

Properties of Rod and Wire

Alloy 25 & Alloy 11

Properties of Rod

Alloy	Temper	Designation	Diameter (mm)	Tensile strength (N/mm ²)	Rockwell Hardness		Electrical Conductivity (%ACS)	Heat Treatment
					H _R B	H _R C		
25	A(O)	C1720B-A	from 1 up to 6 over 6 up to 120	410 – 590 —	—	—	min. 17 min. 17	Before aging
	AT(OT)	C1720B-AT	from 1 up to 6 over 6 up to 120	1100 – 1380 —	—	36 – 42	min. 22 min. 22	315°C × 3hr 315°C × 3hr
	H	C1720B-H	from 1 up to 6 over 6 up to 94	645 – 900 —	88 – 103	—	min. 15 min. 15	Before aging
	HT	C1720B-HT	from 1 up to 6 over 6 up to 94	1270 – 1650 —	—	37 – 45	min. 22 min. 22	315°C × 2hr 315°C × 3hr
11	AT(OT)	BeCuB11-AT	over 13.3 up to 120	—	92 – 105	—	min. 50	—
	HT	BeCuB11-HT	from 1 up to 6 over 6 up to 13.3	760 – 965 —	—	—	—	—

1) B in column "Designation" represents "bar" or "rod" 2), 3) If hardness specification is designated, tensile test will not be applied.

4) Vickers hardness and electrical conductivity are for design guidance only. 5) If the diameter or width across flats is not exceeding 19mm, the conditions shall be 315°C × 2h.

Properties of Wire

Alloy	Temper	Designation	Diameter (mm)	Tensile Strength (N/mm ²)	Electrical conductivity (%ACS)	Heat treatment
25	A(O)	C1720W-A	from 0.14 up to 1.4	390 – 540	—	Before aging
	AT(OT)	C1720W-AT	—	1100 – 1380	min. 22	315°C × 3hr
	1/4H	C1720W-1/4H	from 0.3 up to 7	620 – 805	—	Before aging
	1/4HT	C1720W-1/4HT	—	1210 – 1450	min. 22	315°C × 2hr
	3/4H	C1720W-3/4H	from 0.1 up to 7	835 – 1070	—	Before aging
	3/4HT	C1720W-3/4HT	—	1300 – 1590	min. 22	315°C × 2hr
	H	C1720W-H	form 0.07 up to 0.5	950 – 1250	—	Before aging
	HT	C1720W-HT	—	min. 1400	min. 22	315°C × 1hr
	EH	C1720W-EH	form 0.05 up to 0.4	min. 1200	—	Before aging
	EHT	C1720W-EHT	—	min. 1500	min. 22	260°C × 1hr

1) W in column "Designation" represents "Wire" 2) Electrical conductivity are for design guidance only.

Diameter Tolerance of Rod and Wire

rod				wire	
25A and H, 11AT and HT		25AT and HT		25	
Nominal diameter	tolerance	Nominal diameter	tolerance	Nominal diameter	tolerance
1 up to 5	±0.01	1 up to 5	±0.01	0.05 less than 0.10	±0.003
over 5 up to 13.3	±0.02	over 5 up to 13.3	±0.02	0.10 up to 0.25	±0.005
over 13.3 up to 20	±0.08	over 13.3 up to 20	±0.08	over 0.25 up to 0.3	±0.008
over 20 up to 35	±0.10	over 20 up to 35	±0.10	over 0.3 up to 0.5	±0.010
over 35 up to 55	±0.12	over 35 up to 55	±0.12	over 0.5 up to 1	±0.015
over 55 up to 120 **up to 94 for 25H temper	+1/-0	over 55 up to 120 **up to 94 for HT temper	+1/-0	over 1 up to 2	±0.020
				over 2 up to 5	±0.025
				over 5 up to 7	±0.030

note) When the tolerance is specified either plus or minus side only, the same range of tolerance shall be applied.