



# PILOT PUNCHES FOR FIXING TO STRIPPER PLATES

— STRAIGHT · DLC COATING —



Type	M	Catalog No.	Shape
— Tip R type — <b>RoHS</b>	Equivalent to SKH51 61~64HRC Surface hardness 3000HV~	N—HTFR	<p>No. Ra 1.6 2.0 R≤0.2 2.5 3~ R≤0.5 Lapping range (B) P (B) 0.500~2.999 13 3.000~ 19</p>
			<p>⊙ RT (※) → If P&lt;8, tip is rounded for safety. To keep the sharp tip (no rounding), specify RT=0. (If P≥8 for tip R type, the tip end is flat. <b>P.1592</b>) ⊙ For the length of tip R, refer to the products data "Punch R length". <b>P.1592</b></p>
— Tapered tip type — <b>RoHS</b>	Equivalent to SKH51 61~64HRC Surface hardness 3000HV~	N—HTFT	<p>No. Ra 1.6 2.0 R≤0.2 2.5 3~ R≤0.5 Lapping range (B) P (B) 0.500~1.999 10° 2.000~ 15° Lapping range (B) P (B) 0.500~2.999 13 3.000~ 19</p>
			<p>⊙ RT (※) → If P&lt;8, tip is rounded for safety. To keep the sharp tip (no rounding), specify RT=0. (If P≥8 for tip R type, the tip end is flat. <b>P.1592</b>) ⊙ For the length of tip R, refer to the products data "Punch R length". <b>P.1592</b></p>
— Sharp tip angle type — <b>RoHS</b>	Equivalent to SKH51 61~64HRC Surface hardness 3000HV~	N—HTFA	<p>No. Ra 1.6 2.0 2.5 R≤0.2 3~ R≤0.5</p>
			<p>⊙ RT (※) → Tip is rounded for safety. To keep the sharp tip (no rounding), specify RT=0. ⊙ For the length of tip R, refer to the products data "Punch R length". <b>P.1592</b></p>

Catalog No.		0.1mm increments	0.01mm increments (0.001mm increments for lapping)	A	Y	H	
Type	No.	L	min. P max.				
Equivalent to SKH51 N—HTFR N—HTFT N—HTFA	1.6	10.0 ~ 40.0	1.00 ~ 1.60	(10)	2	2.6	
	2.0		1.00 ~ 2.00			3	
	2.5		1.50 ~ 2.50			3.5	
	3		2.00 ~ 3.00			5	
	4		3.00 ~ 4.00			7	
Powdered high-speed steel N—PTFR N—PTFT N—PTFA	5		4.00 ~ 5.00		(30)	3	8
	6		5.00 ~ 6.00				9
	8		6.00 ~ 8.00				11
	10		8.00 ~ 10.00				13
	13		10.00 ~ 13.00				16
	16		13.00 ~ 16.00	19			

⊙ A(10) → If P≥2.00, A10 cannot be selected.

Order **Catalog No.** — **L** — **P** — **A** — **(RT=0)**  
**R=0**  
 N—PTFR 6 — 18.2 — P5.80 — RT0  
 N—HTFT 6 — 18.3 — P5.73

**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**

- ⊙ **A** Can be used for sharp tip angle types only.
- ⊙ **RT=0** only can be selected. (Can be used for tip R types with P<8 and sharp tip angle types. However lapping cannot be used.)
- ⊙ **R=0** only can be selected. (Can be used for tapered tip types and sharp tip angle types. However lapping cannot be used.)

Days to Ship **Quotation**

Alterations **Catalog No.** — **L** — **P** — **A(AC)** — **(RT=0)** — (YC-GC-HC...etc.)  
 N—HTFA — 20.0 — P5.02 — AC18

Alteration	Code	Tip R type	Tapered tip and sharp tip angle types	1Code
Alterations to tip	RLC	Tip R is cut flat. 2≤RLC<Y<8 Y=√P(10-P/4) 0.1mm increments	—	—
	YC	—	Tip taper length change • P<2.0 1≤YC≤P×2.83-0.3 • P≥2.0 1≤YC≤P×1.86-0.3±18 0.1mm increments ⊙ Cannot be used for sharp tip angle types.	—
	GC	—	Tip angle change 1.000≤P≤1.999 →5°≤GC<10° 2.000≤P≤5.999 →5°≤GC<15° ⊙ Can be used with P1.000~5.999. ⊙ Can be used for No.2.5~No.6. YC≤P/2tanθ-0.3±18 ⊙ Cannot be used for sharp tip angle types.	—
	AC	—	Tip angle change 15°<AC≤45° 1° increments ⊙ Cannot be used for tapered tip types.	—
	SC	—	Lapping of tip ⊙ P dimension tolerance remains the same. ⊙ The base material is finished before the coating is applied. ⊙ R=0 and RT=0 cannot be selected.	—

Alteration	Code	Tip R type	Tapered tip and sharp tip angle types	1Code
Alterations to head	PKC	—	Tip diameter tolerance change P +0.01 → +0.005 ⊙ P dimension can be selected in 0.001mm increments.	—
	LKC	—	Full length tolerance change L +0.3 → +0.05 0 0	—
	HC	—	Head diameter change 2.6≤P≤HC<H 0.1mm increments	—
	KC	—	Addition of single key flat to head	—
	WKC	—	Addition of double key flats in parallel	—
Alterations to shank	TKC	—	Head thickness tolerance change T +0.3 → +0.02 0 0	—
	TKM	—	Head thickness tolerance change T +0.3 → -0.02 0 0	—
Alterations to shank	TNK	—	Addition of undercut (Cut of 0.2 or less) ⊙ Can be used for P≥1.00.	—
	FKC	—	F dimension tolerance change F +0.3 → +0.05 0 0 ⊙ Cannot be combined with LKC.	—

**P** Price **Quotation**

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