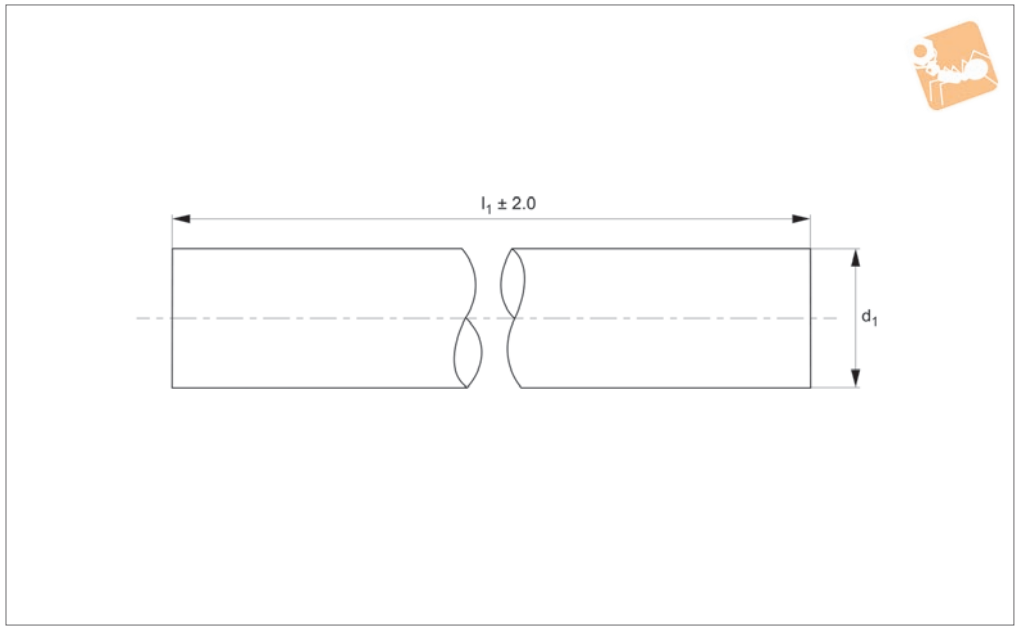

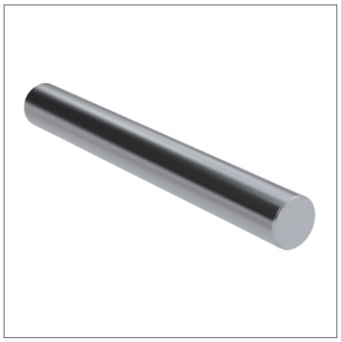

L1770.16

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/mm^2, tensile strength: >630 N/mm^2.

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
L1770.16-0100	16	100	0.6	0.158
L1770.16-0150	16	150	0.6	0.237
L1770.16-0200	16	200	0.6	0.316
L1770.16-0250	16	250	0.6	0.395
L1770.16-0300	16	300	0.6	0.474
L1770.16-0350	16	350	0.6	0.553
L1770.16-0400	16	400	0.6	0.632
L1770.16-0450	16	450	0.6	0.711
L1770.16-0500	16	500	0.6	0.790
L1770.16-0550	16	550	0.6	0.869
L1770.16-0600	16	600	0.6	0.948
L1770.16-0650	16	650	0.6	1.027
L1770.16-0700	16	700	0.6	1.106
L1770.16-0750	16	750	0.6	1.185
L1770.16-0800	16	800	0.6	1.264
L1770.16-0850	16	850	0.6	1.343
L1770.16-0900	16	900	0.6	1.422
L1770.16-0950	16	950	0.6	1.501
L1770.16-1000	16	1000	0.6	1.580
L1770.16-1050	16	1050	0.6	1.659
L1770.16-1100	16	1100	0.6	1.738
L1770.16-1150	16	1150	0.6	1.817
L1770.16-1200	16	1200	0.6	1.896
L1770.16-1250	16	1250	0.6	1.975
L1770.16-1300	16	1300	0.6	2.054
L1770.16-1350	16	1350	0.6	2.133
L1770.16-1400	16	1400	0.6	2.212
L1770.16-1450	16	1450	0.6	2.291
L1770.16-1500	16	1500	0.6	2.370
L1770.16-1550	16	1550	0.6	2.449
L1770.16-1600	16	1600	0.6	2.528

16Ø Hardened Steel Shafts

Order No.	d_1 tol. h6	l_1	Depth of hardness min.	Weight kg
L1770.16-1650	16	1650	0.6	2.607
L1770.16-1700	16	1700	0.6	2.686
L1770.16-1750	16	1750	0.6	2.765
L1770.16-1800	16	1800	0.6	2.844
L1770.16-1850	16	1850	0.6	2.923
L1770.16-1900	16	1900	0.6	3.002
L1770.16-1950	16	1950	0.6	3.081
L1770.16-2000	16	2000	0.6	3.160
L1770.16-2050	16	2050	0.6	3.239
L1770.16-2100	16	2100	0.6	3.318
L1770.16-2150	16	2150	0.6	3.397
L1770.16-2200	16	2200	0.6	3.476
L1770.16-2250	16	2250	0.6	3.555
L1770.16-2300	16	2300	0.6	3.634
L1770.16-2350	16	2350	0.6	3.713
L1770.16-2400	16	2400	0.6	3.792
L1770.16-2450	16	2450	0.6	3.871
L1770.16-2500	16	2500	0.6	3.950
L1770.16-2550	16	2550	0.6	4.029
L1770.16-2600	16	2600	0.6	4.108
L1770.16-2650	16	2650	0.6	4.187
L1770.16-2700	16	2700	0.6	4.266
L1770.16-2750	16	2750	0.6	4.345
L1770.16-2800	16	2800	0.6	4.424
L1770.16-2850	16	2850	0.6	4.503
L1770.16-2900	16	2900	0.6	4.582
L1770.16-2950	16	2950	0.6	4.661
L1770.16-3000	16	3000	0.6	4.740
L1770.16-3050	16	3050	0.6	4.819
L1770.16-3100	16	3100	0.6	4.898
L1770.16-3150	16	3150	0.6	4.977
L1770.16-3200	16	3200	0.6	5.056
L1770.16-3250	16	3250	0.6	5.135
L1770.16-3300	16	3300	0.6	5.214
L1770.16-3350	16	3350	0.6	5.293
L1770.16-3400	16	3400	0.6	5.372
L1770.16-3450	16	3450	0.6	5.451
L1770.16-3500	16	3500	0.6	5.530
L1770.16-3550	16	3550	0.6	5.609
L1770.16-3600	16	3600	0.6	5.688
L1770.16-3650	16	3650	0.6	5.767
L1770.16-3700	16	3700	0.6	5.846
L1770.16-3750	16	3750	0.6	5.925
L1770.16-3800	16	3800	0.6	6.004
L1770.16-3850	16	3850	0.6	6.083
L1770.16-3900	16	3900	0.6	6.162
L1770.16-3950	16	3950	0.6	6.241
L1770.16-4000	16	4000	0.6	6.320
L1770.16-4050	16	4050	0.6	6.399
L1770.16-4100	16	4100	0.6	6.478
L1770.16-4150	16	4150	0.6	6.557
L1770.16-4200	16	4200	0.6	6.636
L1770.16-4250	16	4250	0.6	6.715
L1770.16-4300	16	4300	0.6	6.794
L1770.16-4350	16	4350	0.6	6.873
L1770.16-4400	16	4400	0.6	6.952
L1770.16-4450	16	4450	0.6	7.031
L1770.16-4500	16	4500	0.6	7.110
L1770.16-4550	16	4500	0.6	7.189
L1770.16-4600	16	4600	0.6	7.268
L1770.16-4650	16	4650	0.6	7.347
L1770.16-4700	16	4700	0.6	7.426
L1770.16-4750	16	4750	0.6	7.505
L1770.16-4800	16	4800	0.6	7.584
L1770.16-4850	16	4850	0.6	7.663
L1770.16-4900	16	4900	0.6	7.742
L1770.16-4950	16	4950	0.6	7.821
L1770.16-5000	16	5000	0.6	7.900

Order No.	d_1 tol. h6	l_1	Depth of hardness min.	Weight kg
L1770.16-5050	16	5050	0.6	7.979
L1770.16-5100	16	5100	0.6	8.058
L1770.16-5150	16	5150	0.6	8.137
L1770.16-5200	16	5200	0.6	8.216
L1770.16-5250	16	5250	0.6	8.295
L1770.16-5300	16	5300	0.6	8.374
L1770.16-5350	16	5350	0.6	8.453
L1770.16-5400	16	5400	0.6	8.532
L1770.16-5450	16	5450	0.6	8.611
L1770.16-5500	16	5500	0.6	8.690
L1770.16-5550	16	5550	0.6	8.769
L1770.16-5600	16	5600	0.6	8.848
L1770.16-5650	16	5650	0.6	8.927
L1770.16-5700	16	5700	0.6	9.006
L1770.16-5750	16	5750	0.6	9.085
L1770.16-5800	16	5800	0.6	9.164
L1770.16-5850	16	5850	0.6	9.243
L1770.16-5900	16	5900	0.6	9.322
L1770.16-5950	16	5950	0.6	9.401
L1770.16-6000	16	6000	0.6	9.480

Linear Shafts from Automotion Components

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 it's 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, dying 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

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