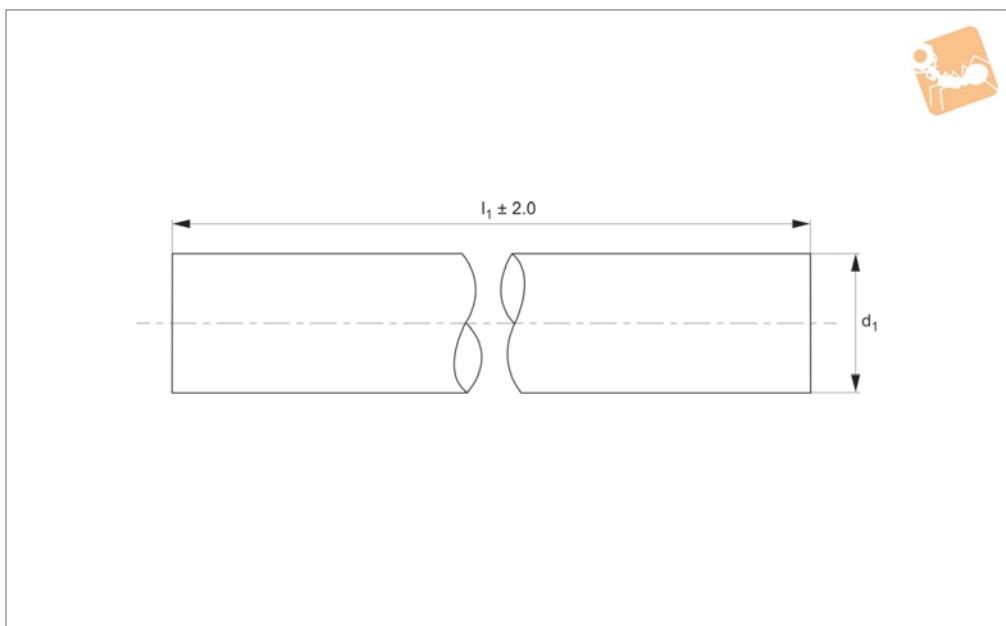




5Ø Hardened Steel Shafts

Linear Shaft Bars



L1770.05

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 0,3mm/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
L1770.05-0100	5	100	0.4	0.016
L1770.05-0150	5	150	0.4	0.024
L1770.05-0200	5	200	0.4	0.032
L1770.05-0250	5	250	0.4	0.040
L1770.05-0300	5	300	0.4	0.048
L1770.05-0350	5	350	0.4	0.056
L1770.05-0400	5	400	0.4	0.064
L1770.05-0450	5	450	0.4	0.072
L1770.05-0500	5	500	0.4	0.080
L1770.05-0550	5	550	0.4	0.088
L1770.05-0600	5	600	0.4	0.096
L1770.05-0650	5	650	0.4	0.104
L1770.05-0700	5	700	0.4	0.112
L1770.05-0750	5	750	0.4	0.120
L1770.05-0800	5	800	0.4	0.128
L1770.05-0850	5	850	0.4	0.136
L1770.05-0900	5	900	0.4	0.144
L1770.05-0950	5	950	0.4	0.152
L1770.05-1000	5	1000	0.4	0.160
L1770.05-1050	5	1050	0.4	0.168
L1770.05-1100	5	1100	0.4	0.176
L1770.05-1150	5	1150	0.4	0.184
L1770.05-1200	5	1200	0.4	0.192
L1770.05-1250	5	1250	0.4	0.200
L1770.05-1300	5	1300	0.4	0.208
L1770.05-1350	5	1350	0.4	0.216
L1770.05-1400	5	1400	0.4	0.224
L1770.05-1450	5	1450	0.4	0.232
L1770.05-1500	5	1500	0.4	0.240
L1770.05-1550	5	1550	0.4	0.248
L1770.05-1600	5	1600	0.4	0.256



Order No.	d ₁ tol. h6	l ₁	Depth of hardness min.	Weight kg
L1770.05-1650	5	1650	0.4	0.264
L1770.05-1700	5	1700	0.4	0.272
L1770.05-1750	5	1750	0.4	0.280
L1770.05-1800	5	1800	0.4	0.288
L1770.05-1850	5	1850	0.4	0.296
L1770.05-1900	5	1900	0.4	0.304
L1770.05-1950	5	1950	0.4	0.312
L1770.05-2000	5	2000	0.4	0.320
L1770.05-2050	5	2050	0.4	0.328
L1770.05-2100	5	2100	0.4	0.336
L1770.05-2150	5	2150	0.4	0.344
L1770.05-2200	5	2200	0.4	0.352
L1770.05-2250	5	2250	0.4	0.360
L1770.05-2300	5	2300	0.4	0.368
L1770.05-2350	5	2350	0.4	0.376
L1770.05-2400	5	2400	0.4	0.384
L1770.05-2450	5	2450	0.4	0.392
L1770.05-2500	5	2500	0.4	0.400
L1770.05-2550	5	2550	0.4	0.408
L1770.05-2600	5	2600	0.4	0.416
L1770.05-2650	5	2650	0.4	0.424
L1770.05-2700	5	2700	0.4	0.432
L1770.05-2750	5	2750	0.4	0.440
L1770.05-2800	5	2800	0.4	0.448
L1770.05-2850	5	2850	0.4	0.456
L1770.05-2900	5	2900	0.4	0.464
L1770.05-2950	5	2950	0.4	0.472
L1770.05-3000	5	3000	0.4	0.480
L1770.05-3050	5	3050	0.4	0.488
L1770.05-3100	5	3100	0.4	0.496
L1770.05-3150	5	3150	0.4	0.504
L1770.05-3200	5	3200	0.4	0.512
L1770.05-3250	5	3250	0.4	0.520
L1770.05-3300	5	3300	0.4	0.528
L1770.05-3350	5	3350	0.4	0.536
L1770.05-3400	5	3400	0.4	0.544
L1770.05-3450	5	3450	0.4	0.552
L1770.05-3500	5	3500	0.4	0.560
L1770.05-3550	5	3550	0.4	0.568
L1770.05-3600	5	3600	0.4	0.576
L1770.05-3650	5	3650	0.4	0.584
L1770.05-3700	5	3700	0.4	0.592
L1770.05-3750	5	3750	0.4	0.600
L1770.05-3800	5	3800	0.4	0.608
L1770.05-3850	5	3850	0.4	0.616
L1770.05-3900	5	3900	0.4	0.624
L1770.05-3950	5	3950	0.4	0.632
L1770.05-4000	5	4000	0.4	0.640
L1770.05-4050	5	4050	0.4	0.648
L1770.05-4100	5	4100	0.4	0.656
L1770.05-4150	5	4150	0.4	0.664
L1770.05-4200	5	4200	0.4	0.672
L1770.05-4250	5	4250	0.4	0.680
L1770.05-4300	5	4300	0.4	0.688
L1770.05-4350	5	4350	0.4	0.696
L1770.05-4400	5	4400	0.4	0.704
L1770.05-4450	5	4450	0.4	0.712
L1770.05-4500	5	4500	0.4	0.720
L1770.05-4550	5	4550	0.4	0.728
L1770.05-4600	5	4600	0.4	0.736
L1770.05-4650	5	4650	0.4	0.744
L1770.05-4700	5	4700	0.4	0.752
L1770.05-4750	5	4750	0.4	0.760
L1770.05-4800	5	4800	0.4	0.768
L1770.05-4850	5	4850	0.4	0.776
L1770.05-4900	5	4900	0.4	0.784
L1770.05-4950	5	4950	0.4	0.792
L1770.05-5000	5	5000	0.4	0.800



50 Hardened Steel Shafts

Linear Shaft Bars

Order No.	d ₁ tol. h6	l ₁	Depth of hardness min.	Weight kg
L1770.05-5050	5	5050	0.4	0.808
L1770.05-5100	5	5100	0.4	0.816
L1770.05-5150	5	5150	0.4	0.824
L1770.05-5200	5	5200	0.4	0.832
L1770.05-5250	5	5250	0.4	0.840
L1770.05-5300	5	5300	0.4	0.848
L1770.05-5350	5	5350	0.4	0.856
L1770.05-5400	5	5400	0.4	0.864
L1770.05-5450	5	5450	0.4	0.872
L1770.05-5500	5	5500	0.4	0.880
L1770.05-5550	5	5550	0.4	0.888
L1770.05-5600	5	5600	0.4	0.896
L1770.05-5650	5	5650	0.4	0.904
L1770.05-5700	5	5700	0.4	0.912
L1770.05-5750	5	5750	0.4	0.920
L1770.05-5800	5	5800	0.4	0.928
L1770.05-5850	5	5850	0.4	0.936
L1770.05-5900	5	5900	0.4	0.944
L1770.05-5950	5	5950	0.4	0.952
L1770.05-6000	5	6000	0.4	0.960

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

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