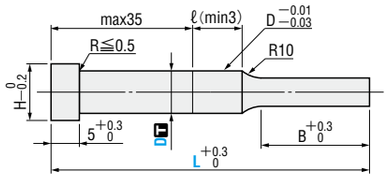
SHOULDER PUNCHES
—RW COATING—

PRODUCTS DATA P.1607

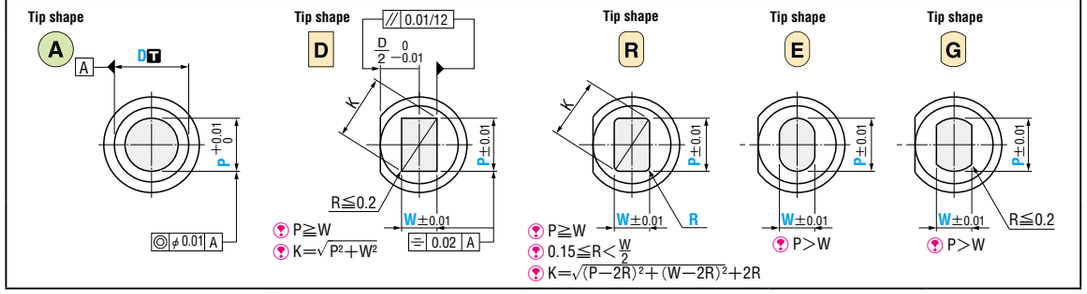
Type	M H	Catalog No. Type: Shank dia. T Dm5	Catalog No. Type: Shank dia. T D+0.005/0	Shape Tip shape	B Tip length
For shank diameter tolerance D T, select either m5・+0.005/0.	Equivalent to SKH51 61～64HRC Surface 3100HV	RW—SH	ARW—SH	A D R E G	S L X
	Powdered highspeed steel 64～67HRC Surface 3100HV	RW—PH	ARW—PH		Tip length (B) X>L>S

RoHS

The tip shape can be selected from Tip shape A～G in the figure below.



The tip edges are very slightly rounded.



Type	Shape Tip shape	B Tip length	D	L							0.01mm increments Ⓐ min. P max.	D R E G P・Kmax.	D R E G P・Wmin.	R R	B	H
(Dm5) RW—SH RW—PH (D+0.005/0) ARW—SH ARW—PH	A D R E G	S	3	40	50	60	70	80	90	100	1.00～2.99	—	—	0.15≦R<W/2 (R only)	8	5
			4	40	50	60	70	80	90	100	1.00～3.99	3.97	1.00			7
			5	40	50	60	70	80	90	100	2.00～4.99	4.97	1.20			8
			6	40	50	60	70	80	90	100	2.00～5.99	5.97	1.50			9
			8	(40)	50	60	70	80	90	100	3.00～7.99	7.97	2.00		13	11
			10	(40)	50	60	70	80	90	100	3.00～9.99	9.97	2.50			13
			13	(40)	50	60	70	80	90	100	6.00～12.99	12.97	3.00			16
			16	(40)	50	60	70	80	90	100	10.00～15.99	15.97	4.00		19	19
			20	(40)	50	60	70	80	90	100	13.00～19.99	19.97	5.00			23
			25	(40)	50	60	70	80	90	100	18.00～24.99	24.97	6.00			28
		L	3		50	60	70	80	90	100	1.00～2.99	—	—		13	5
			4		50	60	70	80	90	100	1.00～3.99	3.97	2.00			7
			5		50	60	70	80	90	100	2.00～4.99	4.97	2.00			8
			6		50	60	70	80	90	100	2.00～5.99	5.97	2.00			9
			8		50	60	70	80	90	100	3.00～7.99	7.97	2.50		19	11
			10		50	60	70	80	90	100	3.00～9.99	9.97	2.50			13
			13		50	60	70	80	90	100	6.00～12.99	12.97	3.00			16
			16			60	70	80	90	100	10.00～15.99	15.97	4.00		25	19
			20			60	70	80	90	100	13.00～19.99	19.97	5.00			23
			25			60	70	80	90	100	18.00～24.99	24.97	6.00			28
		X	3		50	60	70	80	90	100	1.20～2.99	—	—		19	5
			4		50	60	70	80	90	100	1.20～3.99	3.97	2.00			7
			5			60	70	80	90	100	2.00～4.99	4.97	3.50		25	8
			6			60	70	80	90	100	2.00～5.99	5.97	3.50			9
			8			60	70	80	90	100	3.00～7.99	7.97	5.00		30	11
			10			60	70	80	90	100	3.00～9.99	9.97	5.00			13
			13			60	70	80	90	100	6.00～12.99	12.97	5.00			16
			16				70	80	90	100	10.00～15.99	———			40	19
			20				70	80	90	100	13.00～19.99					23
			25				70	80	90	100	18.00～24.99					28

Ⓐ: P>D−0.03…ℓ=0 If P>D−0.03 for a round punch, D−0.01/−0.03 (press-in lead) is not included.
D R E G: P・K>D−0.05…ℓ=0 If P・K>D−0.05 for a shaped punch, D−0.01/−0.03 (press-in lead) is not included.
L(40)…B=8 If full length is (40), tip length is 8mm in all cases.

Order

Catalog No.	L	P	W	R (R only)
RW—PHDL 13	80	P10.50	W7.34	

Days to Ship **Quotation**

■Effects of RW coating
Effective for press processing of ultra-high-tensile material and thick plate high-tensile material thanks to its superior wear resistance, peeling resistance and heat resistance.
See the product data for details. P.1607

Alterations

Catalog No.	L(LC・LCT・LMT)	P(PC)	W(WC)	R	(BC・HC…etc.)
RW—SHDS 10	LC72	PC1.90	WC1.90		BC8—KC45

Alterations	Code	Ⓐ	D R E G	1Code
Alterations to tip	PC WC	Tip dimension change PC≧Pmin./2≧1.00 0.01mm increments P(PC) / Bmax: 1.000～1.999 / 20; 2.000～3.999 / 35; 4.000～4.999 / 45; 5.000～5.999 / 50; 6.000～ / 60	Tip dimension change PC≧P・Wmin./2≧1.00 WC≧P・Wmin./2≧1.00 0.01mm increments ⊗ Cannot be used for tip X. P(PC)・W(WC) / Bmax: 1.00～1.49 / 8; 1.50～1.99 / 13; 2.00～3.49 / 19; 3.50～4.99 / 25; 5.00～ / 30	
	BC	Tip length change 2≦BC≦Bmax 0.1mm increments ♀ Full length L must be at least 25 mm longer than tip length BC.	Tip length change 2≦BC≦Bmax 0.1mm increments ♀ Full length L must be at least 30mm longer than tip length BC.	
	PRC	Rounding of tip side edge 0.3≦PRC≦1 0.1mm increments ♀ PRC≦(P−0.2)/2	———	
Alterations to full length	LC	Full length change 25+B(BC)≦LC<L 0.1mm increments ♀ If difference between full length and tip length is 25mm or less, tip length is adjusted to (Full length−25mm). (If combined with LKC, 0.01mm increments can be selected.)	Full length change 30+B(BC)≦LC<L 0.1mm increments ♀ If difference between full length and tip length is 30mm or less, tip length is adjusted to (Full length−30mm).	Quotation
	LCT	Changes to head thickness tolerance and full length are processed using a single code. The allowable range of change, increment, ordering process, and notes (♀) are the same as for LC. TKC Head thickness tolerance change T+0.3/0 ⇨ +0.02/0 LC Full length + change + L+0.3/0 ⇨ +0.1/0		
	LMT	Changes to head thickness tolerance and full length are processed using a single code. The allowable range of change, increment, ordering process, and notes (♀) are the same as for LC. TKM Head thickness tolerance change T+0.3/0 ⇨ 0/−0.02 LC Full length + change + L+0.3/0 ⇨ +0.1/0		
	LKC	Full length tolerance change L+0.3/0 ⇨ +0.05/0		
Alterations to shank	UC	Modification for urethane stripper (USN) installation ♀ For details P.750 ⊗ Can be used for D10～25.		
	NDC	No press-in lead ℓ≧3 ⇨ ℓ=0		

Alterations	Code	Ⓐ	D R E G	1Code
Alterations to head	KC	Addition of single key flat to head	Key flat position change 1° increments	
	WKC	Addition of double key flats in parallel	Double key flats in parallel Can be combined with KC.	
	KFC	Double key flats at 0° and a selected angle 1° increments ⊗ Cannot be combined with KC・WKC.	Double key flats at 0° and a selected angle 1° increments ⊗ Cannot be combined with KC・WKC.	
	NKC	———	No key flat	
	HC	Head diameter change D≦HC<H 0.1mm increments ⊗ Cannot be used for retainer set products		Quotation
	TC	Head thickness change 2≦TC<5 0.1mm increments (If combined with TKC・TKM・LCT・LMT, 0.01mm increments can be selected.) ♀ Full length L is shortened by (5−TC). If combined with LC・LCT・LMT, full length remains as specified. ⊗ Cannot be used for retainer set products		
	TKC	Head thickness tolerance change T+0.3/0 ⇨ +0.02/0		
	TKM	Head thickness tolerance change T+0.3/0 ⇨ 0/−0.02		
	TCC	Chamfering of head This improves the strength of the punch head. P.1611 0.1mm increments 0.5≦TCC≦(H−D)/2 ♀ If H≦5, then TCC is 0.5.		
	RC	Head thickness is machined to a tolerance of −0.04～0 relative to the retainer surface. ⊗ Cannot be used for D+0.005/0		

Price **Quotation**

PUNCHES