

PILOT PUNCHES — FOR FIXING TO STRIPPER PLATE —

— TIP R AND TAPER COMBINED TYPE · MINUS HEAD TOLERANCE · TiCN COATING · HW COATING · DLC COATING —



Type	M	Catalog No.				Shape
		DLC coating	DLC foundation WPC®	TiCN coating Surface hardness 3000HV	HW coating Surface hardness 3000HV	
 RoHS	Equivalent to SKH51 61~64HRC	N-HTFPRF	NW-HTFPRF	H-HTFPRF	HW-HTFPRF	
	Powdered high-speed steel 64~67HRC	N-PTFPRF	NW-PTFPRF	H-PTFPRF	HW-PTFPRF	

Catalog No.		0.1mm increments		0.01mm increments (0.001mm increments for lapping)		B	H
Type	D	L	min.	P	max.		
DLC coating	DLC foundation WPC®	1.6	10.0 ~ 40.0	1.00	1.59	(4)	2.6
		2.0		1.00	1.99		3.0
2.5	1.50	2.49		3.5			
3	2.00	2.99		5			
4	2.00	3.99		7			
5	2.00	4.99		8			
6	2.50	5.99		9			
8	5.00	7.99		11			

$P > D - 0.03 \rightarrow \ell = 0$ If $P > D - 0.03$, $D_{-0.01}^{+0.01}$ (press-in lead) is not included. $B(4) \rightarrow$ If $L < 12$, tip length B is 2mm.
 The coating process also forms an extremely thin coating layer on the shank. $(Y) \rightarrow$ Tip Y length = $0.6 + \sqrt{(P - 0.2)(40.2 - P)/4}$
 $(RT=0)$ only can be selected. (However, lapping and HW coating cannot be used).

Features ● These pilot punches for fixing to stripper plates were developed for use with press dies that are used with thin workpieces.
 ● The under-head dimension F is highly accurate and the tip is smoothly rounded.

Alterations Catalog No. — L — P — (RT=0) — (BC...etc.)
 H-HTFPRF3 — 28.0 — P2.48 — — TC2.5

Alteration	Code	Spec.	1Code														
	PC	Tip diameter change $PC \geq P_{min}/2 \geq 1.00$ 0.01mm increments (With lapping, 0.001mm increments) (If combined with PKC, 0.001mm increments can be selected.)															
	BC	Tip length change $2 \leq BC \leq B_{max}$ 0.1mm increments Full length L must be at least 8mm longer than tip length BC.	<table border="1"> <tr> <th>P</th> <th>Bmax.</th> </tr> <tr> <td>1.000~1.199</td> <td>15</td> </tr> <tr> <td>1.200~1.999</td> <td>20</td> </tr> <tr> <td>2.000~</td> <td>24</td> </tr> </table>	P	Bmax.	1.000~1.199	15	1.200~1.999	20	2.000~	24						
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1.200~1.999	20																
2.000~	24																
	RLC	Tip R is cut flat. $3 \leq RLC < Y_{max}$ 0.1mm increments RT=0 cannot be selected.	<table border="1"> <tr> <th>P(PC)</th> <th>Ymax.</th> </tr> <tr> <td>1.000~1.499</td> <td>3</td> </tr> <tr> <td>1.500~2.499</td> <td>4</td> </tr> <tr> <td>2.500~3.499</td> <td>5</td> </tr> <tr> <td>3.500~4.999</td> <td>6</td> </tr> <tr> <td>5.000~6.999</td> <td>7</td> </tr> <tr> <td>7.000~7.990</td> <td>8</td> </tr> </table>	P(PC)	Ymax.	1.000~1.499	3	1.500~2.499	4	2.500~3.499	5	3.500~4.999	6	5.000~6.999	7	7.000~7.990	8
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	SC	Lapping of tip P dimension increment remains the same. The base material is finished before the coating is applied. RT=0 cannot be selected. Cannot be used with HW coating · foundation WPC®.															
	PKC	Tip diameter tolerance change $P +0.01_0 \rightarrow +0.005_0$ Lapping. P dimension can be selected in 0.001mm increments.															

Alteration	Code	Spec.	1Code
	LKC	Full length tolerance change $L \pm 0.05 \rightarrow +0.05_0$ F dimension tolerance $F +0.05_0 \rightarrow \pm 0.05$	
	HC	Head diameter change $D + 0.1 \leq HC < H$ 0.1mm increments	
	TC	Head thickness change $2 \leq TC < 3$ 0.1mm increments The full length remains as specified.	
	KC	Addition of single key flat to head	
	WKC	Addition of double key flats in parallel	
	TNK	Addition of undercut (Cut of 0.2 or less)	
	NDC	No press-in lead $\ell = 1 \rightarrow \ell = 0$	

Price **Quotation**

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**

Order Catalog No. — L — P — (RT=0)
 N-HTFPRF 2.0 — 28.0 — P1.90 — RT0
 H-HTFPRF 2.5 — 35.0 — P2.20
 (RT=0) only can be selected. (However, lapping and HW coating cannot be used).

Days to Ship **Quotation**

PILOT PUNCHES