



## LINEAR SHAFTING

Universal application as guide ways for ball bushings.

- Induction hardened and ground precision shafting in Tolerance h6 or h7.I
- Steel grade CF 53 Super Finish
- Hardness 63 ± 2 Rockwel
- Stainless
- Hollow Grade 100 CR 6
- Supplied as cut length, fully machined, or random lengths

Typically used in construction of Machine Tools, Presses, Plastic Moulding and Die Casting Machines, Textile Machinery, Printing and Packaging Machines or wherever

low friction and high precision are design criterias.

Click for relevant Product below

### Linear Shafting

CF53 Steel, Induction Hardened.

CF53 Steel Hard Chrome Plated, Induction Hardened

X90 Stainless Steel, Induction Hardened.

X46 Stainless Steel, Induction Hardened.

Hollow Steel 100 CR6, Induction Hardened.

### Associated Products

Non Linear general engineering specifications.

Ball Screws.

Aluminium Shaft supports & End supports.

Linear Guideways.

Linear Ball Bushings.

Click for Material Specifications Charts



## LINEAR SHAFTING (METRIC & INCH)



### Linear Shafts

### Examples of Induction Hardened Shafts with machined ends

**Materials:** CF53 Steel, Induction Hardened.  
 CF53 Steel Hard Chrome Plated, Induction Hardened.  
 X90 Stainless Steel, Induction Hardened.  
 X46 Stainless Steel, Induction Hardened.  
 Hollow Steel 100 CR6, Induction Hardened.

**Finish:** Precision Ground & polished to 8-12 Micro Inches Ra.

**Associated Products:** Non Linear general engineering specifications.  
 Ball Screws.  
 Aluminium Shaft supports & End supports.  
 Linear Guideways.  
 Linear Ball Bushings.

**When ordering:** Please state: **Material + O.D + Length + any machining required**

All data is correct to the best of our knowledge, however Headland cannot be held responsible for any errors or omissions.

Nominal Diameter O.D.		Tolerance mm		Tolerance inch		Roundness inch		Minimum Hardness		Random Lengths	
mm	inch	h6	h7	"L"	"S"	"L"	"S"	mm	inch	mm	feet
5		0 / -0.008	0 / -0.012					1.0		6000	
6		0 / -0.008	0 / -0.012					1.0		6000	
	1/4			.2495	.2490						
				.2490	.2485	0.00015	0.0003		0.45		20.0
8		0 / -0.009	0 / -0.015					1.0		6000	
	3/8			.3745	.3740						
				.3740	.3735	0.00015	0.0003		0.045		20.0
10		0 / -0.009	0 / -0.015					1.0		6000	
12		0 / -0.011	0 / -0.018					1.0		6000	
	1/2			.4995	.4990						
				.4990	.4985	0.00025	0.0003		0.06		20.0
14		0 / -0.011	0 / -0.018					1.0		6000	
	5/8			.6245	.6240						
				.6240	.6235	0.00025	0.0003		0.06		20.0
16		0 / -0.011	0 / -0.018					1.0		6000	
	3/4			.7495	.7490						
				.7490	.7485	0.00025	0.0003		0.09		20.0
20		0 / -0.013	0 / -0.021					1.8		6000	
25		0 / -0.013	0 / -0.021					1.8		6000	
	1			.9995	.9990						
				.9990	.9985	0.00025	0.0003		0.09		20.0
30		0 / -0.013	0 / -0.021					2.0		6000	
	1 1/4			1.2495	1.2490						
				1.2490	1.2485	0.00025	0.0003		0.110		20.0
	1 1/2			1.4494	1.4989						
				1.4989	1.4984	0.00025	0.0003		0.110		20.0
40		0 / -0.016	0 / -0.025					2.5		6000	
50		0 / -0.016	0 / -0.025					2.5		6000	
	2			1.9994	1.9987						
						0.00025	0.0003		0.11		20.0

				1.9987	1.9980						
60		0 / -0.019	0 / -0.030					3.0		6000	
	2 1/2			2.4993	2.4985	0.00032	0.0004		0.11		20.0
				2.4985	2.4977						
70		0 / -0.019	0 / -0.030					3.0		6000	
80		0 / -0.019	0 / -0.030					3.0		6000	
100		0 / -0.022	0 / -0.035					3.3		6000	

## MATERIAL SPECIFICATIONS CHART

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### Precision Steel Shafts

MATERIAL		COMPOSITION %						
Number	Type of Steel	C	Si	Mn	P	S	CR	MO
CF53	Induction Hardening	0.50 / 0.57	0.15 / 0.35	0.40 / 0.70	0.035	0.035	N/A	N/A

Hardness: 63/65 RC  
Tolerance: h6 or h7

### Stainless Steel Shafts

MATERIAL		COMPOSITION %						
Number	Type of Steel	C	Si	Mn	P	S	CR	MO
1.4112	X90 CR MOV 18	0.85 / 0.95	1.0	1.0	0.045	0.030	17.00 / 19.00	1.00 / 1.30
1.4034	X46 CR 13	0.40 / 0.50	1.0	1.0	0.045	0.030	12.00 / 14.00	N/A

Hardness: 52/56 RC  
Tolerance: h6 or h7

### Induction Hardened Hollow Shafts

MATERIAL		COMPOSITION %						
Number	Type of Steel	C	Si	Mn	P	S	CR	MO
1.2067	100 CR 6	0.95 / 1.05	1.15 / 1.35	0.25 / 1.70	0.035	0.035	1.40 / 1.70	N/A

Hardness: 60/64 RC  
Depth of Hardness: 1-2mm  
Surface finish: 0.3mm  
Tolerance: h6 or h7