

IT & ITL

Internal Single Point Threading Tools

MICRO 100®
super carbide tools

A

IT & ITL Internal Single Point Threading Tool Tolerances:

Shank Diameter:
-.0001" - .0003"

Minimum Bore Diameter:
+.000" - .005"

Maximum Bore Depth:
+.050" - .000"

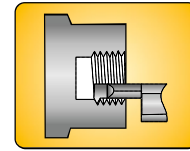
Overall Length:
±1/64"

OTHER
SIZES
AVAILABLE
UPON REQUEST

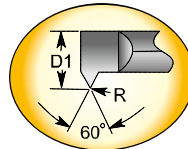
Coated Tools AVAILABLE!
AITiN Add an "X" to end of Catalog No.

TiN Add a "G" to end of Catalog No.

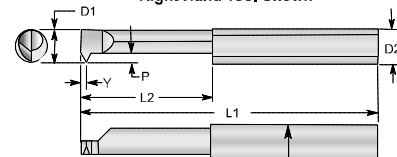
OTHER COATINGS UPON REQUEST, SEE PAGE 326



Right Hand Tool Shown



Tool Radius:
.002" ±.001"



Lockdown flat automatically
locates tool on center

For current pricing and availability please visit our website at: www.micro100.com

IT Catalog No. Right Hand	ITL Catalog No. Left Hand	Minimum Minor Diameter (D1)	Projection (P)	Maximum Bore Depth (L2)	Offset Point (Y)	Threads Per Inch (T.P.I.)	Overall Length (L1)	Shank Diameter (D2)
		inch	inch	inch	inch	inch	inch	inch
1/8" Shanks								
IT-040075	ITL-040075	.040	.015	.075	.009	56 to 76	1.500	.1250
IT-040100	ITL-040100			.100				
IT-040150	ITL-040150			.150				
IT-050100	ITL-050100	.050		.100	.012	48 to 76		
IT-050150	ITL-050150			.150				
IT-050200	ITL-050200			.200				
IT-060200	ITL-060200	.060	.020	.200	.012	40 to 76		
IT-060250	ITL-060250			.250				
IT-060300	ITL-060300			.300				
IT-080250	ITL-080250	.080		.250	.014	32 to 76		
IT-080350	ITL-080350			.350				
IT-080500	ITL-080500			.500				
IT-100250	ITL-100250	.100	.025	.250	.014	32 to 64		
IT-100350	ITL-100350			.350				
IT-100500	ITL-100500			.500				
IT-100600	ITL-100600			.600				
3/16" Shanks								
IT-120250	ITL-120250	.120	.030	.250	.017	24 to 56	2.000	.1875
IT-120400	ITL-120400			.350				
IT-120500	ITL-120500			.500				
IT-120600	ITL-120600			.600				
IT-120750	ITL-120750			.750				
IT-140250	ITL-140250	.140	.035	.250	.020	20 to 56		
IT-140400	ITL-140400			.400				
IT-140500	ITL-140500			.500				
IT-140750	ITL-140750			.750				
IT-160250	ITL-160250	.160	.040	.250	.023	20 to 56		
IT-160400	ITL-160400			.400				
IT-160500	ITL-160500			.500				
IT-160750	ITL-160750			.750				
IT-1601000	ITL-1601000			1.000				

See page 33 for Toolholder Selections.
Refer to pages 323-363 for Technical Data.

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IT & ITL Internal Single Point Threading Tool Tolerances:

Shank Diameter:
-.0001" -.0003"

Minimum Bore Diameter:
+.000" -.005"

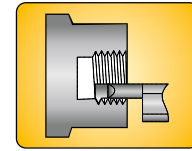
Maximum Bore Depth:
+.050" -.000"

Overall Length:
±1/64"

OTHER
SIZES
AVAILABLE
UPON REQUEST

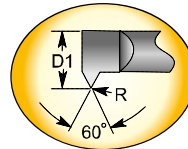
Coated Tools AVAILABLE!
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TiN Add a "G" to end of Catalog No.

OTHER COATINGS UPON REQUEST, SEE PAGE 326

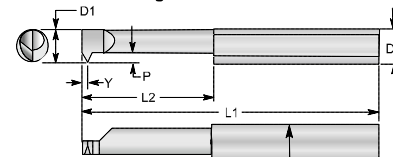


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Right Hand Tool Shown



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		inch	inch	inch	inch	inch	inch	inch
1/4" Shanks								
IT-180350	ITL-180350	.180	.040	.350	.023	18 to 56	2.500	.2500
IT-180500	ITL-180500			.500				
IT-180750	ITL-180750			.750				
IT-1801000	ITL-1801000			1.000				
IT-200400	ITL-200400	.200	.045	.400	.026	16 to 40		
IT-200600	ITL-200600			.600				
IT-200750	ITL-200750			.750				
IT-2001000	ITL-2001000			1.000				
5/16" Shanks								
IT-230400	ITL-230400	.230	.055	.400	.032	14 to 40	2.500	.3125
IT-230600	ITL-230600			.600				
IT-230750	ITL-230750			.750				
IT-2301000	ITL-2301000			1.000				
IT-2301500	ITL-2301500			1.500				
IT-290500	ITL-290500	.290	.070	.500	.040	12 to 40		
IT-290750	ITL-290750			.750				
IT-2901000	ITL-2901000			1.000				
IT-2901250	ITL-2901250			1.250				
IT-2901750	ITL-2901750			1.750				
3/8" Shanks								
IT-320500	ITL-320500	.320	.075	.500	.043	10 to 32	2.500	.3750
IT-320750	ITL-320750			.750				
IT-3201000	ITL-3201000			1.000				
IT-3201250	ITL-3201250			1.250				
IT-3201800	ITL-3201800			1.800				
IT-360500	ITL-360500	.360	.085	.500	.049	10 to 32		
IT-360750	ITL-360750			.750				
IT-3601000	ITL-3601000			1.000				
IT-3601250	ITL-3601250			1.250				
IT-3601800	ITL-3601800			1.800				
1/2" Shanks								
IT-490750	ITL-490750	.490	.120	.750	.069	8 to 24	3.000	.5000
IT-4901500	ITL-4901500			1.500				
IT-4902000	ITL-4902000			2.000				

See page 33 for Toolholder Selections.
Refer to pages 323-363 for Technical Data.

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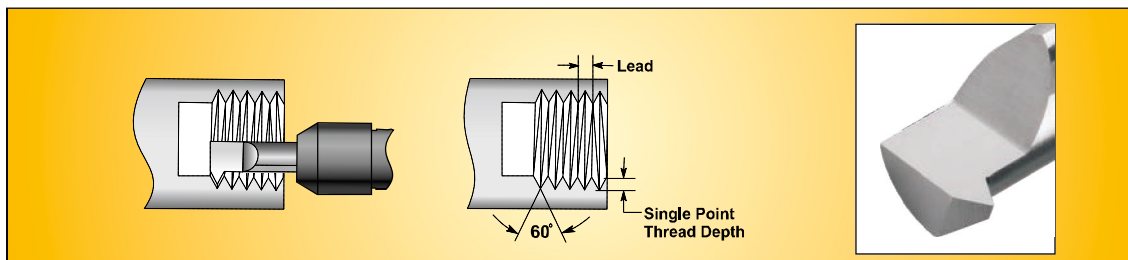
super carbide tools
FOR HIGHER PERFORMANCE

Technical Data

Internal Threading Tools

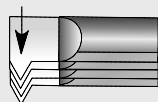
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Single Point Threading



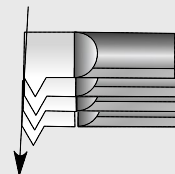
Methods of Infeed

RADIAL



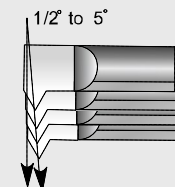
Most widely used infeed method. This method creates the most cutting force on the tool due to the entire tool cutting edge being engaged in the cut.

FLANK



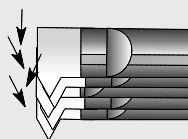
This infeed method allows for a more "evenly" formed chip. Reduction of heat generated by this method promotes longer tool edge life.

MODIFIED FLANK



This infeed method reduces the cutting force and will wear one edge of the insert. Less heat and better chip flow can be expected with this method.

ALTERNATE



This infeed method reduces the cutting force and will wear one edge of the insert. Less heat and better chip flow can be expected with this method.

T.P.I.	8	10	12	14	16	18	20	24	28	32	36	40	44	48	56
	3.18	2.54	2.12	1.81	1.59	1.41	1.27	1.06	0.91	0.80	0.71	0.64	0.58	0.53	0.45
NUMBER OF PASSES	12-14	10-12	8-10	8-10	8-10	6-8	6-8	6-8	6-8	4-6	4-6	4-6	4-6	4-6	4-6

Conditions based on Mild Steel and Non-Ferrous materials. Harder materials and/or High Temperature Alloys may require more passes. The data given in the chart above should always consider to be "safe starting conditions" and may need to be adjusted to obtain optimal machining performance.

M

Technical Data

Internal Threading Tools



Safe Starting Conditions for Single Point Internal Threading Applications

MATERIALS	BHN	SURFACE SPEED (SFM)	SURFACE SPEED (m/min)
NON-FERROUS MATERIALS			
Wrought Aluminum Alloys	140-300	200-2000	61-610
Cast Aluminum Alloys	225-363	200-2000	61-610
High Silicone Aluminum Alloys	270-425	150-400	45-122
Brass	80-120	175-1500	61-457
Bronze	80-120	175-1500	61-457
Non-Leaded Copper	80-120	175-1500	61-457
Zinc Alloys	80-120	175-1500	53-457
Non-Metallics	-	200-1000	61-305
Acrylics	-	200-1000	61-305
Fiberglass	-	200-1000	61-305
Graphites	-	200-1000	61-305
Nylons	-	200-1000	61-305
Phenolics	-	200-1000	61-305
Plastics	-	200-1000	61-305
CAST IRONS			
Cast Iron - Gray	160-260	130-260	40-79
Cast Iron - Ferritic	140-200	190-260	58-79
Cast Iron - Pearlitic	220-260	190-260	58-79
Iron - SG Nodular	160-260	190-300	58-91
STEELS			
Low Carbon - Unalloyed	160-260	450-700	137-213
Medium Carbon - Unalloyed	140-200	400-600	122-183
High Carbon - Unalloyed	220-260	350-600	107-183
Low Carbon Alloys	220-260	80-130	24-40
Medium Carbon Alloys	220-260	90-170	27-52
High Strength Alloys	220-260	210-380	64-116
Tool Steels	220-250	290-400	88-122
Heat Treated Alloys	32-40 RC	160-330	49-101
Powder Metal Alloys	230-260	320-500	98-152
STAINLESS STEELS			
300 Series	135-185	130-300	40-91
400 Series	180-220	130-300	40-91
13-8 PH	32-35 RC	130-300	40-91
15-5 PH	32-35 RC	130-300	40-91
17-4 PH	32-35 RC	130-300	40-91
HIGH TEMPERATURE ALLOYS			
Monel 400	140-300	82-330	25-100
Monel 500	140-300	82-330	25-100
K Monel	140-300	82-330	25-100
A286	225-363	82-330	25-100
Hastelloy	225-363	82-330	25-100
Inconel	225-363	82-330	25-100
Rene	225-363	82-330	25-100
Waspalloy	225-363	82-330	25-100
HARDENED MATERIALS			
Titanium Alloys	300-350	82-130	25-40
Extra Hard Steels	45-50 RC	82-130	25-40
Hardened and Tempered	51-55 RC	82-130	25-40

For number of recommended passes, see chart on page 332.

Machining Data for Speeds, Feeds, and Depth of Cuts are considered to be "safe starting conditions" and may need to be adjusted to obtain optimal performance.

M



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