

Solid and Extractable Dowels

Dowels are solid pins, usually precision ground to narrow limits to permit accurate fitting. Precision dowels are traditionally used to hold parts together in a fixed alignment relying on the tightness of fit to stay in place.

Chapman and Bradshaw is able to supply stainless steel A2, stainless steel A4, mild steel unhardened and through hardened steel to ISO and DIN standards. In Metric and Imperial sizes.

Standards

Dowel pins are manufactured to several national or international standards, each with slight differences in chamfer forms, tolerances and available materials.

- DIN 6325—Through Hardened to Hrc 58-62 & Ground to m6 tolerance Steel.
- ISO 2338 (1998)— Mild Steel, Stainless Steel 303 or Stainless Steel 316 in m6 or h8 tolerance.
- ISO 8734—Type A is through hardened steel, ground to m6 tolerance. Type B is case hardened steel, ground to m6 tolerance. Type C is hardened, martensitic stainless steel. This standard looks identical to ISO 2338.
- DIN 7—Mild Steel, Stainless Steel 303 or Stainless Steel 316 in m6 or h8 tolerance. Please note, the overall length is greater than the nominal length as dimension 'C' is not included.
- DIN 7979D—Extractable Dowel, Through Hardened to Hrc 58-62 & Ground to m6 tolerance.
- BS 1804 Part 1—Imperial solid dowels in steel, unhardened or case-hardened depending on diameter.
- BS 1804 Part 2—Metric solid dowels, available to order
- BS 1804 Part 3, Type B—Extractable Dowels and Taper Pins
- BS 7055—Equivalent to ISO 7834
- ISO 8733—Equivalent to DIN 7979A (unhardened)
- ISO 8735—Equivalent to DIN 7979D (hardened)

Materials

- Through Hardened Steel
- Unhardened Mild Steel
- Stainless Steel 303
- Stainless Steel 316
- C1 Stainless

Hole Tolerances (for guidance only)

Hole/Material	Hardened Steel	Mild Steel	Aluminium / Zinc / Brass
Interference Fit	Pin Ø less 5µm	Pin Ø less 25µm	Pin Ø less 35µm
Transition Fit	Pin Ø less 2µm	Pin Ø less 5µm	Pin Ø less 5µm
Clearance Fit	Pin Ø plus 25-60µm	Pin Ø plus 25-60µm	Pin Ø plus 25-60µm

DIN 632, m6 tolerance



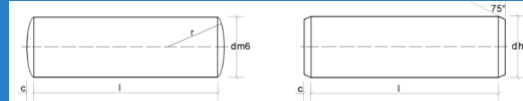
Nominal Diameter, mm	1	1.5	2	2.5	3	4	5	6	8	10	12	14	16	20
Double Shear Strengths - Tested to ISO 8749, kN (Based on through hardened & ground steel)														
	1.5	3.4	5.5	8	13	22	31	53	88	132	210	260	350	485
Length - from 4mm up to 120, depending on diameter/material														
Length Tolerance to js14														

ISO 2338 (1998), m6 and h8 tolerance



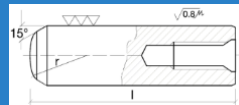
Nominal Diameter, mm	0.8	1	1.5	2	2.5	3	4	5	6	8	10	12	16	20	25	30
Double Shear Strengths - Tested to ISO 8749, kN																
Mild Steel	0.4	0.7	1.6	2.85	4.25	6.15	10.6	16.5	22.8	40.5	63.2	91	156	220	300	390
Stainless 303	0.4	0.7	1.7	2.9	4.4	6.6	11.7	18.1	26	47	64.1	92	160			
Length - from 3mm up to 120, depending on diameter/material																
Length Tolerance	3-10mm long ±0.25						12-50mm long ±0.5				Over 50mm long ±0.75					

DIN 7, m6 and h8 tolerance



Nominal Diameter, mm	0.8	1	1.5	2	2.5	3	4	5	6	8	10	12	14	16	20	25	30	
Dimension C (max)	0.12	0.15	0.23	0.3	0.4	0.45	0.6	0.75	0.9	1.2	1.5	1.8	2	2.5	3	4	4.5	
Double Shear Strengths - Tested to ISO 8749, kN																		
Mild Steel	0.4	0.7	1.6	2.85	4.25	6.15	10.6	16.5	22.8	40.5	63.5	91	124	156	220	300	390	
Stainless 303	0.4	0.7	1.7	2.9	4.4	6.6	11.7	18.1	26	47	64.1	92						
Length - from 3mm up to 120, depending on diameter/material																		
Length Tolerance	3-10mm long ± 0.25						12-50mm long ± 0.5						Over 50mm long ± 0.75					

DIN 7979D



Nominal Diameter, mm	4	5	6	8	10	12	14	16	20
Thread Size	M2.5/M3*	M3	M4	M5	M6	M6	M8	M8	M10
Lengths - from 10mm up to 120mm, depending on diameter.									
Length Tolerance to js15									
* Internal Thread size to manufacturers discretion									