


Full Length Hardness Guaranteed Shafts

One End / Both Ends Tapped, Short

Features: Other shaft products may suffer from lowered hardness due to annealing required for tapping. The "Full Length Hardness Guaranteed" shafts maintain the case hardness over the entire length, well suited for short stroke applications.



RoHS10

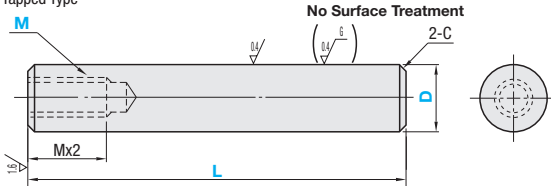
Features of Low Temp. Black Chrome Plating

P.128

L Dimension Tolerance, Circularity, Straightness, Perpendicularity, Concentricity and Changes in Hardness P.111

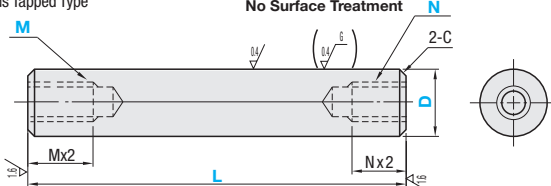
Type	D Tol.	Material	Hardness	Surface Treatment
One End Tapped	g6	SUJ2 SUS440C Equivalent	Effective Hardened Depth of Induction Hardening P.112 SUJ2 58HRC~ SUS440C Equivalent 56HRC~	Low Temp. Black Chrome Plating
SFAT				
SSFAW				
RSFAT				

One End Tapped Type



No Surface Treatment

Both Ends Tapped Type



No Surface Treatment

D Tol.
6 -0.004 -0.012
8 -0.005 -0.014
10 -0.006 -0.017
12 -0.006 -0.017
13 -0.006 -0.017
15 -0.006 -0.017
16 -0.007 -0.020
18 -0.007 -0.020
20 -0.007 -0.020

Part Number		L specified in 1mm Increment	M (Coarse), N (Coarse) Selection								C			
Type	D													
One End Tapped SFAT SSFAT RSFAT	Both Ends Tapped	6	20~150		3						0.5 or Less			
	8	20~150		3			4	5						
	10	20~150		3			4	5	6					
	12	20~150					4	5	6	8				
	13	25~150					4	5	6	8				
	15	25~150					4	5	6	8		10		
	16	30~150					4	5	6	8		10		
	18	30~150					4	5	6	8	10	12		
		20	30~150					4	5	6	8	10	12	1.0 or Less

L requires Mx2+Nx2≤L.
When Mx2.5+4+Nx2.5+4≥L, tap pilot holes may go through.

Ordering Example

Part Number

-

L

-

M

-

N

SFAT20

-

80

-

M6

-

N10

SSFAW15

-

100

-

M6

-

N10

Alterations

Part Number

-

L

-

M (MSC, MD)

-

N (NSC, ND)

-

(LKC)

SSFAW16

-


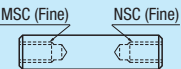
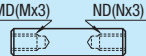
120

-

MSC8

-

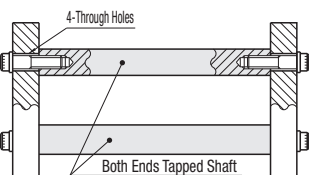
NSC10

Alterations	Code	Spec.	Alterations	Code	Spec.																														
	LKC	L Dimension Tolerance Change (Precision) <u>[Ordering Code]</u> LKC L dimensions can be specified in 0.1mm increment for LKC. 🔴 L<150 ...→L±0.03		MSC NSC	Change to Fine Tapped Thread 🔴 Applicable to D=12 or more <u>[Ordering Code]</u> MSC14 (M is changed to MSC) NSC14 (N is changed to NSC) <table border="1" data-bbox="993 1676 1190 1769"><thead><tr><th>D</th><th colspan="4">MSC, NSC</th></tr></thead><tbody><tr><td>12, 13</td><td>8</td><td>10</td><td colspan="2"></td></tr><tr><td>15, 16</td><td>8</td><td>10</td><td colspan="2"></td></tr><tr><td>18</td><td>8</td><td>10</td><td>12</td><td></td></tr><tr><td>20</td><td>8</td><td>10</td><td>12</td><td>14</td></tr><tr><td>Pitch</td><td>1.0</td><td>1.25</td><td colspan="2">1.5</td></tr></tbody></table> 🔴 M(N) dimensions are equal to MSC (NSC).	D	MSC, NSC				12, 13	8	10			15, 16	8	10			18	8	10	12		20	8	10	12	14	Pitch	1.0	1.25	1.5	
D	MSC, NSC																																		
12, 13	8	10																																	
15, 16	8	10																																	
18	8	10	12																																
20	8	10	12	14																															
Pitch	1.0	1.25	1.5																																
	MD ND	Change the effective tap depth to M(N)x3. <u>[Ordering Code]</u> MD6/ND6 (M is changed to MD, N is changed to ND) <u>[Application Notes]</u> Only applicable to D=6~30, M=6~20 🔴 One End Tapped: MDx3.5+4≥L 🔴 Both Ends Tapped: MDx3.5+4+NDx3.5+4≥L																																	

Part Number		Unit Price					
Type	D	Min. L ~ 40	L41~60	L61~80	L81~100	L101~125	L126~150
SFAT	6						
	8						
	10						
	12						
	13						
	15, 16						
SSFAW	6						
	8						
	10						
	12						
	13						
	15, 16						
RSFAW	6						
	8						
	10						
	12						
	13						
	15, 16						
SFAW	6						
	8						
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SSFAW	6						
	8						
	10						
	12						
	13						
	15, 16						
RSFAW	6						
	8						
	10						
	12						
	13						
	15, 16						

Example



As Full Length Hardness Guaranteed Shafts cause no hardness loss, they are well suited for short stroke sliding.

Features of Low Temp. Black Chrome Plating

Low temp. black chrome plating (1μ ~ 2μ thickness) applied on shafts has highly anti-rusting effect with thin black film. Even hairpin-shaped bending won't cause cracks. Plating won't be flaked by repeat bending. Shaft O.D. tolerance remains g6 after low temp. black chrome plating is applied. Works well with linear bushings and suitable for places where rusting is to be avoided. Suitable for places where light reflections are undesirable, when used in combination with low temp. black chrome plated linear bushing.



Ordering Example

See each product page for details.

Alterations

See each product page for details.

Sliding Test Conditions
Linear Bushings: LMUR12
Shafts: RSFJ12
50km sliding test was conducted on Linear Bushings under 412N load.

Low Temp. Black Chrome Plated Shafts (Regular Products):		
Material	Applicable Shaft Diameter	Applicable Shaft Length
SUJ2	Ø3~Ø30	Up to 500

High Precision Linear Shafts:		
Material	Applicable Shaft Diameter	Applicable Shaft Length
SUJ2	Ø4~Ø30	Up to 448
SUS440C Equivalent		

Full Length Hardness Guaranteed Shafts:		
Material	Applicable Shaft Diameter	Applicable Shaft Length
SUJ2	Ø6~Ø20	Up to 150

(Note 1) Wiping low temp. black chrome plated products with solvents may result in loss of color but its anti-rust property will be unaffected. Color will settle over a month and become resistant to discoloration.
(Note 2) Tapped threads will not be coated with Low Temp. Black Chrome Plating.
(Note 3) Low temp. black chrome plated shafts may have centering holes on the ends for surface treatment.