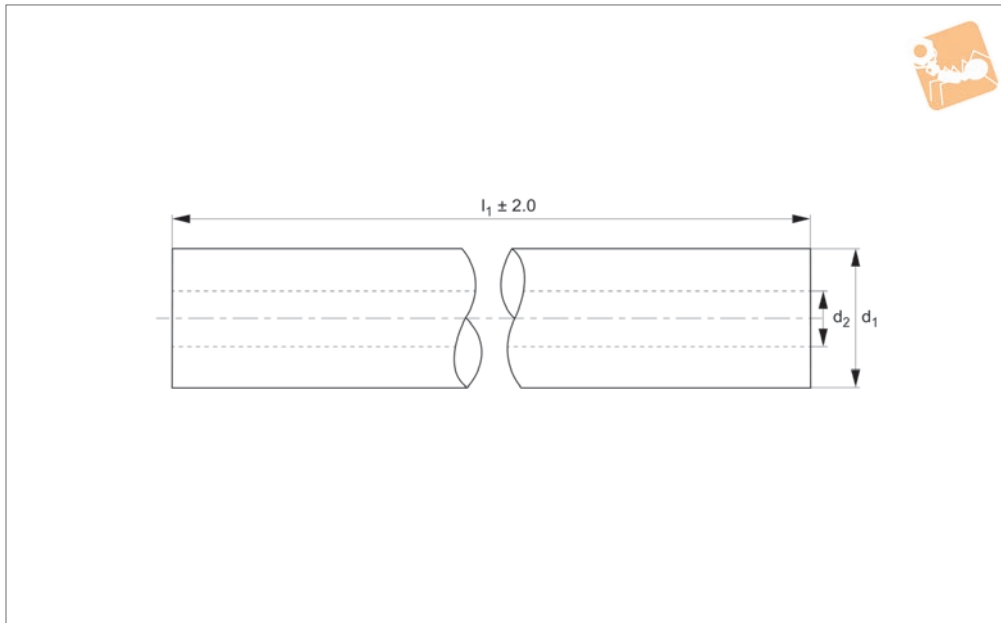




# 40Ø Hardened Hollow Shafts for linear bearings

## Linear Shaft Bars



**L1771.40**

LINEAR SHAFT BARS

### Material

Carbon steel (C60), surface hardness 60-65 HRC. Surface finish 0.3-0.6µ Ra, ground and polished to 8-12 cla.

### Technical Notes

Used in linear bearing and guideway

systems where weight reduction is important.

Tolerance, h6 standard, special tolerances upon request.

Suitable for use with linear bearings.

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>	d <sub>2</sub> tol. h6	Depth of hardness min.
L1771.40-0100	40	100	28	0.6
L1771.40-0150	40	150	28	0.6
L1771.40-0200	40	200	28	0.6
L1771.40-0250	40	250	28	0.6
L1771.40-0300	40	300	28	0.6
L1771.40-0350	40	350	28	0.6
L1771.40-0400	40	400	28	0.6
L1771.40-0450	40	450	28	0.6
L1771.40-0500	40	500	28	0.6
L1771.40-0550	40	550	28	0.6
L1771.40-0600	40	600	28	0.6
L1771.40-0650	40	650	28	0.6
L1771.40-0700	40	700	28	0.6
L1771.40-0750	40	750	28	0.6
L1771.40-0800	40	800	28	0.6
L1771.40-0850	40	850	28	0.6
L1771.40-0900	40	900	28	0.6
L1771.40-0950	40	950	28	0.6
L1771.40-1000	40	1000	28	0.6
L1771.40-1050	40	1050	28	0.6
L1771.40-1100	40	1100	28	0.6
L1771.40-1150	40	1150	28	0.6
L1771.40-1200	40	1200	28	0.6
L1771.40-1250	40	1250	28	0.6
L1771.40-1300	40	1300	28	0.6
L1771.40-1350	40	1350	28	0.6
L1771.40-1400	40	1400	28	0.6
L1771.40-1450	40	1450	28	0.6
L1771.40-1500	40	1500	28	0.6
L1771.40-1550	40	1550	28	0.6
L1771.40-1600	40	1600	28	0.6



Order No.	d <sub>1</sub> tol. h6	l <sub>1</sub>	d <sub>2</sub> tol. h6	Depth of hardness min.
L1771.40-1650	40	1650	28	0.6
L1771.40-1700	40	1700	28	0.6
L1771.40-1750	40	1750	28	0.6
L1771.40-1800	40	1800	28	0.6
L1771.40-1850	40	1850	28	0.6
L1771.40-1900	40	1900	28	0.6
L1771.40-1950	40	1950	28	0.6
L1771.40-2000	40	2000	28	0.6
L1771.40-2050	40	2050	28	0.6
L1771.40-2100	40	2100	28	0.6
L1771.40-2150	40	2150	28	0.6
L1771.40-2200	40	2200	28	0.6
L1771.40-2250	40	2250	28	0.6
L1771.40-2300	40	2300	28	0.6
L1771.40-2350	40	2350	28	0.6
L1771.40-2400	40	2400	28	0.6
L1771.40-2450	40	2450	28	0.6
L1771.40-2500	40	2500	28	0.6
L1771.40-2550	40	2550	28	0.6
L1771.40-2600	40	2600	28	0.6
L1771.40-2650	40	2650	28	0.6
L1771.40-2700	40	2700	28	0.6
L1771.40-2750	40	2750	28	0.6
L1771.40-2800	40	2800	28	0.6
L1771.40-2850	40	2850	28	0.6
L1771.40-2900	40	2900	28	0.6
L1771.40-2950	40	2950	28	0.6
L1771.40-3000	40	3000	28	0.6
L1771.40-3050	40	3050	28	0.6
L1771.40-3100	40	3100	28	0.6
L1771.40-3150	40	3150	28	0.6
L1771.40-3200	40	3200	28	0.6
L1771.40-3250	40	3250	28	0.6
L1771.40-3300	40	3300	28	0.6
L1771.40-3350	40	3350	28	0.6
L1771.40-3400	40	3400	28	0.6
L1771.40-3450	40	3450	28	0.6
L1771.40-3500	40	3500	28	0.6
L1771.40-3550	40	3550	28	0.6
L1771.40-3600	40	3600	28	0.6
L1771.40-3650	40	3650	28	0.6
L1771.40-3700	40	3700	28	0.6
L1771.40-3750	40	3750	28	0.6
L1771.40-3800	40	3800	28	0.6
L1771.40-3850	40	3850	28	0.6
L1771.40-3900	40	3900	28	0.6
L1771.40-3950	40	3950	28	0.6
L1771.40-4000	40	4000	28	0.6
L1771.40-4050	40	4050	28	0.6
L1771.40-4100	40	4100	28	0.6
L1771.40-4150	40	4150	28	0.6
L1771.40-4200	40	4200	28	0.6
L1771.40-4250	40	4250	28	0.6
L1771.40-4300	40	4300	28	0.6
L1771.40-4350	40	4350	28	0.6
L1771.40-4400	40	4400	28	0.6
L1771.40-4450	40	4450	28	0.6
L1771.40-4500	40	4500	28	0.6
L1771.40-4550	40	4550	28	0.6
L1771.40-4600	40	4600	28	0.6
L1771.40-4650	40	4650	28	0.6
L1771.40-4700	40	4700	28	0.6
L1771.40-4750	40	4750	28	0.6
L1771.40-4800	40	4800	28	0.6
L1771.40-4850	40	4850	28	0.6
L1771.40-4900	40	4900	28	0.6
L1771.40-4950	40	4950	28	0.6
L1771.40-5000	40	5000	28	0.6



## 40Ø Hardened Hollow Shafts for linear bearings

Linear Shaft  
Bars

Order No.	d <sub>1</sub> tol. h6	l <sub>1</sub>	d <sub>2</sub> tol. h6	Depth of hardness min.
L1771.40-5050	40	5050	28	0.6
L1771.40-5100	40	5100	28	0.6
L1771.40-5150	40	5150	28	0.6
L1771.40-5200	40	5200	28	0.6
L1771.40-5250	40	5250	28	0.6
L1771.40-5300	40	5300	28	0.6
L1771.40-5350	40	5350	28	0.6
L1771.40-5400	40	5400	28	0.6
L1771.40-5450	40	5450	28	0.6
L1771.40-5500	40	5500	28	0.6
L1771.40-5550	40	5550	28	0.6
L1771.40-5600	40	5600	28	0.6
L1771.40-5650	40	5650	28	0.6
L1771.40-5700	40	5700	28	0.6
L1771.40-5750	40	5750	28	0.6
L1771.40-5800	40	5800	28	0.6
L1771.40-5850	40	5850	28	0.6
L1771.40-5900	40	5900	28	0.6
L1771.40-5950	40	5950	28	0.6
L1771.40-6000	40	6000	28	0.6

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 Automotion 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>



As well as standard cut to length shafting, Automotion can offer many specials including imperial shafts, different tolerances and non-standard diameters.

We can also machine shafts to your requirements so if you have a specific requirement, please contact our Sales team. Below are examples of just some of the machining we can do to shafting on a quick turnaround.

Linear Shafts from Automotion Components

