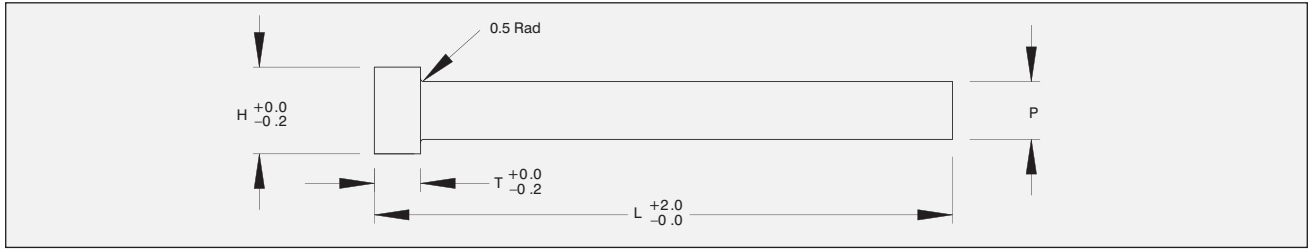
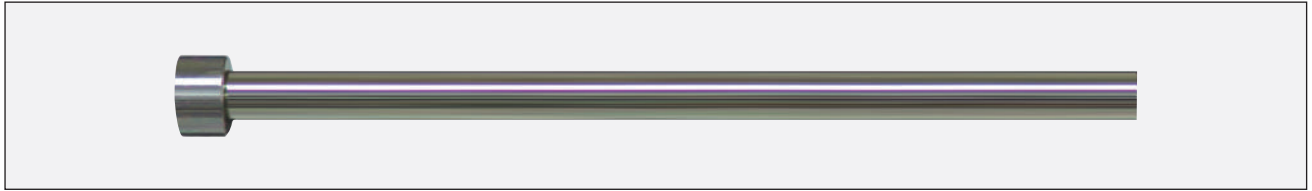


Nitrided Ejector Pins Metric JIS - Straight



Material H13
 Core Hardness 40-45RC
 Surface Hardness 70-72C

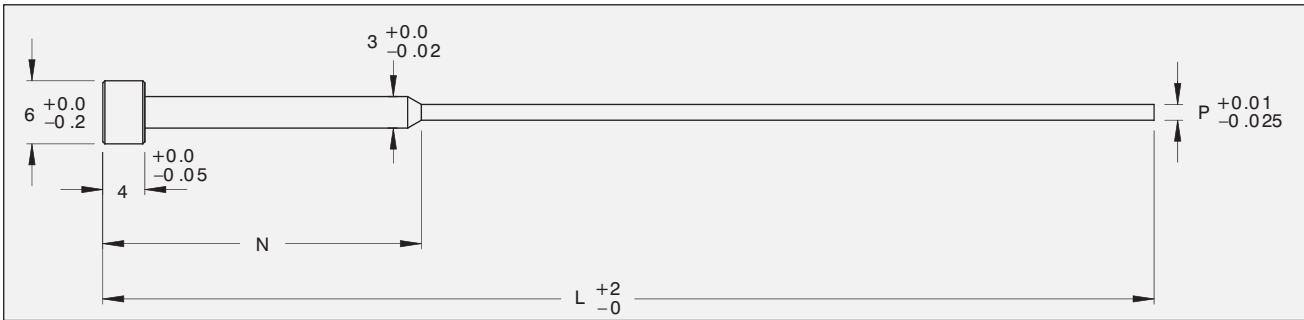
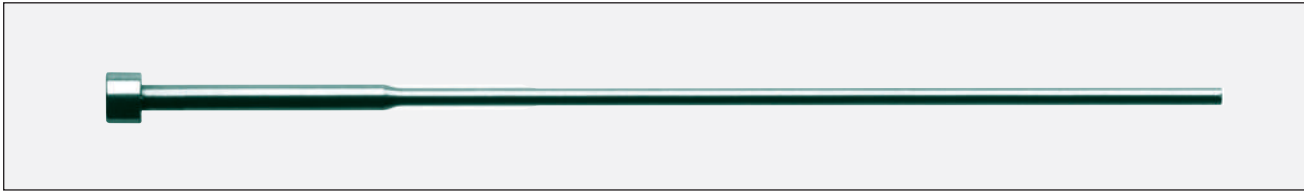
Part Number Prefix	P	H	T	L									
	PD	HD	HT	100	150	200	250	300	350	400	450	650	800
MP01	1.0	6	4	◆	◆								
MP012	1.2	6			◆								
MP015	1.5	6	4	◆	◆		◆						
MP020	2.0	6	4	◆	◆		◆						
MP025	2.5	6	4	◆	◆	◆	◆						
MP03	3.0	6	4	◆	◆	◆	◆	◆	◆	◆	◆		
MP035	3.5	7	4	◆	◆	◆	◆						
MP04	4.0	8	6	◆	◆	◆	◆	◆	◆	◆	◆		
MP045	4.5	8	6	◆	◆		◆						
MP05	5.0	9	6	◆	◆	◆	◆	◆	◆	◆	◆		
MP055	5.5	10	6		◆		◆						
MP06	6.0	10	6	◆	◆	◆	◆	◆	◆	◆	◆	◆	
MP065	6.5	10	6	◆	◆		◆	◆	◆	◆	◆	◆	
MP07	7.0	11	6	◆	◆	◆	◆	◆	◆	◆	◆	◆	
MP075	7.5	13	8			◆							
MP08	8.0	13	8	◆	◆	◆	◆	◆	◆	◆	◆	◆	
MP085	8.5	14	8		◆		◆						
MP10	10.0	15	8	◆	◆	◆	◆	◆	◆	◆	◆	◆	
MP12	12.0	17	8	◆	◆	◆	◆	◆	◆	◆	◆	◆	
MP14	14.0	19	8	◆	◆		◆	◆	◆	◆	◆	◆	
MP15	15.0	20	8	◆	◆		◆				◆		
MP16	16.0	21	8	◆	◆	◆	◆	◆	◆	◆	◆	◆	
MP18	18.0	23	8	◆	◆		◆		◆		◆	◆	
MP20	20.0	25	8	◆	◆		◆		◆		◆	◆	◆
MP25	25.0	30	8		◆		◆		◆		◆	◆	◆

Part Number Example: MP02100-12 = 2x100x12 Straight Pin

Specials to Order

P Tolerance			
1-2mm	-01 -03	6.0-12 & 15mm	-020 -030
2-3mm	-01 -03	14, 16 & 20 mm	-020 -040
3.1-5.9mm	-010 -020	18 & 25mm	-007 -020

Nitrided Ejector Pins Metric JIS - Stepped



Material H13

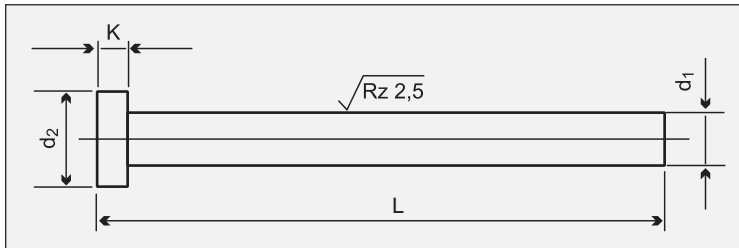
Core Hardness 40-44RC

Surface Hardness 70-72C

Part Number Prefix	P	N				
			100	125	150	250
MP01	1.0	10		◆		
MP012	1.2	10		◆		
MP015	1.5	10	◆	◆		
MP02	2.0	10		◆		
MP025	2.5	10		◆		
MP01	1.0	12	◆		◆	
MP012	1.2	12				
MP015	1.5	12	◆		◆	
MP02	2.0	12	◆		◆	
MP025	2.5	12	◆			
MP01	1.0	25	◆		◆	
MP012	1.2	25	◆		◆	
MP015	1.5	25	◆	◆	◆	
MP02	2.0	25	◆		◆	
MP025	2.5	25	◆		◆	
MP01	1.0	50	◆		◆	◆
MP012	1.2	50			◆	◆
MP015	1.5	50			◆	◆
MP02	2.0	50			◆	◆
MP025	2.5	50			◆	◆

Part Number Example: MP02100-12 = 2x100x12 Stepped Pin

Straight Ejector Pins - DIN Nitrided (EP)



Material: WAS 1.2344 Hotwork Die Steel

Standard: DIN 1530-A/ISO 6751

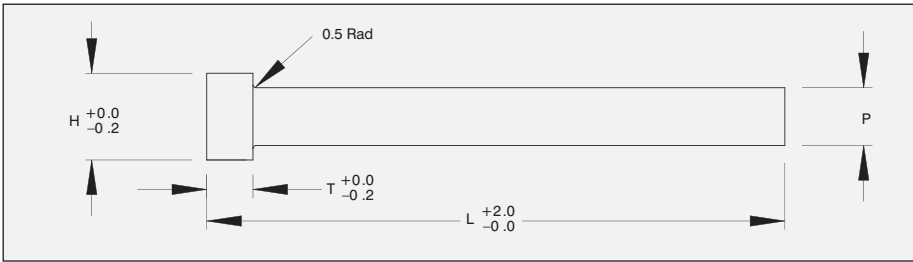
Hardness:

Surface: Nitrided to \geq HV 950° and Bright polished
Core: Hardened throughout to \geq 1400N/mm²

Code	D1 g6	D2 0/-0.2	K 0/-0.05	r	L + 2										
					100	125	160	200	250	315	400	500	630	800	1000
	1.5	3	1.5	0.2	◆	◆	◆	◆	◆						
	2.0	4	2	0.2	◆	◆	◆	◆							
	2.2	4	2	0.2	◆	◆	◆	◆	◆	◆					
	2.5	5	2	0.3	◆	◆	◆	◆							
	2.7	5	2	0.3	◆	◆	◆	◆							
	3.0	6	3	0.3	◆	◆	◆	◆	◆	◆	◆	◆			
	3.2	6	3	0.3	◆	◆	◆	◆	◆	◆	◆				
	3.5	7	3	0.3	◆	◆	◆	◆	◆	◆	◆				
	3.7	7	3	0.3	◆	◆	◆	◆	◆	◆	◆				
	4.0	8	3	0.3	◆	◆	◆	◆	◆	◆	◆	◆			
	4.2	8	3	0.3	◆	◆	◆	◆	◆	◆	◆				
	4.5	8	3	0.3	◆	◆	◆	◆	◆	◆	◆				
	5.0	10	3	0.3	◆	◆	◆	◆	◆	◆	◆	◆	◆		
	5.2	10	3	0.3	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	5.5	10	3	0.3	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	6.0	12	5	0.5	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
	6.2	12	5	0.5	◆	◆	◆	◆	◆	◆	◆	◆			
Z95	6.5	12	5	0.5	◆	◆	◆	◆	◆	◆	◆	◆			
	7.0	12	5	0.5	◆	◆	◆	◆	◆	◆	◆	◆			
	7.5	12	5	0.5											
	8.0	14	5	0.5	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
	8.2	14	5	0.5	◆	◆	◆	◆	◆	◆	◆	◆	◆		
	8.5	14	5	0.5	◆	◆	◆	◆	◆	◆	◆	◆	◆		
	9.0	14	5	0.5	◆	◆	◆	◆	◆	◆	◆	◆	◆		
	10.0	16	5	0.5	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
	10.2	16	5	0.5	◆	◆	◆	◆	◆	◆	◆	◆	◆		
	10.5	16	5	0.5	◆	◆	◆	◆	◆	◆	◆	◆	◆		
	11.0	16	5	0.5	◆	◆	◆	◆	◆	◆	◆	◆	◆		
	12.0	18/20	7	0.8	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
	12.2	18/20	7	0.8	◆	◆	◆	◆	◆	◆	◆				
	12.5	18/20	7	0.8	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
	14.0	22	7	0.8	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
	16.0	22	7	0.8	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
	18.0	24	7	0.8				◆	◆	◆	◆	◆	◆		
	20.0	26	8	1.0					◆	◆	◆	◆	◆	◆	◆
	25.0	32	10	1.0						◆	◆	◆	◆	◆	◆
	32.0	40	10	1.0							◆	◆	◆	◆	◆

Order: Z95 - d1 - L

Nitrided Oversize Ejector Pins Metric JIS



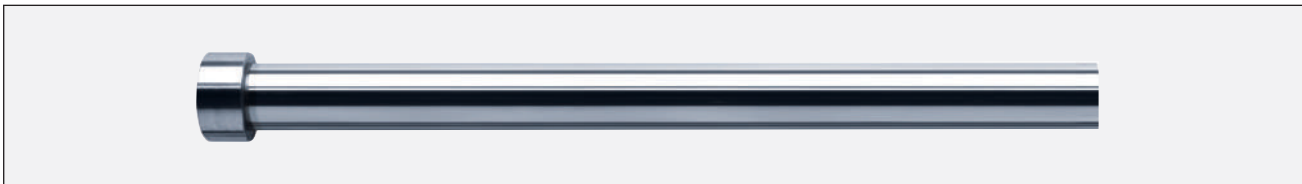
Material H13

Core Hardness 40-4-45RC

Surface Hardness 70-72C

Part Number Prefix	P	H	T	L	
	PD	HD	HT	150	250
MP021	2.1	6	6	◆	
MP031	3.1	6	4		◆
MP041	4.1	8	6	◆	◆
MP051	5.1	9	6		◆
MP061	6.1	10	6		◆
MP081	8.1	13	8		◆
MP101	10.1	15	8		◆
MP121	12.1	17	8		◆

Core Pins Metric (Soft Ejector JIS)

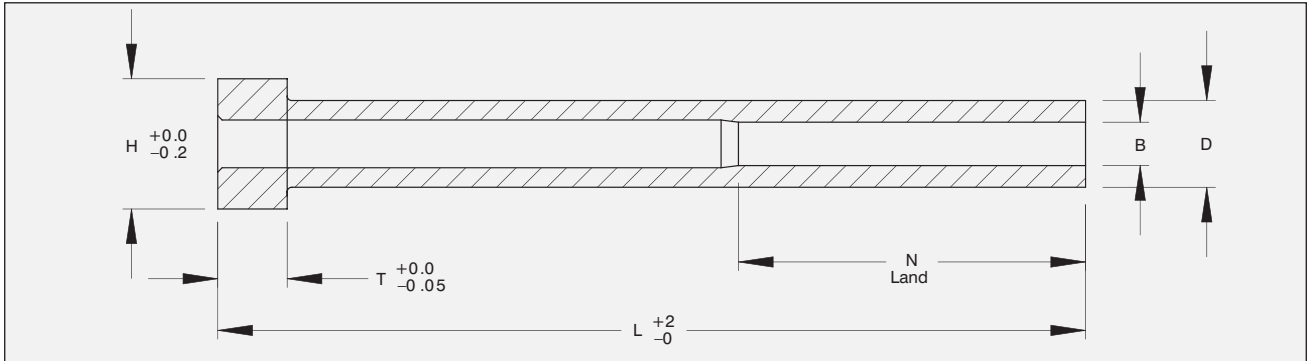
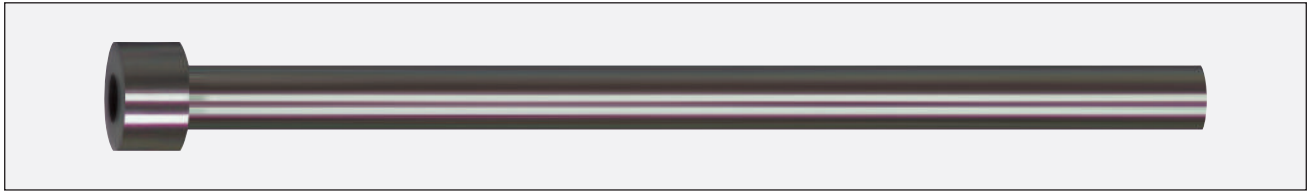


Material H13

Core Hardness 40-4-45RC

Part Number Prefix	P	H	T	L	
	PD	HD	HT	150	250
MS03	3	6	4	◆	◆
MS04	4	8	6	◆	◆
MS05	5	9	6	◆	◆
MS06	6	10	6	◆	◆
MS07	7	11	6	◆	◆
MS08	8	13	8	◆	◆
MS10	10	15	8	◆	◆
MS12	12	17	8	◆	◆
MS14	14	19	8		◆
MS15	15	20	8	◆	◆
MS16	16	21	8		◆
MS18	18	23	8		◆
MS20	20	25	8		◆

Ejector Sleeves Metric JIS



Material H13

Core Hardness 40RC

Surface Hardness 70RC

Part Number Prefix	B ID	D OD	H	T	L								
					100	125	150	175	200	225	250	275	300
					N=40		N=50		N=60		N=70		
	2.0	4	8	6	◆	◆	◆						
	2.0	5	9	6	◆	◆	◆	◆	◆				
	2.0	6	10	6	◆	◆	◆	◆	◆				
	2.5	5	9	6	◆	◆	◆	◆	◆	◆			
	2.5	6	10	6	◆	◆	◆	◆	◆	◆	◆		
	3.0	5	9	6	◆	◆	◆	◆	◆				
	3.0	6	10	6	◆	◆	◆	◆	◆				
	3.0	7	11	6	◆	◆	◆	◆	◆	◆	◆		
	3.5	6	10	6	◆	◆	◆	◆	◆	◆	◆		
	3.5	7	11	6	◆	◆	◆	◆	◆	◆	◆		
	4.0	6	10	6	◆	◆	◆	◆	◆				
MS	4.0	7	11	6	◆	◆	◆	◆	◆	◆	◆	◆	◆
	4.0	8	13	8	◆	◆	◆	◆	◆	◆	◆	◆	◆
	4.5	7	11	6	◆	◆	◆	◆	◆	◆	◆		
	4.5	8	13	8	◆	◆	◆	◆	◆	◆	◆		
	5.0	8	13	8	◆	◆	◆	◆	◆	◆	◆	◆	◆
	5.0	10	15	8	◆	◆	◆	◆	◆				
	5.5	8	13	8	◆	◆							
	6.0	10	15	8	◆	◆	◆	◆	◆	◆	◆	◆	◆
	6.5	10	15	8	◆	◆	◆	◆	◆	◆	◆		
	6.5	12	17	8	◆		◆		◆		◆		
	8.0	12	17	8	◆	◆	◆	◆	◆	◆	◆		◆
	10	15	20	8	◆	◆	◆		◆		◆		

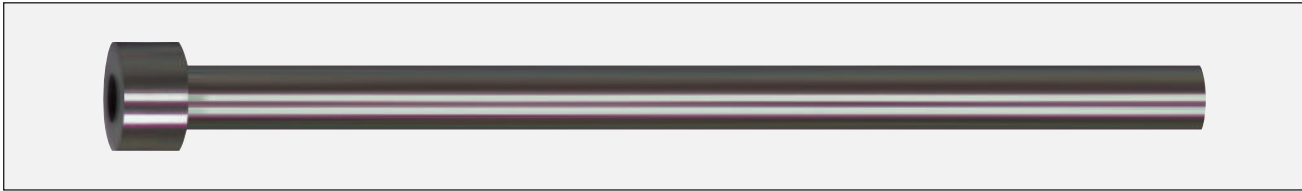
Order: Part Number + B + D

Specials to Order

Tolerances

ID 1.5-3mm	-0 +.010	OD 4-5mm	-.010 -.020
ID 3.5-5mm	+0 -.012	OD 6-8mm	-.015 -.025
ID 5.5-10mm	+0 -.015	OD 10-15mm	-.020 -.030

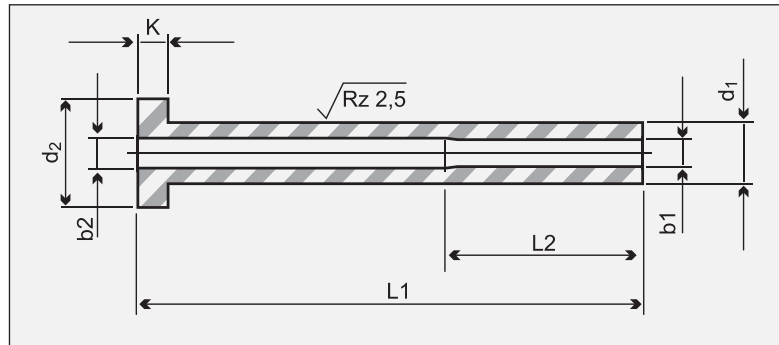
Ejector Sleeves Nitrided (ES)



Material: WAS 1.2344 Hotwork Die Steel

Standard: DIN 16756/ISO 8405

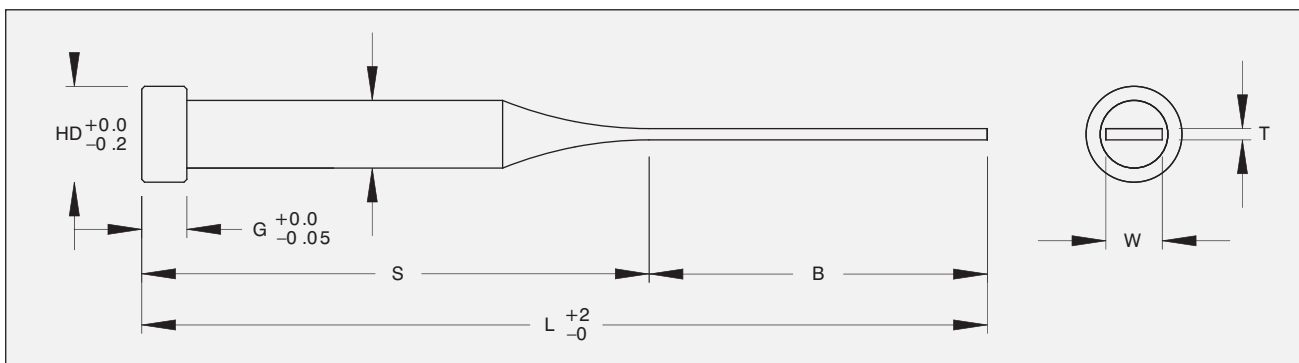
Hardness: I.D. & O.D. Nitrided to \geq HV 950 HV



Part Number Prefix	d1 g6	b1 H5	d2 0/-0.2	K 0/-0.05	b2	L2	r	L1+2													
								60	75	100	125	150	175	200	225	250	275	300			
	3	1.5	6	3	1.8	25	0.3														
	3	1.6	6	3	2.0	25	0.3														
	4	2.0	8	3	2.4	35	0.3														
	4	2.2	8	3	2.5	35	0.3														
	5	2.5	10	3	3.0	35	0.3														
	5	2.7	10	3	3.0	45	0.3														
	5	3.0	10	3	3.5	45	0.3														
	5	3.2	10	3	3.5	45	0.3														
	6	3.5	12	5	4	45	0.5														
	6	3.7	12	5	4	45	0.5														
Z103	6	4.0	12	5	4.5	45	0.5														
	8	4.2	14	5	5.0	45	0.5														
	8	5.0	14	5	5.5	45	0.5														
	8	5.2	14	5	5.5	45	0.5														
	10	6.0	16	5	6.5	45	0.5														
	10	6.2	16	5	6.5	45	0.5														
	12	8.0	20	7	8.5	45	0.8														
	12	8.2	20	7	8.5	45	0.8														
	14	10.0	22	7	10.5	50	0.8														
	16	12.0	22	7	12.5	50	0.8														

Order: Part Number + d1 + b1 + L

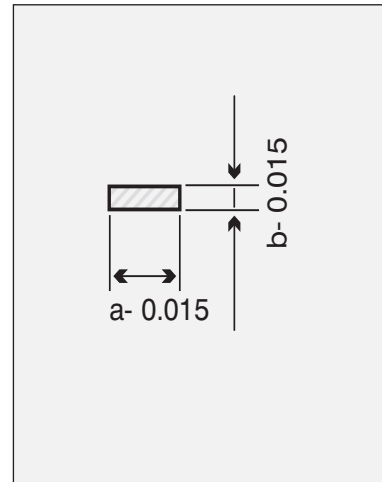
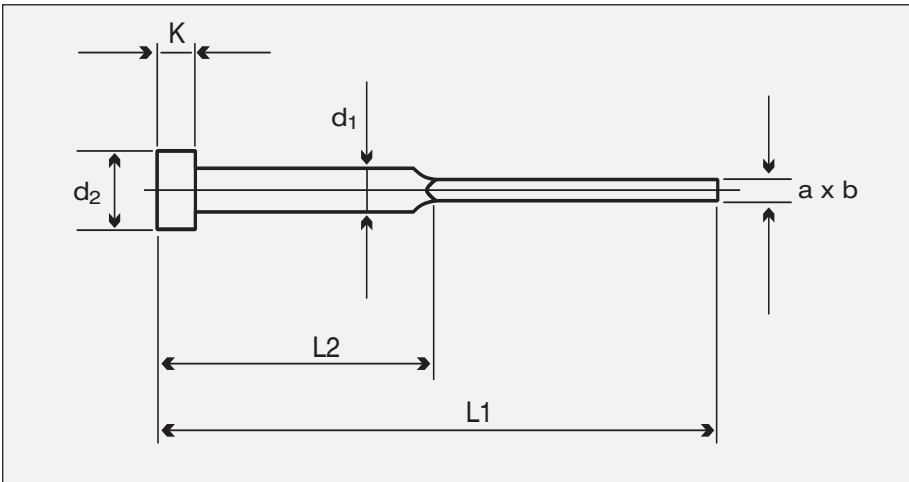
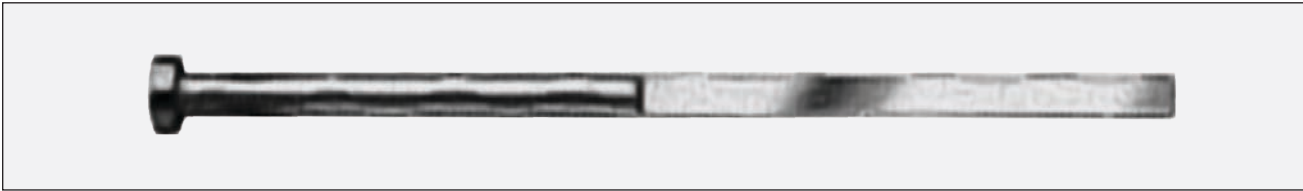
Ejector Blades Metric JIS



Material SK HSI Nitrided									
Part no.	T	W	D	L		S	B	G	H
MEB	1	4	5	100		40	60	6	9
MEB	1	4	5	125		50	75	6	9
MEB	1	4	5	150		60	90	6	9
MEB	1	4	5	175		70	105	6	9
MEB	1.2	5	6	125		50	75	6	10
MEB	1.2	5	6	200		80	120	6	10
MEB	1.2	6	7	125		50	75	6	11
MEB	1.2	6	7	150		60	90	6	11
MEB	1.2	8	10	125		50	75	8	15
MEB	1.2	8	10	150		60	90	8	15
MEB	1.5	5	6	125		50	75	6	10
MEB	1.5	5	6	150		60	90	6	10
MEB	1.5	5	6	200		80	170	6	10
MEB	1.5	6	7	125		50	75	6	11
MEB	1.5	6	7	175		70	105	6	11
MEB	1.5	8	10	125		50	75	8	15
MEB	1.5	8	10	150		60	90	8	15
MEB	1.5	8	10	175		70	105	8	15
MEB	1.5	8	10	200		80	120	8	15
MEB	2	6	7	150		60	90	6	11
MEB	2	8	10	150		60	90	8	15
MEB	2	10	12	150		60	90	8	17
MEB	2	10	12	200		80	120	8	17
MEB	2	8	10	125		50	75	8	15

Order: Part Number + W + T + L

Ejector Blades DIN



Material: WAS 1.2344 Hotwork Die Steel

Standard: DIN 1530-F/ISO 8693

Hardness:

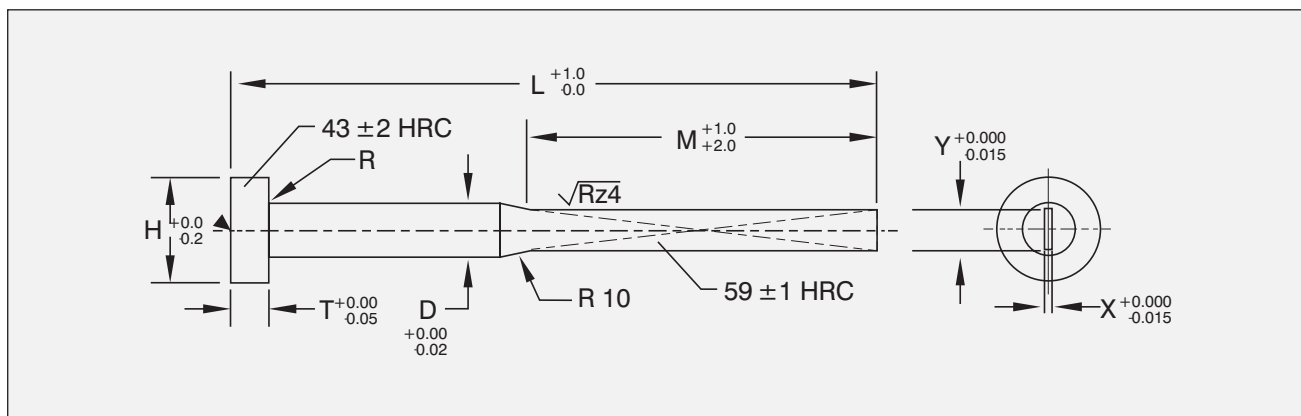
Surface: Nitrided to \geq HV 950°

Core: Hardened throughout to \geq 1400N/mm²

Part Number Prefix	a 0/-0.05	b 0/-0.05	d1 0/-0.1	d2 0/-0.2	k 0/-0.05	r	L1+2							
							60/30	80/40	100/50	125/60	160/80	200/100	250/125	315/160
Z88	3.8	0.8	4.2	8	3	0.3								
		1.0												
	4.5	1.2	5	10	3	0.3								
		1.5												
	5.5	1.0	6	12	5	0.5								
		1.2												
		1.5												
	7.5	2.0	8	14	5	0.5								
		1.2												
	9.5	1.5	10	16	5	0.5								
2.0														
11.5	2	12	20	7	0.8									
	2.5													
15.5	2	16	22	7	0.8									
	2.5													

Ejector Pins

Custom Ejector Blade



Note: Photocopy form, fill out and then fax to Hales

D	L	M	H	T	R	Y	X

Contact:

Reference No.:

Company Name:

Account No.:

Phone: Fax:.....

Ejector Pins