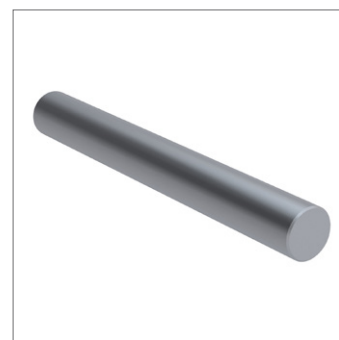
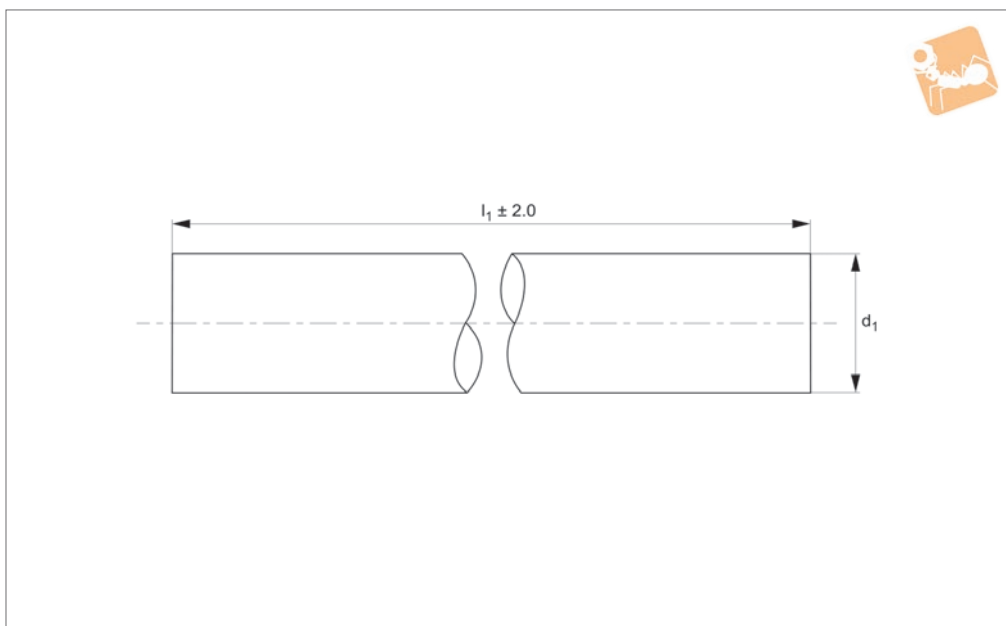




# Ø40 Hardened Stainless Shafts for linear bearings

## Linear Shaft Bars



**L1772.40**

LINEAR SHAFT BARS

### Material

Corrosion resistant stainless steel (440C, DIN 1.4112, X90 CrMo18) hardened.  
Surface hardness 53-56 HRC, Rht 450Hv2.  
Surface finish 0.3-0.6µ Ra, ground and polished to 8-12 cla.  
Yield stress: >420 N/mm<sup>2</sup>.

Tensile strength: >785 N/mm<sup>2</sup>.

### Technical Notes

Suitable for use with linear bearings.  
Tolerance, h6 standard, special tolerances on request.  
Straightness 0,1mm/m.

### Tips

Modifications, drilled and tapped holes, retainer grooves, special coatings etc. are available.  
Shaft lengths are cut to typically ± 2mm, ends are not hardened.

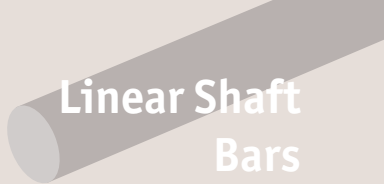
Order No.	d <sub>1</sub> tol. h6	l <sub>1</sub>	Depth of hardness min.	Weight kg
L1772.40-0100	40	100	1.5	0.987
L1772.40-0150	40	150	1.5	1.481
L1772.40-0200	40	200	1.5	1.974
L1772.40-0250	40	250	1.5	2.468
L1772.40-0300	40	300	1.5	2.961
L1772.40-0350	40	350	1.5	3.455
L1772.40-0400	40	400	1.5	3.948
L1772.40-0450	40	450	1.5	4.442
L1772.40-0500	40	500	1.5	4.935
L1772.40-0550	40	550	1.5	5.429
L1772.40-0600	40	600	1.5	5.922
L1772.40-0650	40	650	1.5	6.416
L1772.40-0700	40	700	1.5	6.909
L1772.40-0750	40	750	1.5	7.403
L1772.40-0800	40	800	1.5	7.896
L1772.40-0850	40	850	1.5	8.390
L1772.40-0900	40	900	1.5	8.883
L1772.40-0950	40	950	1.5	9.377
L1772.40-1000	40	1000	1.5	9.870
L1772.40-1050	40	1050	1.5	10.364
L1772.40-1100	40	1100	1.5	10.857
L1772.40-1150	40	1150	1.5	11.351
L1772.40-1200	40	1200	1.5	11.844
L1772.40-1250	40	1250	1.5	12.338
L1772.40-1300	40	1300	1.5	12.831
L1772.40-1350	40	1350	1.5	13.325
L1772.40-1400	40	1400	1.5	13.818
L1772.40-1450	40	1450	1.5	14.312
L1772.40-1500	40	1500	1.5	14.805
L1772.40-1550	40	1550	1.5	15.299
L1772.40-1600	40	1600	1.5	15.792



Order No.	d <sub>1</sub> tol. h6	l <sub>1</sub>	Depth of hardness min.	Weight kg
L1772.40-1650	40	1650	1.5	16.286
L1772.40-1700	40	1700	1.5	16.779
L1772.40-1750	40	1750	1.5	17.273
L1772.40-1800	40	1800	1.5	17.766
L1772.40-1850	40	1850	1.5	18.260
L1772.40-1900	40	1900	1.5	18.753
L1772.40-1950	40	1950	1.5	19.247
L1772.40-2000	40	2000	1.5	19.740
L1772.40-2050	40	2050	1.5	20.234
L1772.40-2100	40	2100	1.5	20.727
L1772.40-2150	40	2150	1.5	21.221
L1772.40-2200	40	2200	1.5	21.714
L1772.40-2250	40	2250	1.5	22.208
L1772.40-2300	40	2300	1.5	22.701
L1772.40-2350	40	2350	1.5	23.195
L1772.40-2400	40	2400	1.5	23.688
L1772.40-2450	40	2450	1.5	24.182
L1772.40-2500	40	2500	1.5	24.675
L1772.40-2550	40	2550	1.5	25.169
L1772.40-2600	40	2600	1.5	25.662
L1772.40-2650	40	2650	1.5	26.156
L1772.40-2700	40	2700	1.5	26.649
L1772.40-2750	40	2750	1.5	27.143
L1772.40-2800	40	2800	1.5	27.636
L1772.40-2850	40	2850	1.5	28.130
L1772.40-2900	40	2900	1.5	28.623
L1772.40-2950	40	2950	1.5	29.117
L1772.40-3000	40	3000	1.5	29.610
L1772.40-3050	40	3050	1.5	30.104
L1772.40-3100	40	3100	1.5	30.597
L1772.40-3150	40	3150	1.5	31.091
L1772.40-3200	40	3200	1.5	31.584
L1772.40-3250	40	3250	1.5	32.078
L1772.40-3300	40	3300	1.5	32.571
L1772.40-3350	40	3350	1.5	33.065
L1772.40-3400	40	3400	1.5	33.558
L1772.40-3450	40	3450	1.5	34.052
L1772.40-3500	40	3500	1.5	34.545
L1772.40-3550	40	3550	1.5	35.039
L1772.40-3600	40	3600	1.5	35.532
L1772.40-3650	40	3650	1.5	36.026
L1772.40-3700	40	3700	1.5	36.519
L1772.40-3750	40	3750	1.5	37.013
L1772.40-3800	40	3800	1.5	37.506
L1772.40-3850	40	3850	1.5	38.000
L1772.40-3900	40	3900	1.5	38.493
L1772.40-3950	40	3950	1.5	38.987
L1772.40-4000	40	4000	1.5	39.480
L1772.40-4050	40	4050	1.5	39.974
L1772.40-4100	40	4100	1.5	40.467
L1772.40-4150	40	4150	1.5	40.961
L1772.40-4200	40	4200	1.5	41.454
L1772.40-4250	40	4250	1.5	41.948
L1772.40-4300	40	4300	1.5	42.441
L1772.40-4350	40	4350	1.5	42.935
L1772.40-4400	40	4400	1.5	43.428
L1772.40-4450	40	4450	1.5	43.922
L1772.40-4500	40	4500	1.5	44.415
L1772.40-4550	40	4550	1.5	44.909
L1772.40-4600	40	4600	1.5	45.402
L1772.40-4650	40	4650	1.5	45.896
L1772.40-4700	40	4700	1.5	46.389
L1772.40-4750	40	4750	1.5	46.883
L1772.40-4800	40	4800	1.5	47.376
L1772.40-4850	40	4850	1.5	47.870
L1772.40-4900	40	4900	1.5	48.363
L1772.40-4950	40	4950	1.5	48.857
L1772.40-5000	40	5000	1.5	49.350



# Ø40 Hardened Stainless Shafts for linear bearings



## Linear Shaft Bars

Order No.	d <sub>1</sub> tol. h6	l <sub>1</sub>	Depth of hardness min.	Weight kg
L1772.40-5050	40	5050	1.5	49.844
L1772.40-5100	40	5100	1.5	50.337
L1772.40-5150	40	5150	1.5	50.831
L1772.40-5200	40	5200	1.5	51.324
L1772.40-5250	40	5250	1.5	51.818
L1772.40-5300	40	5300	1.5	52.311
L1772.40-5350	40	5350	1.5	52.805
L1772.40-5400	40	5400	1.5	53.298
L1772.40-5450	40	5450	1.5	53.792
L1772.40-5500	40	5500	1.5	54.285
L1772.40-5550	40	5550	1.5	54.779
L1772.40-5600	40	5600	1.5	55.272
L1772.40-5650	40	5650	1.5	55.766
L1772.40-5700	40	5700	1.5	56.259
L1772.40-5750	40	5750	1.5	56.753
L1772.40-5800	40	5800	1.5	57.246
L1772.40-5850	40	5850	1.5	57.740
L1772.40-5900	40	5900	1.5	58.233
L1772.40-5950	40	5950	1.5	58.727
L1772.40-6000	40	6000	1.5	59.220

LINEAR SHAFT BARS



### Hardened steel linear shafting (L1770 – L1771)

Carbon steel to BS 070M55 hardened to 60-65 HRC. Carbon Steel B.S. 070M55 is a medium carbon steel which is used when greater strength and hardness is desired than in its as rolled condition. Extreme size accuracy, straightness and concentricity are combined to minimise wear in high speed applications. Suitable for use with all types of linear bushings.

### Corrosion resistant steel (L1772)

440C is a high carbon chromium martensitic stainless steel, generally supplied in the annealed condition with a maximum hardness of 50-55 HR<sub>C</sub>. Characterised by good corrosion resistance in mild domestic and industrial environments, including fresh water, organic materials, mild acids, various petroleum products, coupled with extreme high strength, hardness and wear resistance when in the hardened and tempered condition. Used for parts requiring a combination of excellent wear resistance, plus reasonable corrosion resistance. Typical applications are: ball bearings and races, bushings, cutlery, chisels, knife blades, pump parts, surgical instruments, valve seats etc. Material magnetic in all conditions. Suitable for use with all types of linear bushings.

### Stainless steel AISI 303 (L1773)

303 is a free machining chromium-nickel austenitic stainless steel with good strength and good corrosion resistance, as supplied in the annealed condition. Characterised by excellent machinability and non galling properties due to its higher sulphur content, which has the effect of slightly lowering its corrosion resistance. It is however, fairly resistant to general atmospheric corrosion, general foodstuffs, sterilizing solutions, dyestuffs, most organic chemicals, plus some inorganic chemicals. But has very limited resistance to acids. 303 cannot be hardened by thermal treatment, but strength and hardness can be increased substantially by cold working, with subsequent reduction in ductility. It is used primarily for production runs involving extensive machining, or complex parts requiring excellent machinability. Typical uses are: architectural components, food processing equipment, dairy equipment, dyeing industry, hardware and kitchenware manufacturing and allied industries. Commonly used to manufacture bolts and nuts, bushes, gears, shafts, valve bodies and fittings etc. Material is non magnetic in the annealed condition, but can become mildly magnetic following heavy cold working. Annealing is required to rectify if necessary.

**Not suitable for use with linear ball bushings, please use ceramic bearings.**







### Stainless steel AISI 303 (L1774)

316 is a chromium-nickel-molybdenum austenitic stainless steel with good strength and excellent corrosion resistance, as supplied in the annealed condition. Characterised by high corrosion resistance in marine and industrial atmospheres, it exhibits excellent resistance to chloride attack and against complex sulphur compounds employed in the pulp and paper processing industries. The addition of 2% to 3% of molybdenum increases its resistance to pitting corrosion and improves its creep resistance at elevated temperatures. Also it displays good oxidation resistance at elevated temperatures and has excellent weldability. AISI 316 cannot be hardened by thermal treatment, but strength and hardness can be increased substantially by cold working, with subsequent reduction in ductility. It is used extensively by the marine, chemical, petrochemical, pulp and paper, textile, transport, manufacturing and allied industries. Typical uses are: architectural components, textile equipment, pulp and paper processing equipment, marine equipment and fittings, photographic equipment and x-ray equipment etc. Material non magnetic in the annealed condition, but can become mildly magnetic following heavy cold working. Annealing is required to rectify if necessary.

**Note: Optimum corrosion resistance is achieved in the annealed condition. Not suitable for use with linear ball bushings; please use ceramic bearings.**



## Linear Shafts from Automation Components

<p><b>L1770 - Hardened steel shafts</b></p>  <p>For use with linear bearings.</p> <p>Ø6 to Ø60</p>	<p><b>L1771 - Hardened hollow shafts</b></p>  <p>For use with linear bearings. Hollowed for lighter weight.</p> <p>Ø12 to Ø50</p>
<p><b>L1772 - Hardened Stainless shafts</b></p>  <p>For use with linear bearings Anti-corrosion.</p> <p>Ø6 to Ø60</p>	<p><b>L1773 - Stainless 303 shafts</b></p>  <p>Soft stainless, high anti-corrosion. Not for use with ball bush linear bearings.</p> <p>Ø6 to Ø60</p>
<p><b>L1774 - Stainless 316 shafts</b></p>  <p>Soft stainless, very high anti-corrosion. Not for use with ball bushing linear bearings.</p> <p>Ø6 to Ø60</p>	<p><b>L1778 - Aluminium shafts</b></p>  <p>Light weight, non-magnetic.</p> <p>Ø10 to Ø50</p>