Locating Pins for Fixtures

Precision Grade, Shouldered

Features: For Precision Grade, P Dim. Tolerance is $^{0}_{-0.01}$ or $^{0}_{-0.02}$ (for Standard Grade, $^{0}_{-0.05}$), concentricity is 0.01 or 0.02 (for Standard Grade, 0.03 or 0.05).

Threaded RoHS10

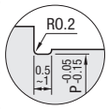
Type		M Material	H Hardness
LANAN	Round	EN 1.7220 Equiv.	Hardening 35~40HRC
LANDN	Diamond		
TLANAN	Round	EN 1.7242 Equiv.	Carburized 55HRC~ (depth 0.7 ~ 0.8) / Anti-carburizing on Threads
TLANDN	Diamond		

Reference: sin15°≈0.259 tan15°≈0.267

Type		M Material	H Hardness	S Surface Treatment
R-ANAN	Round	EN 1.7220 Equiv.	35~40HRC (Surface 750HV ~)	Hard Chrome Plating
R-ANDN	Diamond			
D-ANAN	Round	EN 1.2379 Equiv.	55HRC ~ (Surface 3000HV)	Dicoat® Treated
D-ANDN	Diamond			
H-ANAN	Round	EN 1.2379 Equiv.	55HRC ~ (Surface 3000HV)	TiCN Treatment
H-ANDN	Diamond			

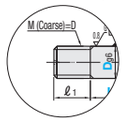
Dicoat® Treated / TiCN items will have the ( ) precision and Thread Shape will be 1.

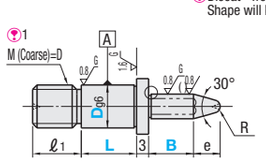
Surface Finish Relief

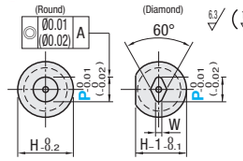


Relief dimensions are reference values.

1 Dicoat® Treated / TiCN Thread Shape







e=P/2/tan15°+R-(R/sin15°)

DicoatR Treated / TiCN Treated items do not come with a center hole.

Part Number Type		Dg6	P 0.1mm Increment	B 1mm Increment	L Selection	ℓ1	H	R	W	Unit Price LANAN	LANDN	TLANAN	TLANDN	R-ANAN	R-ANDN	D-ANAN	D-ANDN	H-ANAN	H-ANDN
Hardened (Round) LANAN	Carburized (Round) TLANAN	6 (-0.004 -0.012)	3.0~7.0	2~30 (B≤P×4)	5 8 10	6	9	1	1~2										
		8 (-0.005 -0.014)	3.0~9.0		5 8 10 12 15	10	11	1.5	1~2										
		10	4.5~12.0		(5) (8) 10 12 15	12	13	2	1~3										
		10T	4.5~12.0		(5) (8) 10 12 15	18	13	2	1~3										
(Diamond) LANDN	(Diamond) TLANDN	12 (-0.006 -0.017)	9.0~13.0		(8) 10 12 15 18	15	15	3	4										
		16	13.0~16.0		(10) 12 15 18 20	18	19	4	5										

W Dimension D6, D8: W=2 when P>5.0 D10, 10T: W=1 when P<5.0, W=2 when 5.0≤P≤7.0, W=3 when P>7.0 ⊗L dimension in ( ) is not applicable to Diamond Shape, Dicoat® and TiCN treatment.

B Dimension 5 mm ~ will be selected for Dicoat® Treated / TiCN Treated items.

Set Screw RoHS10

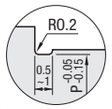
Type		M Material	H Hardness
LATAN	Round	EN 1.7220 Equiv.	Hardening 35~40HRC
LATDN	Diamond		
TLATAN	Round	EN 1.7242 Equiv.	Carburized Treated Hardness: 55HRC~ (Depth: 0.7 ~ 0.8) Anti-carburizing on Threads
TLATDN	Diamond		

Reference: sin15°≈0.259 tan15°≈0.267

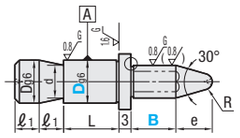
Type		M Material	H Hardness	S Surface Treatment
D-ATAN	Round	EN 1.2379 Equiv.	55HRC ~ (Surface 3000HV)	Dicoat® Treated
D-ATDN	Diamond			
R-ATAN	Round	EN 1.7220 Equiv.	35~40HRC (Surface 750HV ~)	Hard Chrome Plating
R-ATDN	Diamond			
H-ATAN	Round	EN 1.2379 Equiv.	55HRC ~ (Surface 3000HV)	TiCN Treatment
H-ATDN	Diamond			

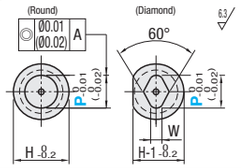
Dicoat® Treated/TiCN items will have the () precision and Thread Shape will be 1.

Surface Finish Relief



Relief dimensions are reference values.





e=P/2/tan15°+R-(R/sin15°)

Dicoat® Treated / TiCN Treated items do not come with a center hole.

Part Number Type		Dg6	P 0.1mm Increment	B 1mm Increment	L	ℓ1	H	d	R	Applicable Set Screw	W	Unit Price LATAN	LATDN	TLATAN	TLATDN	R-ATAN	R-ATDN	D-ATAN	D-ATDN	H-ATAN	H-ATDN
Hardened (Round) LATAN	Carburized (Round) TLATAN	6 (-0.004 -0.012)	3.0~7.0	2~30 (B≤P×4)	8	8	9	4	1	M5	1~2										
		8 (-0.005 -0.014)	3.0~9.0		8	8	11	5	1.5	M5	1~2										
		10	4.5~12.0		10	8	13	7	2	M6	1~3										
		10T	4.5~12.0		5	8	13	7	2	M6	1~3										
(Diamond) LATDN	(Diamond) TLATDN	12 (-0.006 -0.017)	9.0~13.0		12	10	15	9	3	M8	4										
		16	13.0~16.0		12	10	19	13	4	M8	5										

W Dimension D6, D8: W=2 when P>5.0 D10, 10T: W=1 when P<5.0, W=2 when 5.0≤P≤7.0, W=3 when P>7.0

B Dimension 5 mm ~ will be selected for Dicoat® Treated / TiCN Treated items.

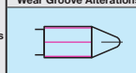
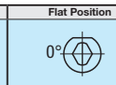
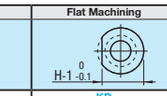
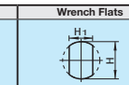
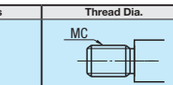
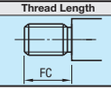
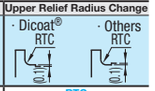
Ordering Example

Part Number								
Type	D	-	P	-	B	-	L
LANAN	8	-	P5.0	-	B15	-	L10
LATAN	6	-	P6.8	-	B14		

Alterations

Part Number: Type D - P - B - L - (KC, KD, SC, MC)

LANAN 10 - P4.5 - B10 - L5 - KD

	Wear Groove Alterations	Flat Position	Flat Machining	Wrench Flats	Thread Dia.	Thread Length	Upper Relief Radius Change
Alterations							
Code	MK	KC	KD	SC	MC	FC	RTC
Spec.	Drill 4 grooves at B Dimension. The wear and tear of the grooves indicate the degree of wears. Applicable to Hardening, Carburized and Round Shape Products only. Applicable when B ≥ 4. When used together with RTC, the groove starts from the area of R value + 1 mm. Groove Depth: 0.2mm (±0.05mm) Groove Shape: V Groove (90°)	Ordering Code KC. Changes the flat position to 90° from the standard position 0°. Applicable to Diamond Shape Type only.	Ordering Code KD. Machining on one side. H-P≥2. Applicable to Round Shape Type only.	Ordering Code SC. Adds wrench flats. H 9 11 13 15 19; H1 7 8 11 13 17. Applicable to Round Shape Type only.	Ordering Code MC8. Changes the thread diameter. D/3≤M<D Mmin3. Applicable to Threaded only.	Ordering Code FC15. Changes the thread length. FC=1mm Increment D6~10 :M≤FC≤Mx3 D12, 16:M≤FC≤Mx2.5 D20 :M≤FC≤Mx2. Applicable to Threaded only. Not applicable to Dicoat® and TiCN treatment.	Ordering Code RTC1. Changes the relief to the following radius R. Selection R1 R2 R3. RTC≤(H-P)/2. Applicable when B≥5

Locating Pins for Fixtures

Tip Shape Selectable, Precision Grade, Shouldered

Features: For Precision Grade, P Dim. Tolerance is $^{0}_{-0.01}$ or $^{0}_{-0.02}$ (for Standard Grade, $^{0}_{-0.05}$), concentricity is 0.01 or 0.02 (for Standard Grade, 0.03 or 0.05). Tip shape is selectable.

Threaded RoHS10

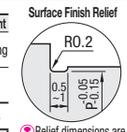
Type		M Material	H Hardness
SLANA	Round	EN 1.7220 Equiv.	Hardening 35~40HRC
SLAND	Diamond		
TSLANA	Round	EN 1.7242 Equiv.	Carburized 55HRC~ (depth 0.7 ~ 0.8) / Anti-carburizing on Threads
TSLAND	Diamond		

Reference: sin15°≈0.259 sin30°=0.5 sin45°=0.707 sin60°≈0.866 tan15°≈0.267 tan30°=0.577 tan45°=1 tan60°≈1.732

Type		M Material	H Hardness	S Surface Treatment
R-SANA	Round	EN 1.7220 Equiv.	35~40HRC (Surface 750HV ~)	Hard Chrome Plating
R-SAND	Diamond			
D-SANA	Round	EN 1.2379 Equiv.	55HRC ~ (Surface 3000HV)	Dicoat® Treated
D-SAND	Diamond			

Dicoat® Treated items will have the ( ) precision and Thread Shape will be 1.

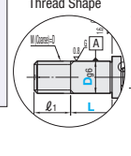
Surface Finish Relief

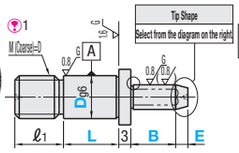


Relief dimensions are reference values.

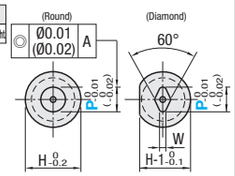
Only the Shape B Dicoat® Treated items do not come with a center hole.

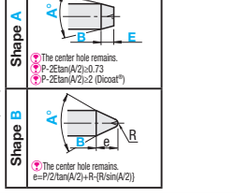
1 Dicoat® Treated Thread Shape





Tip Shape: Select from the diagram on the right.





Tip Shape Selectable

The center hole remains.
P-2Etan(A/2)≥0.73
P-2Etan(A/2)≥2 (Dicoat®)
The center hole remains.
e=P/2/tan(A/2)+R-(R/sin(A/2))

Part Number Type	Tip Shape	Dh7	P 0.1mm Increment	B 1mm Increment	L Selection	A Selection	E (Shape A) 1mm Increment	ℓ1	H	R	W	Unit Price SLANA	SLAND	TSLANA	TSLAND	R-SANA	R-SAND	D-SANA	D-SAND
Hardened (Round) SLANA	A (Tapered)	6 (-0.004 -0.012)	3.0~7.0	2~30 (B≤Px4)	5 8 10	*30	1~10	6	9	1	1~2								
		8 (-0.005 -0.014)	3.0~9.0		5 8 10 12 15	60		10	11	1.5	1~2								
		10	4.5~12.0		(5) (8) 10 12 15	90		12	13	2	1~3								
		10T	4.5~12.0		(5) (8) 10 12 15	120		18	13	2	1~3								
(Diamond) SLAND	(Diamond) TSLAND	12 (-0.006 -0.017)	9.0~13.0		(8) 10 12 15 18			15	15	3	4								
		16	13.0~16.0		(10) 12 15 18 20			18	19	4	5								

W Dimension D6, D8: W=2 when P>5.0 D10, 10T: W=1 when P<5.0, W=2 when 5.0≤P≤7.0, W=3 when P>7.0 ⊗L dimension in ( ) is not applicable to Diamond Shape and Dicoat® treatment.

⊗Angle A*30 is not applicable to Tip Shape B. Select from Precision Grade, Shouldered (**P.1693**).

Set Screw RoHS10

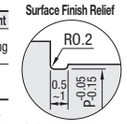
Type		M Material	H Hardness
SLATA	Round	EN 1.7220 Equiv.	Hardening 35~40HRC
SLATD	Diamond		
TSLATA	Round	EN 1.7242 Equiv.	Carburized 55HRC~ (depth 0.7 ~ 0.8) / Anti-carburizing on Threads
TSLATD	Diamond		

Reference: sin15°≈0.259 sin30°=0.5 sin45°=0.707 sin60°≈0.866 tan15°≈0.267 tan30°=0.577 tan45°=1 tan60°≈1.732

Type		M Material	H Hardness	S Surface Treatment
R-SATA	Round	EN 1.7220 Equiv.	35~40HRC (Surface 750HV ~)	Hard Chrome Plating
R-SATD	Diamond			
D-SATA	Round	EN 1.2379 Equiv.	55HRC ~ (Surface 3000HV)	DicoatR Treated
D-SATD	Diamond			

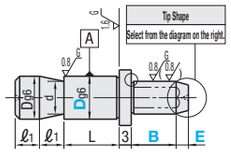
Dicoat® Treated items will have the ( ) precision and Thread Shape will be 1.

Surface Finish Relief

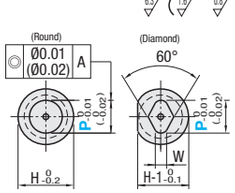


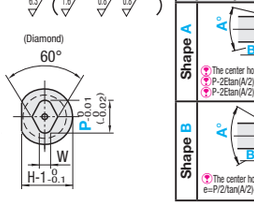
Relief dimensions are reference values.

Only the Shape B DicoatR Treated items do not come with a center hole.

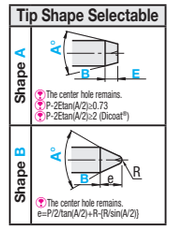


Tip Shape: Select from the diagram on the right.





Tip Shape Selectable



The center hole remains.
P-2Etan(A/2)≥0.73
P-2Etan(A/2)≥2 (Dicoat®)
The center hole remains.
e=P/2/tan(A/2)+R-(R/sin(A/2))

Part Number Type	Tip Shape	Dh7	P Configurable 0.1mm Increment	B Configurable 1mm Increment	A Selection	E (Shape A) 1mm Increment	L	ℓ1	H	d	R	Applicable Set Screw	W	Unit Price SLATA	SLATD	TSLATA	TSLATD	R-SATA	R-SATD	D-SATA	D-SATD
Hardened (Round) SLATA	A (Tapered)	6 (-0.004 -0.012)	3.0~7.0	2~30 (B≤Px4)	*30	1~10	8	8	9	4	1	M5	1~2								
		8 (-0.005 -0.014)	3.0~9.0		60		8	8	11	5	1.5	M5	1~2								
		10	4.5~12.0		90		10	8	13	7	2	M6	1~3								
		10T	4.5~12.0		120		5	8	13	7	2	M6	1~3								
(Diamond) SLATD	(Diamond) TSLATD	12 (-0.006 -0.017)	9.0~13.0				12	10	15	9	3	M8	4								
		16	13.0~16.0				12	10	19	13	4	M8	5								

W Dimension D6, D8: W=2 when P>5.0 D10, 10T: W=1 when P<5.0, W=2 when 5.0≤P≤7.0, W=3 when P>7.0 ⊗Angle A*30 is not applicable to Tip Shape B. Select from Standard Grade, Shouldered (**P.1693**).

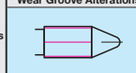
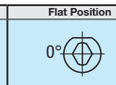
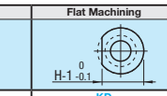
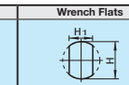
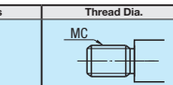
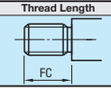
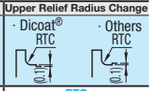
B Dimension 5 mm ~ will be selected for Dicoat® Treated / TiCN Treated items.

Part Number												
Type	Tip Shape	D	-	P	-	B	-	L	-	A	-	E
SLANA	A	6	-	P6.8	-	B14	-	L8	-	A30	-	E2
SLATA	B	8	-	P7.5	-	B15	-			A60		

Alterations

Part Number: Type Tip Shape D - P - B - L - A - E - (KC, KD, SC, MC)

R-SANA B 10 - P4.5 - B10 - L5 - A60 - - KD

	Wear Groove Alterations	Flat Position	Flat Machining	Wrench Flats	Thread Dia.	Thread Length	Upper Relief Radius Change
Alterations							
Code	MK	KC	KD	SC	MC	FC	RTC
Spec.	Drill 4 grooves at B Dimension. The wear and tear of the grooves indicate the degree of wears. Applicable to Hardening, Carburized and Round Shape Products only. Applicable when B ≥ 4. When used together with RTC, the groove starts from the area of R value + 1 mm. Groove Depth: 0.2mm (±0.05mm) Groove Shape: V Groove (90°)	Ordering Code KC. Changes the flat position to 90° from the standard position 0°. Applicable to Diamond Shape Type only.	Ordering Code KD. Machining on one side. H-P≥2. Applicable to Round Shape Type only.	Ordering Code SC. Adds wrench flats. H 9 11 13 15 19; H1 7 8 11 13 17. Applicable to Round Shape Type only.	Ordering Code MC8. Changes the thread diameter. D/3≤M<D Mmin3. Applicable to Threaded only.	Ordering Code FC15. Changes the thread length. FC=1mm Increment D6~10 :M≤FC≤Mx3 D12, 16:M≤FC≤Mx2.5 D20 :M≤FC≤Mx2. Applicable to Threaded only. Not applicable to Dicoat® and TiCN treatment.	Ordering Code RTC1. Changes the relief to the following radius R. Selection R1 R2 R3. RTC≤(H-P)/2. Applicable when B≥5