


Full Length Hardness Guaranteed Shafts

One End / Both Ends Tapped Short Types

Full Length Hardness Guaranteed Shafts –One End / Both Ends Tapped Short Types

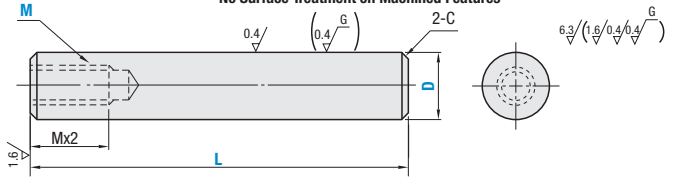


RoHS10

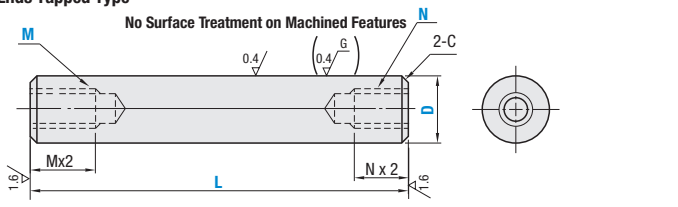
ⓘ Features of Low Temperature Black Chrome Plating, P.213.
ⓘ Changes in Circularity, Straightness, Perpendicularity, concentricity and Hardness. P.198

Type		D Tolerance	Material	Hardness	Surface Treatment
One End Tapped	Both Ends Tapped				
SFAT	SFAW	g6	52100 Bearing Steel Equivalent	Effective Hardened Depth of Induction Hardened P.199 52100 Bearing Steel Equivalent 58 HRC min.	—
SSFAT	SSFAW		SUS440C (13Cr) Stainless Steel Equivalent		
RSFAT	RSFAW		52100 Bearing Steel Equivalent	SUS440C (13Cr) Stainless Steel Equivalent 56 HRC min.	

One End Tapped Type



Both Ends Tapped Type



D Tolerance

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

Part Number		L		M (Coarse Threads) / N (Coarse Threads)					C
Type	D	1 mm Increment							
One End Tapped Type SFAT SSFAT RSFAT	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	
	20	30–150		4	5	6	8	10	
									1.0 or Less

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

Part Number Example

Part Number - L - M - N

SFAT20 - 80 - M6

SFAW15 - 100 - M6 - N10

Feature: Other shaft products may suffer from lowered hardness areas 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.

Full Length Hardness Guaranteed Shafts

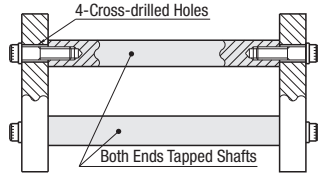
One End / Both Ends Tapped Short Types, *continued*

Part Number Alterations

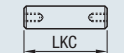
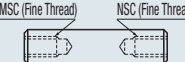
Part Number - L - M (MSC) - N (NSC) - (LKC...etc.)

SSFAW16 - 120 - MSC8 - NSC10

Application Example



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

Alterations	Code	Spec.																														
	LKC	L Dimension Tolerance Changes (Precision) Ordering Code: LKC L dimensions can be specified in 0.1 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) <table><thead><tr><th>D</th><th colspan="4">MSC, NSC</th></tr></thead><tbody><tr><td>12, 13</td><td>8</td><td></td><td></td><td></td></tr><tr><td>15, 16</td><td>8</td><td>10</td><td></td><td></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>1.5</td><td></td></tr></tbody></table> ⓘ M (N) dimensions are equal to MSC (NSC).	D	MSC, NSC				12, 13	8				15, 16	8	10			18	8	10	12		20	8	10	12	14	Pitch	1.0	1.25	1.5	
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Features of Low Temperature Black Chrome Plating

Low temperature black chrome plating (1–2 μ thickness) applied on shafts has highly anti-rusting effect with thin black film. Even hairpin-shaped bending won't cause cracks. Plating won't flake from repeat bending. Shaft O.D. tolerance remains g6 after low temperature 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 temperature black chrome plated linear bushing.



Part Number Example

See each product page for details.

Part Number Alterations

See each product page for details.

Sliding Test Conditions

Linear Bushings: LMUR12
Shafts: RSFJ12
50 km 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
52100 Bearing Steel Equivalent	Ø3–Ø30	Up to 500

High Precision Linear Shafts

Material	Applicable Shaft Diameter	Applicable Shaft Length
52100 Bearing Steel Equivalent	Ø4–Ø30	Up to 448
SUS440C (13Cr) Stainless Steel Equivalent		

Full Length Hardness Guaranteed Shafts

Material	Applicable Shaft Diameter	Applicable Shaft Length
52100 Bearing Steel Equivalent	Ø6–Ø20	Up to 150

Note 1: Wiping low temperature 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 Temperature Black Chrome Plating.

Note 3: Low temperature black chrome plated shafts may have centering holes on the ends for surface treatment.