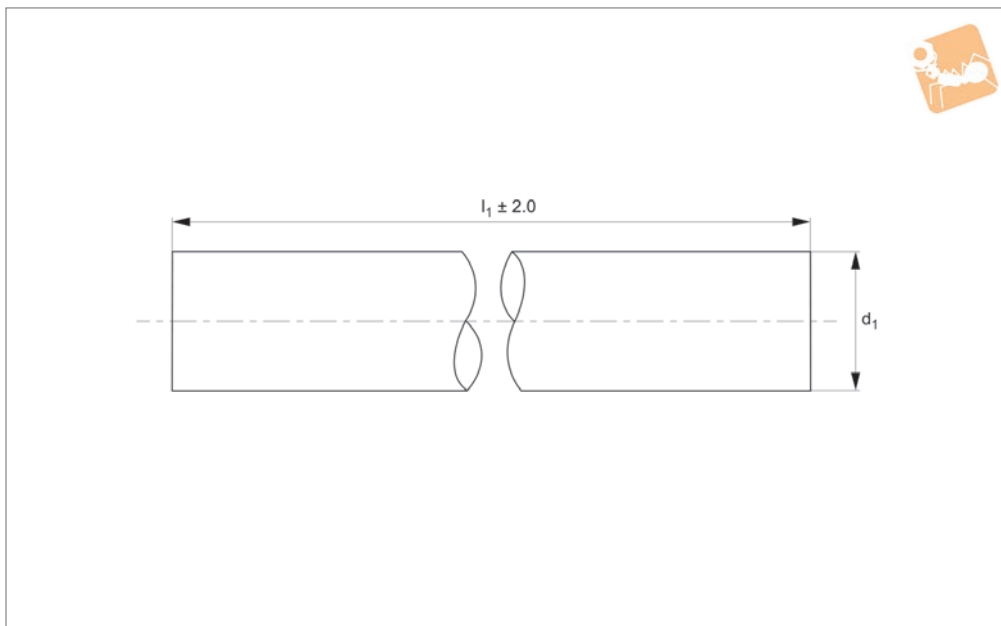




12Ø Hardened Steel Shafts

Linear Shaft Bars



L1770.12

LINEAR SHAFT BARS

Material

Carbon steel (070M55,Cf53 - DIN 1.1213), Surface hardness 60-66 HRC. Surface finish 0.3-0.6µ Ra, ground and polished to 8-12 cla. Yield stress: >325 N/mm², tensile strength: >630 N/mm².

Technical Notes

Tolerance, h6 standard, special tolerances upon request. Suitable for use with linear bearings. Straightness 0,2mm/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	Depth of hardness min.	Weight kg
L1770.12-0100	12	100	0.6	0.089
L1770.12-0150	12	150	0.6	0.134
L1770.12-0200	12	200	0.6	0.178
L1770.12-0250	12	250	0.6	0.223
L1770.12-0300	12	300	0.6	0.267
L1770.12-0350	12	350	0.6	0.312
L1770.12-0400	12	400	0.6	0.356
L1770.12-0450	12	450	0.6	0.401
L1770.12-0500	12	500	0.6	0.445
L1770.12-0550	12	550	0.6	0.490
L1770.12-0600	12	600	0.6	0.534
L1770.12-0650	12	650	0.6	0.579
L1770.12-0700	12	700	0.6	0.623
L1770.12-0750	12	750	0.6	0.668
L1770.12-0800	12	800	0.6	0.712
L1770.12-0850	12	850	0.6	0.757
L1770.12-0900	12	900	0.6	0.801
L1770.12-0950	12	950	0.6	0.846
L1770.12-1000	12	1000	0.6	0.890
L1770.12-1050	12	1050	0.6	0.935
L1770.12-1100	12	1100	0.6	0.979
L1770.12-1150	12	1150	0.6	1.024
L1770.12-1200	12	1200	0.6	1.068
L1770.12-1250	12	1250	0.6	1.113
L1770.12-1300	12	1300	0.6	1.157
L1770.12-1350	12	1350	0.6	1.202
L1770.12-1400	12	1400	0.6	1.246
L1770.12-1450	12	1450	0.6	1.291
L1770.12-1500	12	1500	0.6	1.335
L1770.12-1550	12	1550	0.6	1.380
L1770.12-1600	12	1600	0.6	1.424



Order No.	d ₁ tol. h6	l ₁	Depth of hardness min.	Weight kg
L1770.12-1650	12	1650	0.6	1.469
L1770.12-1700	12	1700	0.6	1.513
L1770.12-1750	12	1750	0.6	1.558
L1770.12-1800	12	1800	0.6	1.602
L1770.12-1850	12	1850	0.6	1.647
L1770.12-1900	12	1900	0.6	1.691
L1770.12-1950	12	1950	0.6	1.736
L1770.12-2000	12	2000	0.6	1.780
L1770.12-2050	12	2050	0.6	1.825
L1770.12-2100	12	2100	0.6	1.869
L1770.12-2150	12	2150	0.6	1.914
L1770.12-2200	12	2200	0.6	1.958
L1770.12-2250	12	2500	0.6	2.003
L1770.12-2300	12	2300	0.6	2.047
L1770.12-2350	12	2350	0.6	2.092
L1770.12-2400	12	2400	0.6	2.136
L1770.12-2450	12	2450	0.6	2.181
L1770.12-2500	12	2500	0.6	2.225
L1770.12-2550	12	2550	0.6	2.270
L1770.12-2600	12	2600	0.6	2.314
L1770.12-2650	12	2650	0.6	2.359
L1770.12-2700	12	2700	0.6	2.403
L1770.12-2750	12	2750	0.6	2.448
L1770.12-2800	12	2800	0.6	2.492
L1770.12-2850	12	2850	0.6	2.537
L1770.12-2900	12	2900	0.6	2.581
L1770.12-2950	12	2950	0.6	2.626
L1770.12-3000	12	3000	0.6	2.670
L1770.12-3050	12	3050	0.6	2.715
L1770.12-3100	12	3100	0.6	2.759
L1770.12-3150	12	3150	0.6	2.804
L1770.12-3200	12	3200	0.6	2.848
L1770.12-3250	12	3250	0.6	2.893
L1770.12-3300	12	3300	0.6	2.937
L1770.12-3350	12	3350	0.6	2.982
L1770.12-3400	12	3400	0.6	3.026
L1770.12-3450	12	3450	0.6	3.071
L1770.12-3500	12	3500	0.6	3.115
L1770.12-3550	12	3550	0.6	3.160
L1770.12-3600	12	3600	0.6	3.204
L1770.12-3650	12	3650	0.6	3.249
L1770.12-3700	12	3700	0.6	3.293
L1770.12-3750	12	3750	0.6	3.338
L1770.12-3800	12	3800	0.6	3.382
L1770.12-3850	12	3850	0.6	3.427
L1770.12-3900	12	3900	0.6	3.471
L1770.12-3950	12	3950	0.6	3.516
L1770.12-4000	12	4000	0.6	3.560
L1770.12-4050	12	4050	0.6	3.605
L1770.12-4100	12	4100	0.6	3.649
L1770.12-4150	12	4150	0.6	3.694
L1770.12-4200	12	4200	0.6	3.738
L1770.12-4250	12	4250	0.6	3.783
L1770.12-4300	12	4300	0.6	3.827
L1770.12-4350	12	4350	0.6	3.872
L1770.12-4400	12	4400	0.6	3.916
L1770.12-4450	12	4450	0.6	3.961
L1770.12-4500	12	4500	0.6	4.005
L1770.12-4550	12	4550	0.6	4.050
L1770.12-4600	12	4600	0.6	4.094
L1770.12-4650	12	4650	0.6	4.139
L1770.12-4700	12	4700	0.6	4.183
L1770.12-4750	12	4750	0.6	4.228
L1770.12-4800	12	4800	0.6	4.272
L1770.12-4850	12	4850	0.6	4.317
L1770.12-4900	12	4900	0.6	4.361
L1770.12-4950	12	4950	0.6	4.406
L1770.12-5000	12	5000	0.6	4.450



12Ø Hardened Steel Shafts

Linear Shaft Bars

Order No.	d ₁ tol. h6	l ₁	Depth of hardness min.	Weight kg
L1770.12-5050	12	5050	0.6	4.495
L1770.12-5100	12	5100	0.6	4.539
L1770.12-5150	12	5150	0.6	4.584
L1770.12-5200	12	5200	0.6	4.628
L1770.12-5250	12	5250	0.6	4.673
L1770.12-5300	12	5300	0.6	4.717
L1770.12-5350	12	5350	0.6	4.762
L1770.12-5400	12	5400	0.6	4.806
L1770.12-5450	12	5450	0.6	4.851
L1770.12-5500	12	5500	0.6	4.895
L1770.12-5550	12	5550	0.6	4.940
L1770.12-5600	12	5600	0.6	4.984
L1770.12-5650	12	5650	0.6	5.029
L1770.12-5700	12	5700	0.6	5.073
L1770.12-5750	12	5750	0.6	5.118
L1770.12-5800	12	5800	0.6	5.162
L1770.12-5850	12	5850	0.6	5.207
L1770.12-5900	12	5900	0.6	5.251
L1770.12-5950	12	5950	0.6	5.296
L1770.12-6000	12	6000	0.6	5.340

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 Automotion Components

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