**22020S-004IS100**
ⓜ	2.5	Short	31	86	114	126.6	124.2	238	#4	TTC	TSC	**22025S-004IS112**

*If using Structural Steel holder with Notch Point®, GEN2 T-A, or 150° Structural Steel T-A drill insert geometry

Connection Accessories

Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
2	7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	61.0 in-lbs (690 N-cm)
2.5	7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	61.0 in-lbs (690 N-cm)

*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength

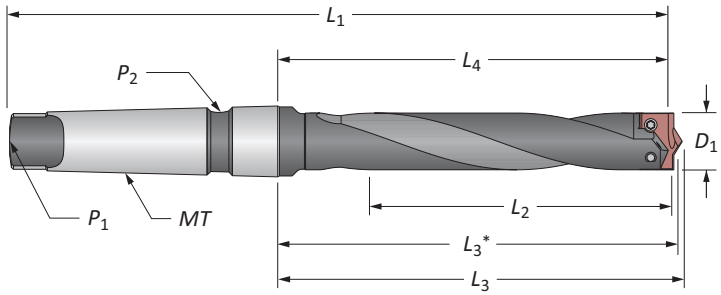
A91: 20 | A91: 30 - 31

Key on A91: 1

ⓘ = Imperial (in)
ⓜ = Metric (mm)
Screws sold in multiples of 10

T-A® Structural Steel Drill Insert Holders

2 Series | Taper Shank



Helical Flute #3 Morse Taper

	Series	Length	D_1	Body L_2	Body L_4	Body L_3	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
ⓘ	2	Extended	1 – 1-3/8	6-1/2	9-11/32	9-3/4	9-29/64	13-7/32	#3	TTC	TSC	⚠ 25020H-003IS100
ⓜ	2	Extended	26	165	237	247.7	240.1	336	#3	TTC	TSC	⚠ 25020H-003IS100

*If using Structural Steel holder with Notch Point®, GEN2 T-A, or 150° Structural Steel T-A drill insert geometry

Helical Flute #4 Morse Taper

	Series	Length	D_1	Body L_2	Body L_4	Body L_3	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
ⓘ	2	Standard	1 – 1-3/8	5-3/8	6-1/2	6-63/64	6-57/64	11-3/8	#4	TTC	TSC	24020H-004IS100
		Extended	1 – 1-3/8	6-1/2	9-7/32	9-3/4	9-43/64	14-5/32	#4	TTC	TSC	⚠ 25020H-004IS100
		Long	1 – 1-3/8	6-1/2	16	16-15/32	16-25/64	20-7/8	#4	TTC	TSC	⚠ 26020H-004IS100
	2.5	Standard	1-3/16 – 1-3/8	5-3/8	6-1/2	6-63/64	6-57/64	11-3/8	#4	TTC	TSC	24025H-004IS112
ⓜ	2	Standard	26	137	165	177.4	175.0	289	#4	TTC	TSC	24020H-004IS100
		Extended	26	165	237	247.7	240.1	360	#4	TTC	TSC	⚠ 25020H-004IS100
		Long	26	165	406	418.3	416.3	530	#4	TTC	TSC	⚠ 26020H-004IS100
	2.5	Standard	31	137	165	177.4	175.0	289	#4	TTC	TSC	24025H-004IS112

*If using Structural Steel holder with Notch Point®, GEN2 T-A, or 150° Structural Steel T-A drill insert geometry

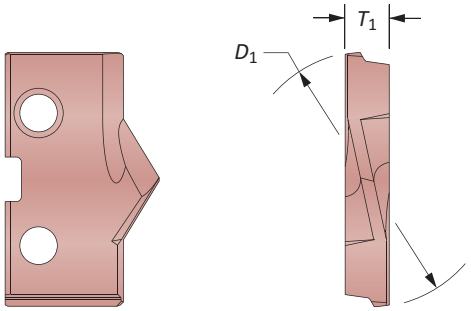
ⓘ = Imperial (in)
ⓜ = Metric (mm)
Screws sold in multiples of 10

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A91: 35 for deep hole drilling guidelines in this section of the catalog. Visit **www.alliedmachine.com/DeepHoleGuidelines** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

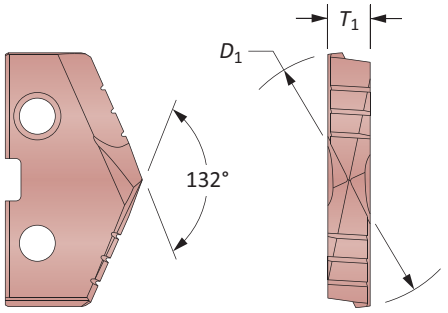
Original T-A® Structural Steel Drill Inserts

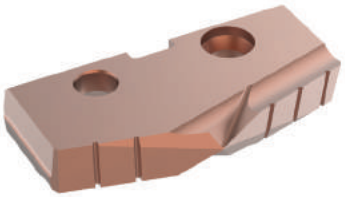
3 Series | Diameter Range: 1.4375” - 1.5625” (36.51mm - 39.69mm)

Thin Wall
For material up to 7/16” thick

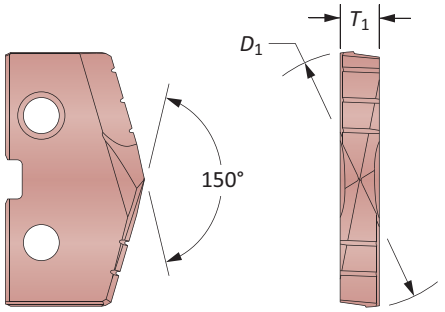


Notch Point®
For material over 7/16” thick





150° Structural Steel
For material over 7/16” thick
and for reduced exit burr



HSS Inserts – Super Cobalt

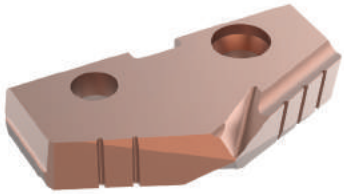
Insert				Thin Wall		Notch Point		150° Structural Steel	
Fractional Equivalent	D_1 inch	D_1 mm	T_1	AM200 Part No.	TiAlN Part No.	AM200 Part No.	TiAlN Part No.	AM200 Part No.	TiAlN Part No.
1-7/16	1.4375	36.51	1/4	**153H-0114-TW**	**153A-0114-TW**	**153H-0114-NP**	**153A-0114-NP**	**153H-0114-SS**	**153A-0114-SS**
1-1/2	1.5000	38.10	1/4	**153H-0116-TW**	**153A-0116-TW**	**153H-0116-NP**	**153A-0116-NP**	**153H-0116-SS**	**153A-0116-SS**
–	1.5354	39.00	1/4	**153H-39-TW**	**153A-39-TW**	**153H-39-NP**	**153A-39-NP**	**153H-39-SS**	**153A-39-SS**
1-9/16	1.5625	39.69	1/4	**153H-0118-TW**	**153A-0118-TW**	**153H-0118-NP**	**153A-0118-NP**	**153H-0118-SS**	**153A-0118-SS**

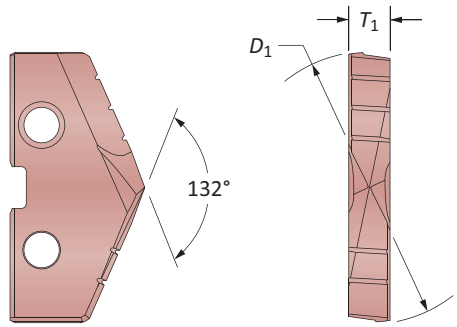
A91: 40 - 41
Key on A91: 1
A91: 20
A91: 36 - 37

Inserts sold in multiples of 1

GEN2 T-A® Structural Steel Drill Inserts

3 Series | Diameter Range: 1.4375” - 1.5625” (36.51mm - 39.69mm)





HSS Inserts – Super Cobalt

Insert				Part No.
Fractional Equivalent	D_1 inch	D_1 mm	T_1	Super Cobalt
1-7/16	1.4375	36.51	1/4	**453H-0114-HE**
1-1/2	1.5000	38.10	1/4	**453H-0116-HE**
–	1.5354	39.00	1/4	**453H-39-HE**
1-9/16	1.5625	39.69	1/4	**453H-0118-HE**

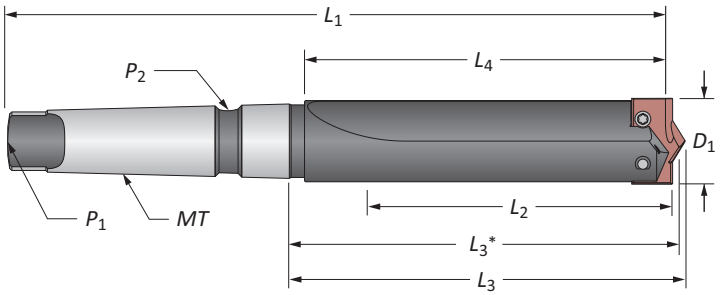
A91: 40 - 41 | A91: 20 | A91: 36 - 37

Key on A91: 1

Inserts sold in multiples of 1

T-A® Structural Steel Drill Insert Holders

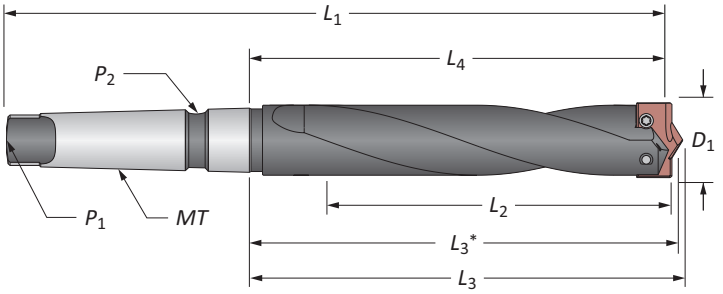
3 Series | Taper Shank



Straight Flute #4 Morse Taper

	Length	D_1	Body L_2	Body L_4	Body L_3	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
i	Short	1-13/32 – 1-7/8	4-3/4	6	6-1/2	6-7/16	10-7/8	#4	TTC	TSC	**22030S-004IS126**

*If using Structural Steel holder with Notch Point®, GEN2 T-A, or 150° Structural Steel T-A drill insert geometry



Helical Flute #4 Morse Taper

	Length	D_1	Body L_2	Body L_4	Body L_3	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
i	Standard	1-13/32 – 1-7/8	6-1/2	7-3/4	8-1/4	8-3/16	12-5/8	#4	TTC	TSC	**24030H-004IS126**

*If using Structural Steel holder with Notch Point®, GEN2 T-A, or 150° Structural Steel T-A drill insert geometry

Connection Accessories

 Insert Screws	 Nylon Locking Screws	 Insert Driver	 Preset Torque Hand Driver	 Replacement Tips	Admissible Tightening Torque*
7514-IP20-1	7514N-IP20-1	8IP-20	–	–	121.3 in-lbs (1370 N-cm)

*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength

A91: 20
Key on A91: 1
A91: 34 - 35

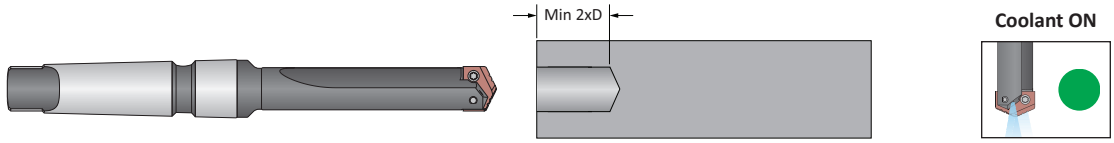
i = Imperial (in)
m = Metric (mm)
Screws sold in multiples of 10

Deep Hole Drilling Guidelines

For Use with Drills Greater than 9xD (Extended, Long, XL, 3XL, and Special Length)

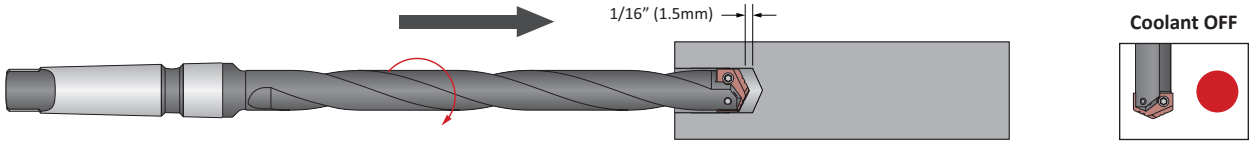
1. Pilot Hole
100 % RPM
100% IPR (mm/rev)

Establish the pilot hole using the same diameter short drill to a depth of 2xD minimum.
Utilize a pilot drill with the same or larger included point angle.



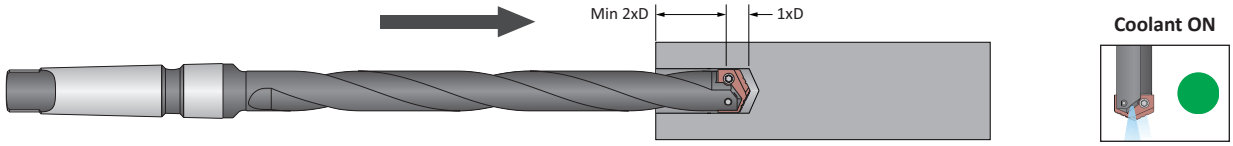
2. Feed-in
50 RPM max
12 IPM (300 mm/min)

Feed the longer drill within 1/16" (1.5mm) short of the established pilot hole bottom at a **maximum of 50 RPM** and 12 IPM (300 mm/min) feed rate.



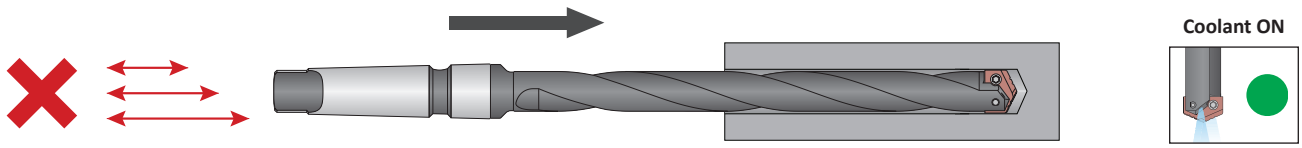
3. Deep Hole Transition Drilling
50 % RPM
75% IPR (mm/rev)

Drill additional 1xD past the bottom of the pilot hole at 50% reduction of recommended speed and 25% reduction of recommended feed.
Minimum of 1 second dwell is required to meet full speed before feeding.



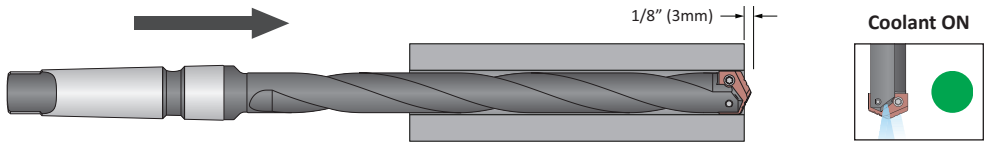
4. Deep Hole Drilling - Blind
100% RPM
100% IPR (mm/rev)

Drill to full depth at recommended speed and feed for longer drill according to Allied speed and feed charts.
No peck cycle recommended.



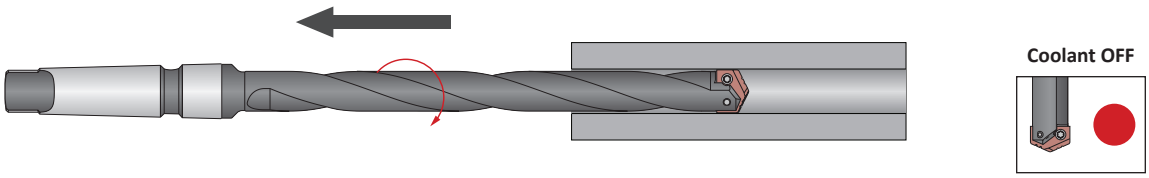
5. Deep Hole Drilling - at Breakout
50% RPM
75% IPR (mm/rev)

For through holes only:
Reduce speed by 50% and feed by 25% prior to breakout.
Do not break out more than 1/8" (3mm) past the full diameter of the drill.



6. Drill Retract
50 RPM max

Reduce speed to a **maximum of 50 RPM** before retracting from the hole.

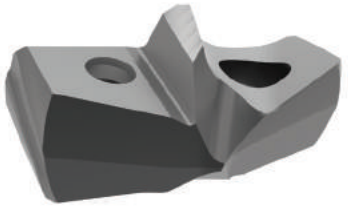


⚠ WARNING **Tool failure can cause serious injury. To prevent:**
- When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit **www.alliedmachine.com/DeepHoleGuidelines** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

Recommended Cutting Data

GEN3SYS® XT Pro (XTST)



Imperial (inch)

ISO	Material	Speed (SFM) - Mist Coolant		Feed Rate (IPR) by Diameter			
		Hardness (BHN)	AM420 Speed	12 series 0.4724 - 0.5117	13 series 0.5118 - 0.5511	14 series 0.5512 - 0.5905	15 series 0.5906 - 0.6298
P	**Structural Steel** A36, A285, A516, A572, etc.	100 - 150	350	0.008	0.009	0.010	0.010
		150 - 250	300	0.007	0.008	0.009	0.009
		250 - 350	260	0.006	0.007	0.008	0.008

Metric (mm)

ISO	Material	Speed (M/mm) - Mist Coolant		Feed Rate (mm/rev) by Diameter			
		Hardness (BHN)	AM420 Speed	12 series 12.00 - 12.99	13 series 13.00 - 13.99	14 series 14.00 - 14.99	15 series 15.00 - 15.99
P	**Structural Steel** A36, A285, A516, A572, etc.	100 - 150	107	0.20	0.22	0.25	0.25
		150 - 250	91	0.18	0.20	0.23	0.23
		250 - 350	79	0.15	0.17	0.20	0.20

Speed and Feed Multiplier

	Depth of Cut	
	<= 1.5xD	> 1.5xD
Speed	See above chart	0.75
Feed	See above chart	0.90

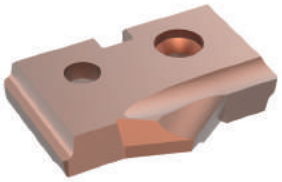
NOTE: The speeds and feeds listed above are based on a rigid setup using air mist through tool coolant. Speed may be increased up to 50% if using high pressure flood or through coolant.
NOTE: If drilling dry without coolant, speed must be reduced significantly based on setup, drill depth, and material hardness. Up to 50% speed and feed reduction may be necessary in these types of applications. Contact the Application Engineering department for assistance.
NOTE: If drilling material thickness of 0.500" (12.7mm) or less, a minimum of 10% reduction in feed is required to minimize material deflection.

Feed Rate (IPR) by Diameter								
16 series 0.6299 - 0.6692	17 series 0.6693 - 0.7086	18 series 0.7087 - 0.7873	20 series 0.7874 - 0.8660	22 series 0.8661 - 0.9448	24 series 0.9449 - 1.0235	26 series 1.0236 - 1.1416	29 series 1.1417 - 1.2597	32 series 1.2598 - 1.3780
0.012	0.012	0.014	0.015	0.016	0.017	0.018	0.019	0.019
0.010	0.010	0.012	0.014	0.015	0.016	0.017	0.018	0.018
0.009	0.009	0.011	0.012	0.013	0.014	0.015	0.016	0.016

Feed Rate (mm/rev) by Diameter								
16 series 16.00 - 16.99	17 series 17.00 - 17.99	18 series 18.00 - 19.99	20 series 20.00 - 21.99	22 series 22.00 - 23.99	24 series 24.00 - 25.99	26 series 26.00 - 28.99	29 series 29.00 - 31.99	32 series 32.00 - 35.00
0.30	0.30	0.36	0.38	0.41	0.43	0.46	0.48	0.48
0.25	0.25	0.30	0.36	0.38	0.41	0.43	0.46	0.46
0.23	0.23	0.28	0.30	0.33	0.36	0.38	0.41	0.41

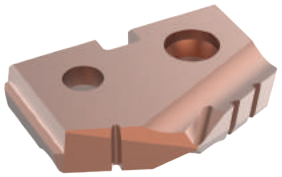
Recommended Cutting Data | Imperial (inch)

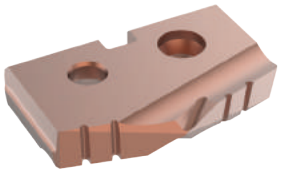
Original T-A® | GEN2 T-A®



Thin Wall Inserts
Super Cobalt

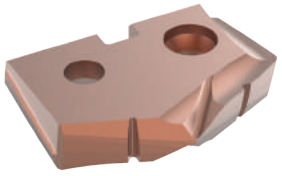
ISO	Material	Hardness (BHN)	Speed (SFM) - Mist Coolant AM200 Speed	Speed (SFM) - Mist Coolant TiAlN Speed	Feed Rate (IPR) by Diameter 0 series 9/16 - 11/16	1 series 13/16 - 15/16	2 series 1 - 1-3/8	3 series 1-13/32 - 1-7/8
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	125	110	0.012	0.018	0.019	0.020
		150 - 250	115	100	0.011	0.016	0.017	0.019
		250 - 350	105	90	0.010	0.014	0.016	0.018





Notch Point® and 150° Structural Steel Inserts
Super Cobalt

ISO	Material	Hardness (BHN)	Speed (SFM) - Mist Coolant AM200 Speed	Speed (SFM) - Mist Coolant TiAlN Speed	Feed Rate (IPR) by Diameter 0 series 9/16 - 11/16	1 series 13/16 - 15/16	2 series 1 - 1-3/8	3 series 1-13/32 - 1-7/8
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	125	110	0.010	0.012	0.014	0.018
		150 - 250	115	100	0.009	0.011	0.012	0.016
		250 - 350	105	90	0.008	0.010	0.011	0.014



GEN2 T-A Inserts
Super Cobalt

ISO	Material	Hardness (BHN)	Speed (SFM) - Mist Coolant AM200 Speed	Feed Rate (IPR) by Diameter 0 series 9/16 - 11/16	1 series 13/16 - 15/16	2 series 1 - 1-3/8	3 series 1-13/32 - 1-7/8
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	125	0.010	0.012	0.014	0.018
		150 - 250	115	0.009	0.011	0.012	0.016
		250 - 350	105	0.008	0.010	0.011	0.014

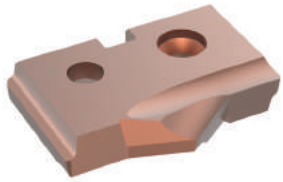
GEN2 T-A Inserts
Carbide C1 (K35)

ISO	Material	Hardness (BHN)	Speed (SFM) - Mist Coolant AM200 Speed	Feed Rate (IPR) by Diameter 0 series 9/16 - 11/16	1 series 13/16 - 15/16	2 series 1 - 1-3/8	3 series 1-13/32 - 1-7/8
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	165	0.008	0.011	0.015	0.017
		150 - 250	155	0.006	0.010	0.013	0.015
		250 - 350	140	0.005	0.009	0.012	0.013

NOTE: The speeds and feeds listed above are based on a rigid setup using air mist through tool coolant. Speed may be increased up to 50% if using high pressure flood or through coolant.
NOTE: If drilling dry without coolant, speed must be reduced significantly based on setup, drill depth, and material hardness. Up to 50% speed and feed reduction may be necessary in these types of applications. Contact the Application Engineering department for assistance.

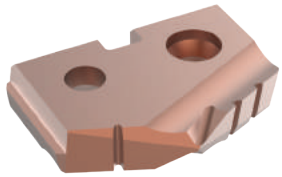
Recommended Cutting Data | Metric (mm)

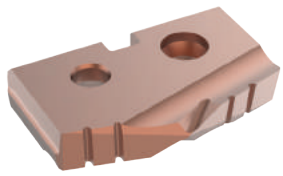
Original T-A® | GEN2 T-A®



Thin Wall Inserts
Super Cobalt

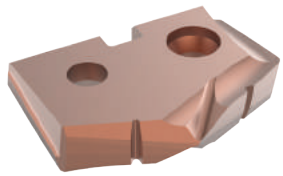
ISO	Material	Hardness (BHN)	Speed (M/mm) - Mist Coolant: AM200 Speed	Speed (M/mm) - Mist Coolant: TiAlN Speed	Feed Rate (mm/rev) by Diameter: 0 series 14 - 16	1 series 18 - 24	2 series 25 - 35	3 series 36 - 47
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	39	34	0.30	0.45	0.48	0.50
		150 - 250	35	31	0.28	0.40	0.43	0.48
		250 - 350	32	28	0.25	0.36	0.40	0.45





Notch Point® and 150° Structural Steel Inserts
Super Cobalt

ISO	Material	Hardness (BHN)	Speed (M/mm) - Mist Coolant: AM200 Speed	Speed (M/mm) - Mist Coolant: TiAlN Speed	Feed Rate (mm/rev) by Diameter: 0 series 14 - 16	1 series 18 - 24	2 series 25 - 35	3 series 36 - 47
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	39	34	0.25	0.30	0.36	0.45
		150 - 250	35	31	0.23	0.28	0.30	0.40
		250 - 350	35	28	0.20	0.25	0.28	0.36



GEN2 T-A Inserts
Super Cobalt

ISO	Material	Hardness (BHN)	Speed (M/mm) - Mist Coolant: AM200 Speed	Feed Rate (mm/rev) by Diameter: 0 series 14 - 16	1 series 18 - 24	2 series 25 - 35	3 series 36 - 47
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	39	0.25	0.30	0.36	0.46
		150 - 250	35	0.23	0.28	0.30	0.40
		250 - 350	35	0.20	0.25	0.28	0.36

GEN2 T-A Inserts
Carbide C1 (K35)

ISO	Material	Hardness (BHN)	Speed (M/mm) - Mist Coolant: AM200 Speed	Feed Rate (mm/rev) by Diameter: 0 series 14 - 16	1 series 18 - 24	2 series 25 - 35	3 series 36 - 47
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	50	0.20	0.28	0.38	0.43
		150 - 250	47	0.15	0.25	0.33	0.38
		250 - 350	43	0.13	0.23	0.30	0.33

NOTE: The speeds and feeds listed above are based on a rigid setup using air mist through tool coolant. Speed may be increased up to 50% if using high pressure flood or through coolant.
NOTE: If drilling dry without coolant, speed must be reduced significantly based on setup, drill depth, and material hardness. Up to 50% speed and feed reduction may be necessary in these types of applications. Contact the Application Engineering department for assistance.

Notes

Notes

Notes

Notes

Guaranteed Test / Demo Application Form

Distributor PO #	

The following must be filled out completely before your test will be considered

Distributor Information

Company Name: _____

Contact: _____

Account Number: _____

Phone: _____

Email: _____

End User Information

Company Name: _____

Contact: _____

Industry: _____

Phone: _____

Email: _____

Current Process List all tooling, coatings, substrates, speeds and feeds, tool life, and any problems you are experiencing

_____

_____

Test Objective List what would make this a successful test (i.e. penetration rate, finish, tool life, hole size, etc.)

_____

_____

Application Information

Hole Diameter: _____ in/mm

Tolerance: _____

Material: _____ (4150 / A36 / Cast Iron / etc.)

Pre-existing Diameter: _____ in/mm

Depth of Cut: _____ in/mm

Hardness: _____ (BHN / Rc)

Required Finish: _____ RMS

State: _____ (Casting / Hot rolled / Forging)

Machine Information

Machine Type: _____ (Lathe / Screw machine / Machine center / etc.)

Builder: _____ (Haas, Mori Seiki, etc.)

Model #: _____

Shank Required: _____ (CAT50 / Morse taper, etc.)

Power: _____ HP/KW

Rigidity:
- ☐ Excellent
- ☐ Good
- ☐ Poor

Orientation:
- ☐ Vertical
- ☐ Horizontal

Tool Rotating:
- ☐ Yes
- ☐ No

Thrust: _____ lbs/N

Coolant Information

Coolant Delivery: _____ (Through tool / Flood)

Coolant Pressure: _____ PSI / bar

Coolant Type: _____ (Air mist, oil, synthetic, water soluble, etc.)

Coolant Volume: _____ GPM / LPM

Requested Tooling

QTY	Item Number

QTY	Item Number

ALLIED MACHINE & ENGINEERING

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Complete information as to operating conditions, machine, set-up, and application of cutting fluid should accompany any product returned for inspection. The provisions of this warranty shall not apply to any Allied Machine products which have been subjected to misuse, improper operating conditions, machine set-up or application of cutting fluid or which have been repaired or altered if such repair or alteration in the judgment of Allied Machine would adversely affect performance of the product.

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Available Online Only: A91-SSD
Publish Date: June 2018