

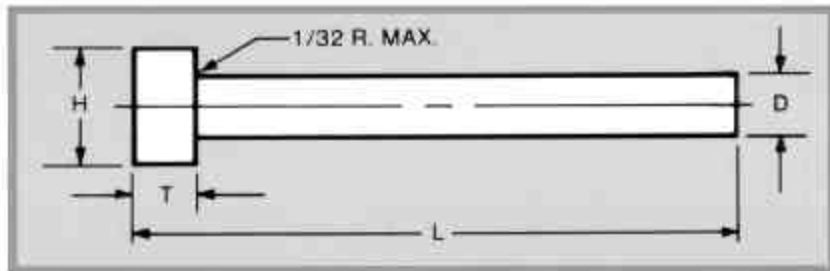
Nitrided Ejector Pins

PARALLEL

MSI Ejector Pins have forged heads with continuous grain flow for maximum strength, and are made from selected H - 13 tool steel. This steel is heat treated, ground, nitrided and polished, with a surface finish of 4 - 5 micron, to withstand the wear of the high production rates and the mechanical and thermal shock of alternate cycles of heating and cooling experienced in dies and molds. The body of the pin has a surface hardness of 65 - 80 Rc and a core hardness of 35 - 40 Rc for maximum toughness. The head has a hardness of 25 - 30 Rc.



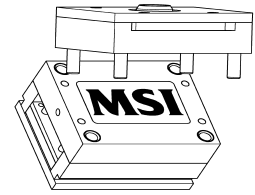
TOLERANCES	
PIN DIAMETER (D)	+ .000 - .001
HEAD DIAMETER (H)	+ .000 - .010
HEAD THICKNESS (T)	+ .000 - .002
LENGTH (L)	+ .062 - .000



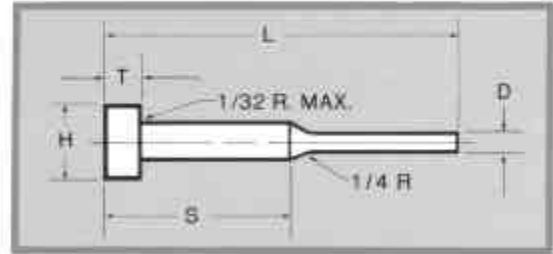
D	H	T	L-6"	L-10"	L-14"	L-18"	L-25"	L-36"
PIN DIA.	HEAD DIA.	HEAD THICK	D STANDARD	D STANDARD	D .005 OVERSIZE	D STANDARD	D .005 OVERSIZE	D STANDARD
3/64	1/4	1/8	EP04L06P	--	--	--	--	--
1/16	1/4	1/8	EP06L06P	--	--	--	--	--
5/64	1/4	1/8	EP07L06P	--	--	--	--	--
3/32	1/4	1/8	EP09L06P	EP09L10P	--	--	--	--
7/64	1/4	1/8	EP10L06P	EP10L10P	--	--	--	--
1/8	1/4	1/8	EP12L06	EP12L10	EP12L105	EP12L14	EP12L145	--
9/64	1/4	1/8	--	EP14L10	--	EP14L14	--	--
5/32	9/32	5/32	EP15L06	EP15L10	EP15L105	EP15L14	EP15L145	EP15L18
11/64	11/32	3/16	--	EP17L10	--	EP17L14	--	--
3/16	3/8	3/16	EP18L06	EP18L10	EP18L105	EP18L14	EP18L145	EP18L18
13/64	3/8	3/16	--	EP20L10	--	EP20L14	--	--
7/32	13/32	3/16	EP21L06	EP21L10	EP21L105	EP21L14	--	EP21L25
15/64	13/32	3/16	--	EP23L10	--	EP23L14	--	--
1/4	7/16	3/16	EP25L06	EP25L10	EP25L105	EP25L14	EP25L145	EP25L18
17/64	7/16	1/4	--	EP26L10	--	EP26L14	--	EP26L25
9/32	7/16	1/4	EP28L06	EP28L10	EP28L105	EP28L14	--	EP28L18
19/64	1/2	1/4	--	EP29L10	--	EP29L14	--	--
5/16	1/2	1/4	EP31L06	EP31L10	EP31L105	EP31L14	EP31L145	EP31L18
21/64	9/16	1/4	--	EP32L10	--	EP32L14	--	EP32L25
11/32	9/16	1/4	EP34L06	EP34L10	EP34L105	EP34L14	--	EP34L25
23/64	5/8	1/4	--	EP35L10	--	EP35L14	--	--
3/8	5/8	1/4	EP37L06	EP37L10	EP37L105	EP37L14	EP37L145	EP37L18
13/32	11/16	1/4	EP40L06	EP40L10	EP40L105	EP40L14	--	EP40L18
7/16	11/16	1/4	EP43L06	EP43L10	EP43L105	EP43L14	EP43L145	EP43L18
15/32	3/4	1/4	--	EP46L10	EP46L105	--	--	EP46L18
1/2	3/4	1/4	EP50L06	EP50L10	EP50L105	EP50L14	EP50L145	EP50L18
9/16	13/16	1/4	EP56L06	EP56L10	--	EP56L14	--	EP56L18
5/8	7/8	1/4	EP62L06	EP62L10	--	EP62L14	--	EP62L18
11/16	15/16	1/4	--	EP68L10	--	--	--	EP68L18
3/4	1"	1/4	EP75L06	EP75L10	--	EP75L14	--	EP75L18
7/8	1 1/8	1/4	--	EP87L10	--	--	--	EP87L18
1	1 1/4	1/4	EP90L06	EP90L10	--	EP90L14	--	EP90L18

Nitrided Ejector Pins

SHOULDER



D	H	T	S	L-4"	L-6"	L-10"		L-14"
PIN DIA.	HEAD DIA.	HEAD THICK.	SHLDR. LENGTH	Ø STD.	Ø STD.	Ø STD.	Ø .005 OVER-SIZE	Ø STD.
3/64	1/4	1/8	1/2	EP04L04S	EP04L06S	EP04L10S	EP04L105S	—
			2	—	EP04L06	EP04L10	EP04L105	EP04L14
1/16	1/4	1/8	1/2	EP06L04S	EP06L06S	EP06L10S	EP06L105S	—
			2	—	EP06L06	EP06L10	EP06L105	EP06L14
5/64	1/4	1/8	1/2	EP07L04S	EP07L06S	EP07L10S	EP07L105S	—
			2	—	EP07L06	EP07L10	EP07L105	EP07L14
3/32	1/4	1/8	1/2	EP09L04S	EP09L06S	EP09L10S	EP09L105S	—
			2	—	EP09L06	EP09L10	EP09L105	EP09L14
7/64	1/4	1/8	1/2	EP10L04S	EP10L06S	EP10L10S	EP10L105S	—
			2	—	EP10L06	EP10L10	EP10L105	EP10L14



TOLERANCES	
PIN DIAMETER (D)	+ .000 - .001
SHOULDER DIAMETER (1/8)	+ .000 - .003
HEAD DIAMETER (H)	+ .000 - .010
HEAD THICKNESS (T)	+ .000 - .002
LENGTH (L)	+ .062 - .000

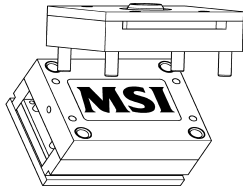
Metric Nitrided Ejector Pins

PARALLEL

TOLERANCES		
PIN DIAMETER (D)	2-4 mm	-.003 -.014
	5-25 mm	-.005 -.027
HEAD DIAMETER (H)		+ .000 - .200
HEAD THICKNESS (T)		+ .000 - .050
LENGTH (L)		+ 1.00 - .000



D	H	T	R	L-125mm (4.92")	L-200mm (7.87")	L-250mm (9.84")	L-400mm (15.75")	L-630mm (24.80")
PIN DIA.	HEAD DIA.	HEAD THICK.	RADIUS					
2	4	2	0,2	MP01X125	MP01X200	--	--	--
2.5	5	2	0,3	MP02X125	MP02X200	MP02X250	--	--
3	6	3	0,3	MP03X125	MP03X200	MP03X250	--	--
4	8	3	0,3	MP04X125	MP04X200	MP04X250	--	--
5	10	3	0,3	MP05X125	MP05X200	MP05X250	MP05X400	--
6	12	5	0,5	MP06X125	MP06X200	MP06X250	MP06X400	--
8	14	5	0,5	MP08X125	MP08X200	MP08X250	MP08X400	--
10	16	5	0,5	MP10X125	MP10X200	MP10X250	MP10X400	--
12	20	7	0,8	MP12X125	MP12X200	MP12X250	MP12X400	MP12X630
14	22	7	0,8	--	MP14X200	MP14X250	MP14X400	MP14X630
16	22	7	0,8	--	MP16X200	MP16X250	MP16X400	MP16X630
18	26	7	0,8	--	--	MP18X250	MP18X400	--
20	26	8	1,0	--	MP20X200	MP20X250	MP20X400	MP20X630
25	32	10	1,0	--	MP25X200	MP25X250	MP25X400	MP25X630



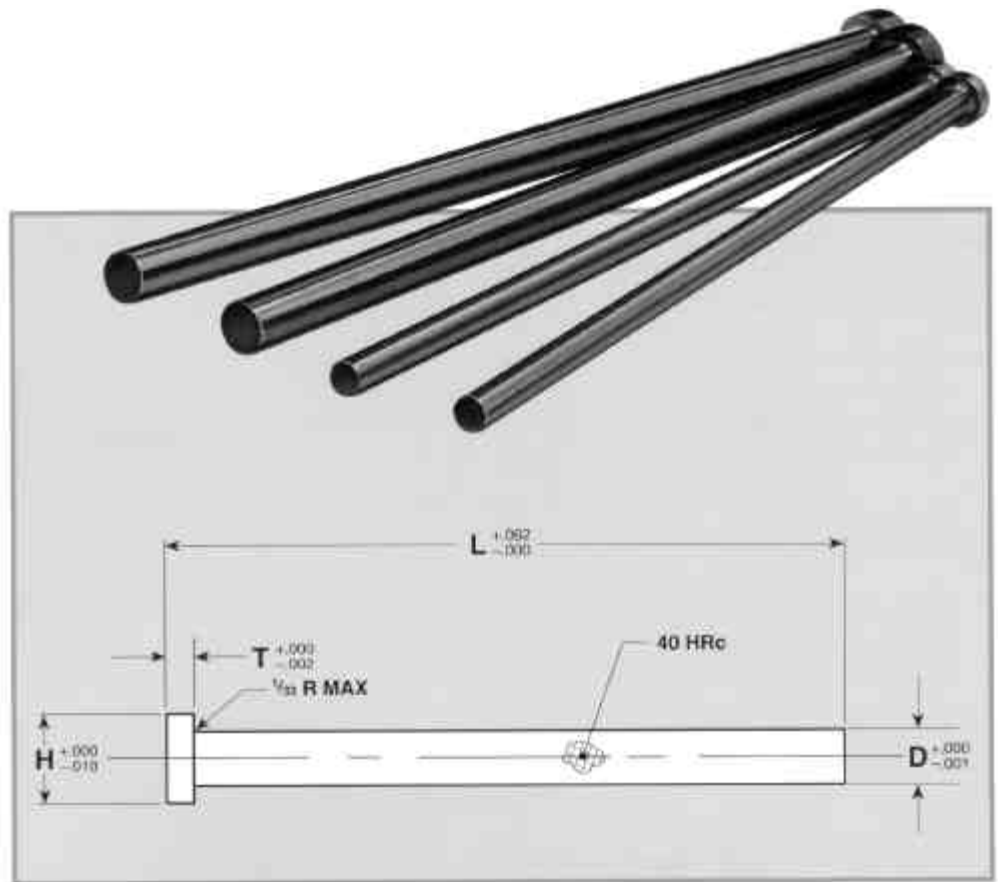
moldMAX®

Moldmax® Pins from MSI offer the highest thermal conductivity and strength available. Made from pre hardened Moldmax® copper alloy, our pins are 3 times stronger than competing copper alloy pins, and thermal conductivity 3-5 times greater than steel pins.

The high strength provides longer life, resistance to abrasion and ease of machining.

The high thermal conductivity provides faster heat removal from critical areas, reducing molded part cost and post-mold shrinkage. The high-copper alloy provides excellent corrosion resistance and inherent lubricity and galling resistance.

Custom sizes are available.

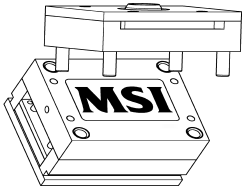


D	H	T	L = 4"	L = 8"	L = 12"	L = 18"
1/8	1/4	1/8	MM12L04	MM12L08	MM12L12	
5/32	9/32	5/32	MM15L04	MM15L08	MM15L12	MM15L18
3/16	3/8	3/16	MM18L04	MM18L08	MM18L12	MM18L18
7/32	13/32	3/16	MM21L04	MM21L08	MM21L12	MM21L18
1/4	7/16	3/16	MM25L04	MM25L08	MM25L12	MM25L18
9/32	7/16	1/4	MM28L04	MM28L08	MM28L12	MM28L18
5/16	1/2	1/4	MM31L04	MM31L08	MM31L12	MM31L18
3/8	5/8	1/4	MM37L04	MM37L08	MM37L12	MM37L18
7/16	11/16	1/4	MM43L04	MM43L08	MM43L12	MM43L18
1/2	3/4	1/4	MM50L04	MM50L08	MM50L12	MM50L18
9/16	13/16	1/4	MM56L04	MM56L08	MM56L12	MM56L18
5/8	7/8	1/4	MM62L04	MM62L08	MM62L12	MM62L18
3/4	1"	1/4	MM75L04	MM75L08	MM75L12	MM75L18

SAFE HANDLING

Moldmax in solid form poses no special health risk. Like many industrial materials, beryllium containing materials may pose a health risk if recommended safe handling practices are not followed. Inhalation of airborne beryllium may cause a serious lung disorder in susceptible individuals. The Occupational Safety and Health Administration (OSHA) has set mandatory limits on occupational respiratory exposures. For additional information on safe handling practices or technical data on Moldmax, contact the Customer Service Department of Brush Wellman, Inc. in Cleveland, Ohio at 1-800-862-4118. MSDS sheets are available upon request.

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Thru Hard 'NC' Ejector Pins



MSI 'NC' Ejector Pins are manufactured from hot work tool steel. The heads are hot forged and annealed for easy machining. The higher core hardness make 'NC' pins ideal for use in die cast dies and other high temperature applications.

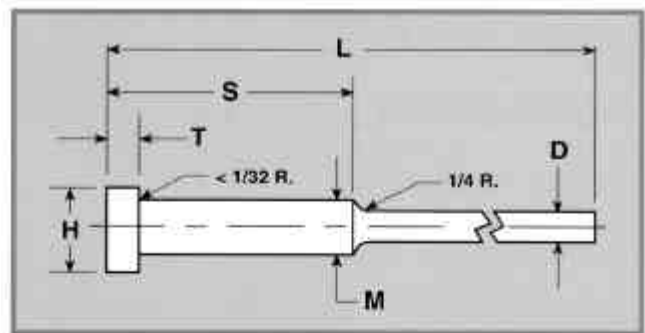
- Core Hardness 50-55Rc
- Surface Hardness 65-74Rc
- Final Finish 5-10 Microinch RMS

SHOULDER

D	H	T	S	CATALOG NUMBER L = 6"	CATALOG NUMBER L = 10"
PIN DIA.	HEAD DIA.	HEAD THICK.	SHLDR LENGTH		
3/64	1/4	1/8	1/2	NC04L06S	NC04L10S
3/64	1/4	1/8	2"	NC04L06	NC04L10
1/16	1/4	1/8	1/2	NC06L06S	NC06L10S
1/16	1/4	1/8	2"	NC06L06	NC06L10
5/64	1/4	1/8	1/2	NC07L06S	NC07L10S
5/64	1/4	1/8	2"	NC07L06	NC07L10
3/32	1/4	1/8	1/2	NC09L06S	NC09L10S
3/32	1/4	1/8	2"	NC09L06	NC09L10
7/64	1/4	1/8	1/2	NC10L06S	NC10L10S
7/64	1/4	1/8	2"	NC10L06	NC10L10

PARALLEL

D	H	T	CATALOG NUMBER L = 6"	CATALOG NUMBER L = 10"	CATALOG NUMBER L = 14"
PIN DIA.	HEAD DIA.	HEAD THICK.			
5/64	1/4	1/8	NC07L06P	NC07L10P	--
3/32	1/4	1/8	NC09L06P	NC09L10P	--
7/64	1/4	1/8	NC10L06P	NC10L10P	--
1/8	1/4	1/8	NC12L06	NC12L10	NC12L14
9/64	1/4	1/8	NC14L06	NC14L10	NC14L14
5/32	9/32	5/32	NC15L06	NC15L10	NC15L14
11/64	11/32	3/16	NC17L06	NC17L10	NC17L14
3/16	3/8	3/16	NC18L06	NC18L10	NC18L14
13/64	3/8	3/16	NC20L06	NC20L10	NC20L14
7/32	13/32	3/16	NC21L06	NC21L10	NC21L14
15/64	13/32	3/16	NC23L06	NC23L10	NC23L14
1/4	7/16	3/16	NC25L06	NC25L10	NC25L14
17/64	7/16	1/4	NC26L06	NC26L10	NC26L14
9/32	7/16	1/4	NC28L06	NC28L10	NC28L14
19/64	1/2	1/4	NC29L06	NC29L10	NC29L14
5/16	1/2	1/4	NC31L06	NC31L10	NC31L14
21/64	9/16	1/4	NC32L06	NC32L10	NC32L14
11/32	9/16	1/4	NC34L06	NC34L10	NC34L14
23/64	5/8	1/4	NC35L06	NC35L10	NC35L14
3/8	5/8	1/4	NC37L06	NC37L10	NC37L14
13/32	11/16	1/4	NC40L06	NC40L10	NC40L14
7/16	11/16	1/4	NC43L06	NC43L10	NC43L14
15/32	3/4	1/4	NC46L06	NC46L10	NC46L14
1/2	3/4	1/4	NC50L06	NC50L10	NC50L14



TOLERANCES

Pin Diameter	(D)	+0.0004 -0.0009
Shoulder Diameter (1/8)	(M)	+0.000 -0.003
Head Diameter	(H)	+0.000 -0.010
Head Thickness	(T)	+0.000 -0.002
Length	(L)	+0.062 -0.000

