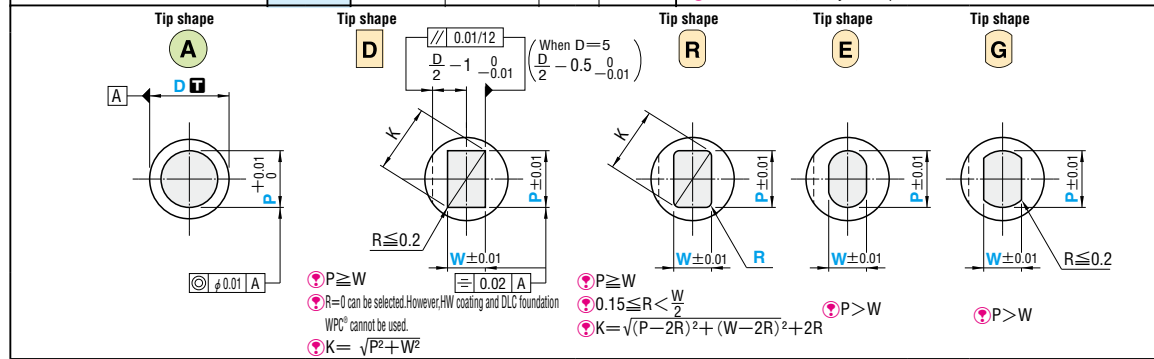


# TAPPED PUNCHES

—RW COATING · DLC COATING—



Type	M H	Catalog No.		Tip shape	B Tip length	The tip shape can be selected from Tip shape A~G in the figure below.
		Type	Type			
—RW coating— <b>RoHS</b>		RW-MPH	ARW-MPH	A	S	<p>                     Ⓢ The tip end is ground before the coating is applied.                      Ⓢ The tip edges are very slightly rounded.                      Ⓢ * When D=5, the key slot depth is 0.5.                 </p>
—DLC coating—		N-MPH	AN-MPH	D	L	
		NW-MPH	ANW-MPH	R	X	



Type	Tip shape	Tip length	D	L								0.01mm increments				B	M
				5	6	8	10	13	16	20	25	min. P	max. P	P-Kmax.	P-Wmin.		
—RW coating— RW-MPH (D <sub>ms</sub> )	S	13	5	40	50	60	70	80	90	100	2.00	4.99	4.97	1.20	0.15 ≤ R < W/2	8	3
			6	40	50	60	70	80	2.00	5.99	5.97	1.50					
			8	40	50	60	70	80	3.00	7.99	7.97	2.00					
			10	40	50	60	70	80	3.00	9.99	9.97	2.50					
			13	40	50	60	70	80	6.00	12.99	12.97	3.00					
—DLC coating— N-MPH	L	19	5	40	50	60	70	80	90	100	10.00	15.99	15.97	4.00	0.15 ≤ R < W/2	6	5
			6	40	50	60	70	80	13.00	19.99	19.97	5.00					
			8	40	50	60	70	80	18.00	24.99	24.97	6.00					
			10	40	50	60	70	80	10.00	15.99	15.97	4.00					
			13	40	50	60	70	80	6.00	12.99	12.97	3.00					
—DLC foundation WPC <sup>®</sup> — NW-MPH	X	25	5	60	70	80	90	100	2.00	4.99	4.97	3.50	0.15 ≤ R < W/2	25	3		
			6	60	70	80	2.00	5.99	5.97	3.50							
			8	60	70	80	3.00	7.99	7.97	5.00							
			10	60	70	80	3.00	9.99	9.97	5.00							
			13	60	70	80	6.00	12.99	12.97	5.00							
—RW coating— ARW-MPH (D <sup>+0.005</sup> <sub>0</sub> )	S	25	5	70	80	90	100	10.00	15.99	15.97	4.00	0.15 ≤ R < W/2	25	6			
			6	70	80	90	100	13.00	19.99	19.97	5.00						
			8	70	80	90	100	18.00	24.99	24.97	6.00						
			10	70	80	90	100	10.00	15.99	15.97	4.00						
			13	70	80	90	100	6.00	12.99	12.97	3.00						
—DLC coating— AN-MPH	L	30	5	70	80	90	100	10.00	15.99	15.97	4.00	0.15 ≤ R < W/2	30	4			
			6	70	80	90	100	13.00	19.99	19.97	5.00						
			8	70	80	90	100	18.00	24.99	24.97	6.00						
			10	70	80	90	100	10.00	15.99	15.97	4.00						
			13	70	80	90	100	6.00	12.99	12.97	3.00						
—DLC foundation WPC <sup>®</sup> — ANW-MPH	X	40	5	70	80	90	100	10.00	15.99	15.97	4.00	0.15 ≤ R < W/2	40	6			
			6	70	80	90	100	13.00	19.99	19.97	5.00						
			8	70	80	90	100	18.00	24.99	24.97	6.00						
			10	70	80	90	100	10.00	15.99	15.97	4.00						
			13	70	80	90	100	6.00	12.99	12.97	3.00						

Ⓢ L(40) → B=8 If the full length is (40), the tip length is 8mm in all cases.

Order  —  —  —  —

ARW-MPHDL 13 — 80 — P10.50 — W7.34

Days to Ship

Alterations  —  —  —  —  — (BC-KC-WKC...etc.)

RW-MPHAL 13 — 80 — P8.24 — KC-LKC

Alterations	Code	A	D R E G	1Code
Alterations to full length	PC WC	Tip dimension change $PC \geq \frac{P_{min.}}{2}$ 0.01 mm increments	Tip dimension change $WC \geq \frac{P-W_{min.}}{2} \geq 1.00$ 0.01 mm increments Ⓢ Cannot be used for tip X.	Quotation
	BC	Tip length change $2 \leq BC \leq B_{max.}$ 0.1 mm increments Ⓢ Full length L must be at least 25 mm longer than tip length BC.	Tip length change $2 \leq BC \leq B_{max.}$ 0.1 mm increments Ⓢ Full length L must be at least 30mm longer than tip length BC.	
Alterations to tip	PRC	Rounding of tip side edge $0.3 \leq PRC \leq 1$ 0.1 mm increments Ⓢ $PRC \leq (P-0.2)/2$ Ⓢ Cannot be combined with PCC. It is $PRC \pm 0.1$ for RW coating and DLC foundation WPC <sup>®</sup> .		
	PCC	Chamfering to tip side edge $0.3 \leq PCC \leq 1$ 0.1 mm increments Ⓢ $PCC \leq (P-0.2)/2$ Ⓢ Cannot be combined with PRC. RW coating · DLC foundation WPC <sup>®</sup> cannot be used.		
	SC	Lapping of tip Ⓢ P dimension tolerance and increment are the same. Ⓢ Cannot be combined with RW coating and DLC foundation WPC <sup>®</sup> . Ⓢ R=0 cannot be selected for the tip D corner.		

Alterations	Code	A	D R E G	1Code
Alterations to full length	LC	Full length change $25+B(BC) \leq LC < L$ 0.1 mm increments Ⓢ If difference between full length and tip length is 25 mm or less, tip length is adjusted to (Full length-25 mm).	Full length change $30+B(BC) \leq LC < L$ 0.1 mm increments Ⓢ If difference between full length and tip length is 30mm or less, tip length is adjusted to (Full length-30mm).	Quotation
	LKC	Full length tolerance change $L^{+0.3}_0 \rightarrow ^{+0.05}_0$		
Others	KC	Addition of single key slot Ⓢ Cannot be used for DS.	Key slot position change $0^\circ \sim 180^\circ$ 1° increments	Quotation
	WKC	Addition of double key slots in parallel Ⓢ Cannot be used for DS.	Double key slots in parallel Can be combined with KC.	
	NKC		No key slot	
	SKC	Single key flat on shank Ⓢ $D5-6$ $P \leq D-1.2$ $W \leq D-1.2$ (Machining width 0.5) Ⓢ $D8 \sim$ $P \leq D-2.2$ $W \leq D-2.2$ (Machining width 1) Ⓢ Cannot be combined with KC-WKC.		

Price

**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**

**Effects of DLC coating**  
Effective for preventing adhesion during aluminum or copper blanking thanks to its low affinity for nonferrous metal. See the product data for details. **P.1609**