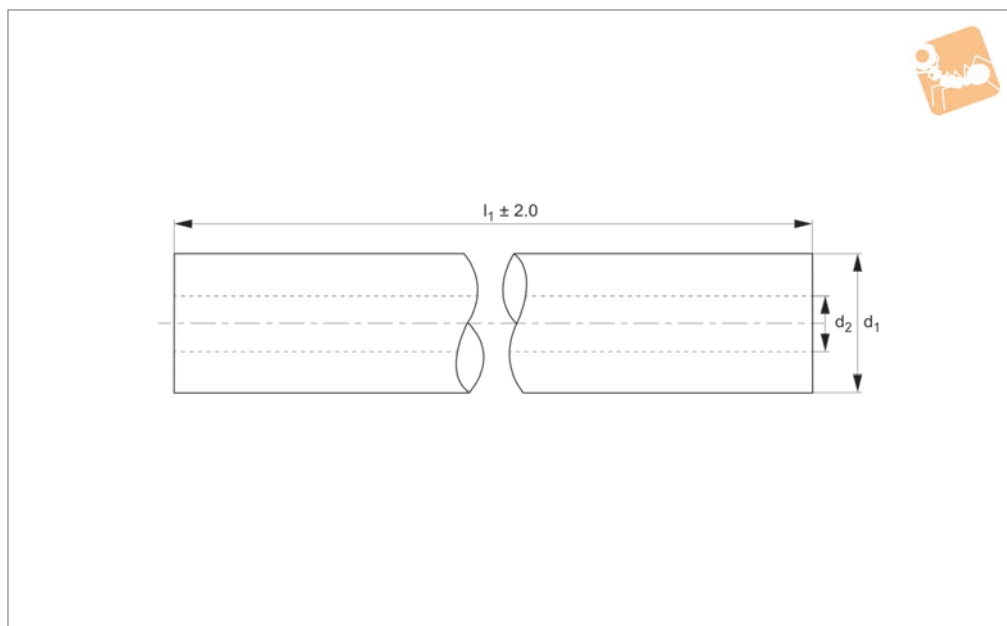




30Ø Hardened Hollow Shafts for linear bearings

Linear Shaft Bars



L1771.30

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 ₁ tol. h6	l ₁	d ₂ tol. h6	Depth of hardness min.
L1771.30-0100	30	100	18	0.6
L1771.30-0150	30	150	18	0.6
L1771.30-0200	30	200	18	0.6
L1771.30-0250	30	250	18	0.6
L1771.30-0300	30	300	18	0.6
L1771.30-0350	30	350	18	0.6
L1771.30-0400	30	400	18	0.6
L1771.30-0450	30	450	18	0.6
L1771.30-0500	30	500	18	0.6
L1771.30-0550	30	550	18	0.6
L1771.30-0600	30	600	18	0.6
L1771.30-0650	30	650	18	0.6
L1771.30-0700	30	700	18	0.6
L1771.30-0750	30	750	18	0.6
L1771.30-0800	30	800	18	0.6
L1771.30-0850	30	850	18	0.6
L1771.30-0900	30	900	18	0.6
L1771.30-0950	30	950	18	0.6
L1771.30-1000	30	1000	18	0.6
L1771.30-1050	30	1050	18	0.6
L1771.30-1100	30	1100	18	0.6
L1771.30-1150	30	1150	18	0.6
L1771.30-1200	30	1200	18	0.6
L1771.30-1250	30	1250	18	0.6
L1771.30-1300	30	1300	18	0.6
L1771.30-1350	30	1350	18	0.6
L1771.30-1400	30	1400	18	0.6
L1771.30-1450	30	1450	18	0.6
L1771.30-1500	30	1500	18	0.6
L1771.30-1550	30	1550	18	0.6
L1771.30-1600	30	1600	18	0.6



Order No.	d ₁ tol. h6	l ₁	d ₂ tol. h6	Depth of hardness min.
L1771.30-1650	30	1650	18	0.6
L1771.30-1700	30	1700	18	0.6
L1771.30-1750	30	1750	18	0.6
L1771.30-1800	30	1800	18	0.6
L1771.30-1850	30	1850	18	0.6
L1771.30-1900	30	1900	18	0.6
L1771.30-1950	30	1950	18	0.6
L1771.30-2000	30	2000	18	0.6
L1771.30-2050	30	2050	18	0.6
L1771.30-2100	30	2100	18	0.6
L1771.30-2150	30	2150	18	0.6
L1771.30-2200	30	2200	18	0.6
L1771.30-2250	30	2250	18	0.6
L1771.30-2300	30	2300	18	0.6
L1771.30-2350	30	2350	18	0.6
L1771.30-2400	30	2400	18	0.6
L1771.30-2450	30	2450	18	0.6
L1771.30-2500	30	2500	18	0.6
L1771.30-2550	30	2550	18	0.6
L1771.30-2600	30	2600	18	0.6
L1771.30-2650	30	2650	18	0.6
L1771.30-2700	30	2700	18	0.6
L1771.30-2750	30	2750	18	0.6
L1771.30-2800	30	2800	18	0.6
L1771.30-2850	30	2850	18	0.6
L1771.30-2900	30	2900	18	0.6
L1771.30-2950	30	2950	18	0.6
L1771.30-3000	30	3000	18	0.6
L1771.30-3050	30	3050	18	0.6
L1771.30-3100	30	3100	18	0.6
L1771.30-3150	30	3150	18	0.6
L1771.30-3200	30	3200	18	0.6
L1771.30-3250	30	3250	18	0.6
L1771.30-3300	30	3300	18	0.6
L1771.30-3350	30	3350	18	0.6
L1771.30-3400	30	3400	18	0.6
L1771.30-3450	30	3450	18	0.6
L1771.30-3500	30	3500	18	0.6
L1771.30-3550	30	3550	18	0.6
L1771.30-3600	30	3600	18	0.6
L1771.30-3650	30	3650	18	0.6
L1771.30-3700	30	3700	18	0.6
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L1771.30-3800	30	3800	18	0.6
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L1771.30-3900	30	3900	18	0.6
L1771.30-3950	30	3950	18	0.6
L1771.30-4000	30	4000	18	0.6
L1771.30-4050	30	4050	18	0.6
L1771.30-4100	30	4100	18	0.6
L1771.30-4150	30	4150	18	0.6
L1771.30-4200	30	4200	18	0.6
L1771.30-4250	30	4250	18	0.6
L1771.30-4300	30	4300	18	0.6
L1771.30-4350	30	4350	18	0.6
L1771.30-4400	30	4400	18	0.6
L1771.30-4450	30	4450	18	0.6
L1771.30-4500	30	4500	18	0.6
L1771.30-4550	30	4550	18	0.6
L1771.30-4600	30	4600	18	0.6
L1771.30-4650	30	4650	18	0.6
L1771.30-4700	30	4700	18	0.6
L1771.30-4750	30	4750	18	0.6
L1771.30-4800	30	4800	18	0.6
L1771.30-4850	30	4850	18	0.6
L1771.30-4900	30	4900	18	0.6
L1771.30-4950	30	4950	18	0.6
L1771.30-5000	30	5000	18	0.6



30Ø Hardened Hollow Shafts for linear bearings

Linear Shaft Bars

Order No.	d ₁ tol. h6	l ₁	d ₂ tol. h6	Depth of hardness min.
L1771.30-5050	30	5050	18	0.6
L1771.30-5100	30	5100	18	0.6
L1771.30-5150	30	5150	18	0.6
L1771.30-5200	30	5200	18	0.6
L1771.30-5250	30	5250	18	0.6
L1771.30-5300	30	5300	18	0.6
L1771.30-5350	30	5350	18	0.6
L1771.30-5400	30	5400	18	0.6
L1771.30-5450	30	5450	18	0.6
L1771.30-5500	30	5500	18	0.6
L1771.30-5550	30	5550	18	0.6
L1771.30-5600	30	5600	18	0.6
L1771.30-5650	30	5650	18	0.6
L1771.30-5700	30	5700	18	0.6
L1771.30-5750	30	5750	18	0.6
L1771.30-5800	30	5800	18	0.6
L1771.30-5850	30	5850	18	0.6
L1771.30-5900	30	5900	18	0.6
L1771.30-5950	30	5950	18	0.6
L1771.30-6000	30	6000	18	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_C. 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>L1770 - Hardened steel shafts</p>  <p>For use with linear bearings.</p> <p>Ø6 to Ø60</p>	<p>L1771 - Hardened hollow shafts</p>  <p>For use with linear bearings. Hollowed for lighter weight.</p> <p>Ø12 to Ø50</p>
<p>L1772 - Hardened Stainless shafts</p>  <p>For use with linear bearings Anti-corrosion.</p> <p>Ø6 to Ø60</p>	<p>L1773 - Stainless 303 shafts</p>  <p>Soft stainless, high anti-corrosion. Not for use with ball bush linear bearings.</p> <p>Ø6 to Ø60</p>
<p>L1774 - Stainless 316 shafts</p>  <p>Soft stainless, very high anti-corrosion. Not for use with ball bushing linear bearings.</p> <p>Ø6 to Ø60</p>	<p>L1778 - Aluminium shafts</p>  <p>Light weight, non-magnetic.</p> <p>Ø10 to Ø50</p>



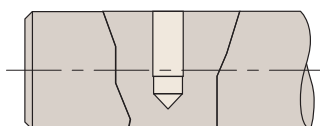
As well as standard cut to length shafting, Automotion can offer many specials including imperial shafts, different tolerances and non-standard diameters.

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.

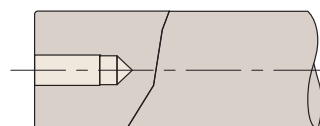
Linear Shafts from Automotion Components

LINEAR SHAFT BARS

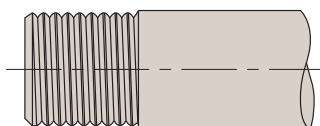
Drilled and tapped radial hole



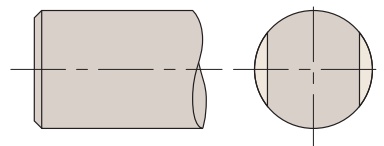
Drilled and tapped coaxial hole



Threaded diameters



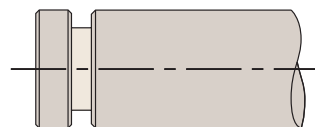
Flats



Reduced diameter



Circlip groove



Keyways

