


# Full Length Hardness Guaranteed Shafts

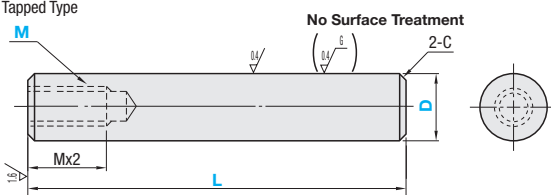
One End / Both Ends Tapped, Short

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.

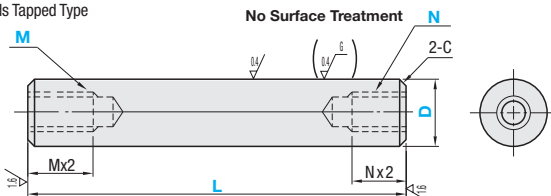


Type	D Tol.	Material	Hardness	Surface Treatment
One End Tapped	g6	SUJ2 Equivalent SUS440C or 13Cr stainless	Effective Hardened Depth of Induction Hardening <b>P.112</b> SUJ2 Equivalent 58HRC~ SUS440C or 13Cr stainless 56HRC~	Low Temp. Black Chrome Plating
Both Ends Tapped				
SFAT SFAW				
SSFAT SSSFAW				
RSFAT RSFAW				

One End Tapped Type



Both Ends Tapped Type



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

RoHS10

Features of Low Temp. Black Chrome Plating

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

Part Number Type	D	L specified in 1mm Increment	M (Coarse), N (Coarse) Selection					C			
One End Tapped SFAT SSFAT RSFAT	Both Ends Tapped SFAW SSFAW RSFAW	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
					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

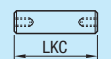
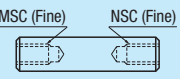
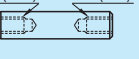
SFAT20 - 80 - M6 - N10

SFAW15 - 100 - M6 - N10

Alterations

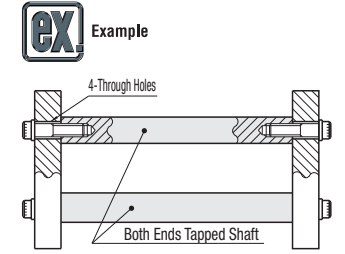
Part Number - L - M (MSC, MD) - N (NSC, ND) - (LKC)

SFAW16 - 120 - MSC8 - NSC10

Alterations	Code	Spec.	Alterations	Code	Spec.
	LKC	L Dimension Tolerance Change (Precision) [Ordering Code] 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 [Ordering Code] MSC14 (M is changed to MSC) NSC14 (N is changed to NSC)
	MD ND	Change the effective tap depth to M(N)x3. [Ordering Code] MD6/ND6 (M is changed to MD, N is changed to ND) [Application Notes] 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			M(N) dimensions are equal to MSC (NSC).

Part Number Type	D	Unit Price					
		Min. L ~ 40	L41-60	L61-80	L81-100	L101-125	L126-150
SFAT	6						
	8						
	10						
	12						
	13						
	15, 16, 18, 20						
SSFAT	6						
	8, 10						
	12, 13						
	15, 16						
	18, 20						
	20						
RSFAT	6						
	8						
	10						
	12						
	13						
	15, 16, 18, 20						
SFAW	6						
	8						
	10						
	12						
	13						
	15, 16, 18, 20						

Part Number Type	D	Unit Price					
		Min. L ~ 40	L41-60	L61-80	L81-100	L101-125	L126-150
SSFAT	6						
	8, 10						
	12, 13						
	15, 16						
	18, 20						
	20						
RSFAW	6						
	8						
	10						
	12						
	13						
	15, 16, 18, 20						



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 Equivalent	Ø3~Ø30	Up to 500

### High Precision Linear Shafts:

Material	Applicable Shaft Diameter	Applicable Shaft Length
SUJ2 Equivalent	Ø4~Ø30	Up to 448
SUS440C or 13Cr stainless		

### Full Length Hardness Guaranteed Shafts:

Material	Applicable Shaft Diameter	Applicable Shaft Length
SUJ2 Equivalent	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.