



KEY FLAT SHANK TAPPED PUNCHES

—NORMAL · TiCN COATING · HW COATING · DLC COATING—



Type	Shank diameter D Tolerance	M H	Catalog No.		The tip shape can be selected from Tip shape A~G in the figure below.
			Type	Tip shape Tip length	
—Normal— 	D +0.005 0	Equivalent to SKD11 60~63HRC	G—MP	 	
—TiCN coating— 			G—MPH		
—HW coating— 			GH—MPH		
—DLC coating— 			GN—MPH		
			GNW—MPH		
					<p>Tip length (B) X > L > S</p> <p>The tip end is ground before the coating is applied. The tip edges of a HW coating or DLC foundation WPC® type are very slightly rounded.</p>

Type	Tip shape	Tip length	D	L										0.01mm increments					B	M
				min. P max.		P·Kmax.		Wmax.		P·Wmin.		R								
G—MP G—MPH —TiCN coating— GH—MPH —HW coating— GHW—MPH —DLC coating— GN—MPH —DLC foundation— WPC® GNW—MPH	A	S	6	40	50	60	70	80	90	100	2.00	3.80	5.97	3.80	1.50	0.15 ≤ R < W/2	8	3		
			8	(40)	50	60	70	80	90	100	3.00	5.80	7.97	5.80	2.00					
			10	(40)	50	60	70	80	90	100	3.00	7.80	9.97	7.80	2.50					
			13	(40)	50	60	70	80	90	100	6.00	10.80	12.97	10.80	3.00					
			16	(40)	50	60	70	80	90	100	10.00	13.80	15.97	13.80	4.00					
	D	L	6		50	60	70	80			2.00	3.80	5.97	3.80	2.00					
			8		50	60	70	80	90	100	3.00	5.80	7.97	5.80	2.50					
			10		50	60	70	80	90	100	3.00	7.80	9.97	7.80	2.50					
			13		50	60	70	80	90	100	6.00	10.80	12.97	10.80	3.00					
			16		60	70	80	90	100		10.00	13.80	15.97	13.80	4.00					
	E	X	6		60	70	80				2.00	3.80	5.97	4.80	3.50					
			8		60	70	80	90	100		3.00	5.80	7.97	5.80	5.00					
			10		60	70	80	90	100		3.00	7.80	9.97	7.80	5.00					
			13		60	70	80	90	100		6.00	10.80	12.97	10.80	5.00					
			16		70	80	90	100			10.00	13.80	15.97	13.80	5.00					
G		6		60	70	80				2.00	3.80	5.97	4.80	3.50						
		8		60	70	80	90	100		3.00	5.80	7.97	5.80	5.00						
		10		60	70	80	90	100		3.00	7.80	9.97	7.80	5.00						
		13		60	70	80	90	100		6.00	10.80	12.97	10.80	5.00						
		16		70	80	90	100			10.00	13.80	15.97	13.80	5.00						

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

Order **Catalog No.** — **L** — **P** — **W** — **R (R only)**
 GN—MPHDS 13 — 60 — P10.65 — W6.55

Days to Ship **Quotation**

Alterations **Catalog No.** — **L(LC)** — **P(PC)** — **W(WC)** — **R(R only)** — **(BC·PKC·LKC...etc.)**
 G—MPES 8 — LC65.5 — P7.00 — W4.00

Alterations	Code	(A)	D R E G	1Code										
Alterations to tip	PC WC	Tip dimension change $PC \geq P_{min}$ 0.01 mm increments (If combined with PKC, 0.001 mm increments can be selected.)	$PC \geq \frac{P \cdot W_{min}}{2} \geq 0.80$ $WC = \frac{P}{2} \geq 1.00$ Cannot be used for tip X. For TiCN coating: HW coating · DLC coating cannot be used.	<table border="1"> <tr> <th>P(PC)</th> <th>Bmax</th> </tr> <tr> <td>1.000~1.999</td> <td>20</td> </tr> <tr> <td>2.000~3.999</td> <td>35</td> </tr> <tr> <td>4.000~5.999</td> <td>45</td> </tr> <tr> <td>6.000~</td> <td>60</td> </tr> </table>	P(PC)	Bmax	1.000~1.999	20	2.000~3.999	35	4.000~5.999	45	6.000~	60
	P(PC)	Bmax												
	1.000~1.999	20												
	2.000~3.999	35												
	4.000~5.999	45												
	6.000~	60												
BC	Tip length change $2 \leq BC \leq B_{max}$ 0.1 mm increments Full length L must be at least 25mm 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.												
SC	Lapping of tip P dimension tolerance and increment are the same. With TiCN coating, the base material is finished before the coating is applied. HW coating and DLC foundation WPC® cannot be used. R=0 cannot be selected for the tip D corner.													
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·GC. It is PRC±0.1 for HW coating and DLC foundation WPC®.													
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·GC. HW coating and DLC foundation WPC® cannot be used.													

Price **Quotation**

Alterations	Code	(A)	D R E G	1Code
Alterations to tip	GC	$20^\circ \leq GC < 90^\circ$ 1° increments Tip length $B \geq f+2$ $f = P/2 \times \tan(90^\circ - GC^\circ)$ If combined with SC, tip edges are rounded. Cannot be combined with LKC·LKZ·PRC· PCC. HW coating and DLC foundation WPC® cannot be used.		
	PKC	Tip tolerance change $P +0.01$ $0 \rightarrow +0.005$ (P dimension can be selected in 0.001 mm increments.) TiCN coating cannot be used for D>13. Cannot be used for D>13 with HW coating.	Tip tolerance change $P-W \pm 0.01$ $0 \rightarrow +0.01$	
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 25mm or less, tip length is adjusted to (Full length-25mm). (If combined with LKC-LKZ, 0.01mm increments can be selected.)	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). (If combined with LKC-LKZ, 0.01mm increments can be selected.)	
	LKC LKZ	Full length tolerancechange $L +0.3$ $0 \rightarrow +0.05$	$L +0.3$ $0 \rightarrow +0.01$	Cannot be used with TiCN coating, HW coating and DLC foundation WPC®.

PUNCHES