

The speed of lathes is rated in RPM (revolutions per minute). A rule of thumb is that the lathe RPM should be set so that the speed at the outside circumference of the workpiece should never exceed 27 feet per second. That relates to a different speed for each diameter work piece. Most early hobbyist lathes were limited to a workpiece of 12" diameter, hence the minimum speed was usually 500 RPM and there was little motivation to provide lower speeds. Lathes now come capable of holding much larger workpieces. Most, but not all, of the larger lathes are capable in one way or another of slower speeds.

Of course, the actual speed you set with your lathe and workpiece depends on more than the diameter; for example, mass imbalance and structural integrity.

This chart shows the maximum speed that can be set for each diameter workpiece to stay within the 27 feet per second rule of thumb. Red readings do not meet the rule of thumb.

D "	C "	Speed RPM											
		100	200	300	400	500	600	700	800	900	1000	1100	1200
		Feet / Second											
5	16	2.18	4.4	6.5	8.7	10.9	13.1	15.3	17.5	19.6	21.8	24.0	26.2
6	19	2.62	5.2	7.9	10.5	13.1	15.7	18.3	20.9	23.6	26.2	28.8	31.4
7	22	3.05	6.1	9.2	12.2	15.3	18.3	21.4	24.4	27.5	30.5	33.6	36.7
8	25	3.49	7.0	10.5	14.0	17.5	20.9	24.4	27.9	31.4	34.9	38.4	41.9
9	28	3.93	7.9	11.8	15.7	19.6	23.6	27.5	31.4	35.3	39.3	43.2	47.1
10	31	4.36	8.7	13.1	17.5	21.8	26.2	30.5	34.9	39.3	43.6	48.0	52.4
11	35	4.80	9.6	14.4	19.2	24.0	28.8	33.6	38.4	43.2	48.0	52.8	57.6
12	38	5.24	10.5	15.7	20.9	26.2	31.4	36.7	41.9	47.1	52.4	57.6	62.8
13	41	5.67	11.3	17.0	22.7	28.4	34.0	39.7	45.4	51.1	56.7	62.4	68.1
14	44	6.11	12.2	18.3	24.4	30.5	36.7	42.8	48.9	55.0	61.1	67.2	73.3
15	47	6.54	13.1	19.6	26.2	32.7	39.3	45.8	52.4	58.9	65.4	72.0	78.5
16	50	6.98	14.0	20.9	27.9	34.9	41.9	48.9	55.9	62.8	69.8	76.8	83.8
17	53	7.42	14.8	22.3	29.7	37.1	44.5	51.9	59.3	66.8	74.2	81.6	89.0
18	57	7.85	15.7	23.6	31.4	39.3	47.1	55.0	62.8	70.7	78.5	86.4	94.2

19	60	8.29	16.6	24.9	33.2	41.5	49.7	58.0	66.3	74.6	82.9	91.2	99.5
20	63	8.73	17.5	26.2	34.9	43.6	52.4	61.1	69.8	78.5	87.3	96.0	104.7