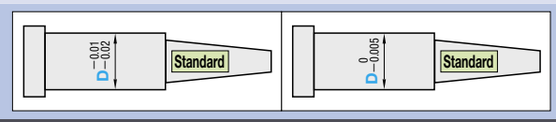
ONE- STEP CORE PINS

—TIP LAPPED • SHAFT DIAMETER (D) SELECTION • SHAFT DIAMETER TOLERANCE$^{-0.01}_{-0.02}$ / $_{-0.005}^{0}$ TYPE—



Non JIS material definition is listed on P.1351 - 1352

Enlarged photograph of tip

The tip of this product is lapped around the entire periphery.

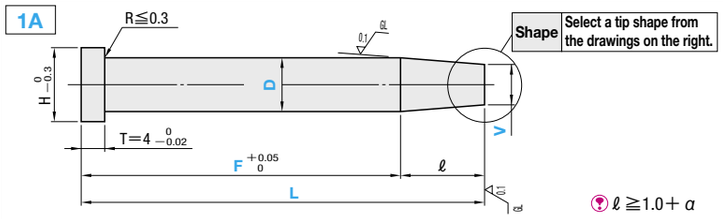
RoHS

M H T Shaft diameter・V・A	Part Number Type	Step	Shape
SKD61 equivalent 48～52HRC Shaft diameter tolerance D$^{-0.01}_{-0.02}$ V・A tolerance ±0.015	L—CPD—	1A	Not processed
		1B	C
		1C	G
SKH51 equivalent 58～60HRC Shaft diameter tolerance D$^{0}_{-0.005}$ V・A tolerance ±0.01	L—CPH—	1D	T
		1E	R
			B

When Step 1E, A tolerance is±0.02.

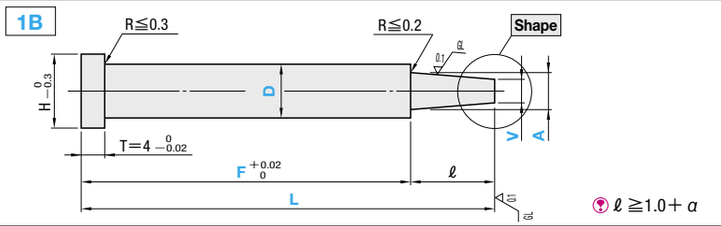
Step type selected from 1A ～ 1E below

1A



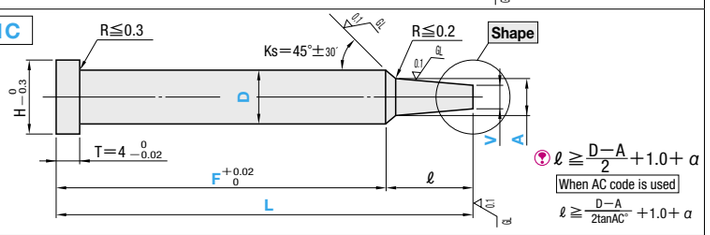
ℓ ≧1.0+ α

1B



ℓ ≧1.0+ α

1C

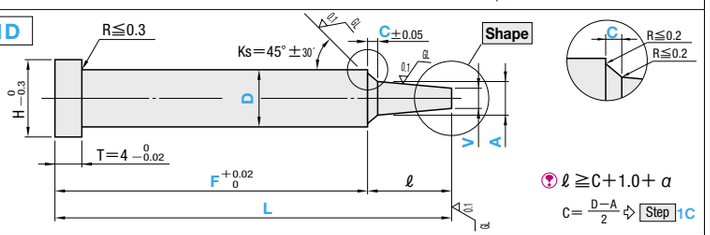


ℓ ≧ $\frac{D-A}{2}$ +1.0+ α

When AC code is used

ℓ ≧ $\frac{D-A}{2\tan AC°}$ +1.0+ α

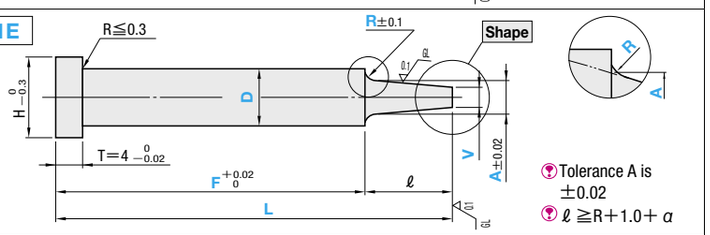
1D



ℓ ≧C+1.0+ α

C= $\frac{D-A}{2}$ ⇨ Step 1C

1E



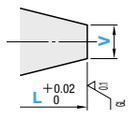
Tolerance A is ±0.02

ℓ ≧R+1.0+ α

Refer to the Shape drawing for L tolerance The ℓ dimension face and the tip face are lapped.

Shape (Tip shape: V is dimension before tip processing.)

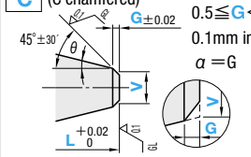
(Not processed)



Designation of the shape is unnecessary when tip processing is not required.

α =0

C (C chamfered)

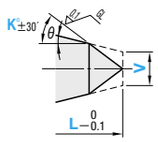


0.5≦G＜V/2

0.1mm increments

α =G θ ＜45°

G (Cone)

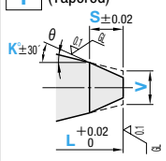


20＜K≦60

1° increments

α = $\frac{V}{2\tan K}$ θ ＜K

T (Tapered)



0.1≦S＜ $\frac{V}{2\tan K}$

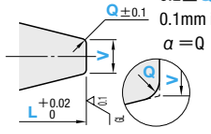
0.1mm increments

10≦K≦45

1° increments

α =S θ ＜K

R (R chamfered)

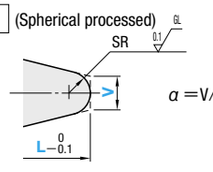


0.2≦Q＜V/2

0.1mm increments

α =Q

B (Spherical processed)



α =V/2

(Calculation of tip gradient θ P.1315)

Order

Part Number	L	F	A	V	C・R	Tip size (K・S・G・Q)
L—CPH—1A 5	58.00	F40.00		V4.50		
L—CPD—1A 5	58.00	F40.00		V4.50		

H	Part Number Type	Step	Shape	D	0.01mm increments L min.	L max.	F min.	F max.	A	Vmin.	0.1mm increments C	R	ℓmax.
3	Shaft diameter tolerance$^{-0.01}_{-0.02}$ L—CPD—	1A	Designation is unnecessary when tip processing is not required.	1.5	12.00	100.00	10.00	L—ℓmin. ℓmin. Refer to the Step drawing	D＞A≧V Step 1A D＞V No designation necessary for A	1.00	Only Step 1D designated C＜$\frac{D-A}{2}$ and ※0.1≦C≦4.0 ※When CVC code is used 0.50≦CVC≦1.00	Only Step 1E designated R≦$\frac{D-A}{2}$ and R≧0.2	A×6 and ℓ≦30
4				2									
5				2.5									
6		1B		3									
7		1C	C	3.5									
8	Shaft diameter tolerance$^{0}_{-0.005}$ L—CPH—	1D	G	4		120.00							
			T	4.5									
9		1E	R	5						1.50			
			B	5.5						2.00			
				6									

Price **Quotation** **Quotation**

Alterations

Part Number	L	F	A	V(VC)	C(CVC)	R(RE)	Tip size (K・S・G・Q)	(KC・WKC…etc.)
L—CPH—1EC6	50.00	F40.00	A5.00	V3.10		RE1.5	G1.0	HC8.0
L—CPD—1EC6	50.00	F40.00	A5.00	V3.10		RE1.5	G1.0	HC8.0

Alteration details P.441

Alterations	Code	Spec.	1Code
KC$^{0}_{-0.01}$	KC	Single flat cutting D/2≦KC＜H/2	
WKC$^{0}_{-0.01}$	WKC	Two flats cutting D/2≦WKC＜H/2	
KAC KBC	KAC	Varied width parallel flats cutting D/2≦KAC＜H/2 KBC=0.1mm increments only KAC＜KBC＜H/2	
RKC$^{0}_{-0.01}$	RKC	Two flats (right angled) cutting D/2≦RKC＜H/2	
DKC$^{0}_{-0.01}$	DKC	Three flats cutting D/2≦DKC＜H/2	
SKC$^{0}_{-0.01}$	SKC	Four flats cutting D/2≦SKC＜H/2	
AG° ±0.5 0° KGC	KGC	Two flats (angled) cutting D/2≦KGC＜H/2 0＜AG＜360 AG=1° increments	
120° 120° KTC$^{0}_{-0.01}$	KTC	Three flats cutting at 120° D/2≦KTC＜H/2	
H HC$^{0}_{-0.3}$	HC	Head diameter change HC=0.1mm increments D≦HC＜H In relation to the diameter tolerance, alteration may create a straight piece with little diameter difference between the head and shaft.	
H HCC$^{0}_{-0.02}$	HCC	Head diameter change (precision) HCC=0.1mm increments D+0.5≦HCC＜H−0.3	

About Designation Unit for Key Flat Cutting

(1)To align the key flat with the shaft diameter Unit of designation 0.05mm increments possible

(2)To designate arbitrary key flat dimensions Unit of designation 0.1mm

Quotation

Alterations	Code	Spec.	1Code
TC$^{0}_{-0.02}$ 4	TC	Head thickness change TC=0.1mm increments 1.5≦TC＜4 (Dimensions L and F remain unchanged.) 4—TC≦Lmax.—L	
	TRN	Relief under the head (No need for plate chamfering)	
A15 8	NHC	Numbering on the head How to order P.442 ⊗ Combination with SKC not available.	
RR	RR	Changes R (normally 0.2 or less) to R0.3～0.5. (Strength has been improved) Designation method RR Available for Step 1B/1C/1D D—A≧1.0 When Step 1D, C≧0.5	
AC°	AC	Changes the standard angle (Ks=45°) AC=1° increments Available for Step 1C/1D 30≦AC≦60 ⊗ Combination with CVC・RR not available When Step 1D, C≦1.0A+2(CXtanAC°)＜D	
CVC±0.02 45°	CVC	C dimension can be designated at 0.01mm increments. 0.50≦CVC≦1.00 Available for Step 1D CVC＜(D—A)/2 ⊗ Combination with AC not available.	
VC	VC	Vmin. is enlarged. VC=0.01mm increments ℓ≦AX5,ℓ≦25 (DX5) for Step 1A D＞A≧VC	D / Vmin. / VCmin.: 1.5 / 1.00 / 0.60; 3.5～4 / 1.00 / 0.70; 5.5 / 1.50 / 1.00; 6 / 2.00 / 1.50. ⊗ Regarding D=2～3, 4.5 and 5, Vmin. is the machining limit, and VC cannot be used.
RE	RE	R shape alteration (enlargement) RE=0.5mm increments 0.5≦RE≦2.0 F tolerance is $^{+0.05}_{0}$ Available for Step 1E	
t GS F GB	GVC	Gas vent machining GS・GB=1mm increments Available when D≧2 2≦GS≦10 GS 2≦GB≦30 Fmin.≦F—GB How to order P.442	

Quotation