



DRILL SIZE CONVERSIONS (Fractional inches & letter sizes / Millimetres / Decimal inches)

Compiled by Phil Dart for Beaufort Ink Ltd

Fractional Inches	mm	Decimal inches	Fractional Inches	mm	Decimal inches	Fractional Inches	mm	Decimal inches	Fractional Inches	mm	Decimal inches	Fractional Inches	mm	Decimal inches
1/64	0.40	0.0156	1/8	3.00	0.1181	7/32	5.56	0.2188	Letter M	7.40	0.2913	3/8	9.40	0.3701
	0.50	0.0197		3.10	0.1220	5.60	0.2205	7.49		0.2949	9.50		0.3740	
	0.60	0.0236		3.18	0.1250	5.70	0.2244	7.50		0.2953	9.53		0.3750	
	0.70	0.0276		3.20	0.1260	5.75	0.2264	7.54		0.2969	9.56		0.3764	
	0.75	0.0295		3.25	0.1280	5.80	0.2283	7.60		0.2992	9.60		0.3780	
1/32	0.79	0.0313	9/64	3.30	0.1299	Letter A	5.90	0.2323	Letter N	7.67	0.3020	Letter W	9.70	0.3819
	0.80	0.0315		3.40	0.1339		5.94	0.2339		7.70	0.3031		9.75	0.3839
	0.90	0.0354		3.50	0.1378		5.95	0.2344		7.75	0.3051		9.80	0.3858
	1.00	0.0394		3.57	0.1406		6.00	0.2362		7.80	0.3071		9.90	0.3898
	1.10	0.0433		3.60	0.1417		6.05	0.2382		7.90	0.3110		9.92	0.3906
3/64	1.19	0.0469	5/32	3.70	0.1457	Letter B	6.10	0.2402	5/16	7.94	0.3125	25/64	10.00	0.3937
	1.20	0.0472		3.75	0.1476		6.15	0.2421		8.00	0.3150		10.08	0.3969
	1.25	0.0492		3.80	0.1496		6.20	0.2441		8.03	0.3161		10.10	0.3976
	1.30	0.0512		3.90	0.1535		6.25	0.2461		8.10	0.3189		10.20	0.4016
	1.40	0.0551		3.97	0.1563		6.30	0.2480		8.20	0.3228		10.25	0.4035
1/16	1.50	0.0591	11/64	4.00	0.1575	1/4	6.35	0.2500	Letter P	8.25	0.3248	Letter Y	10.26	0.4039
	1.59	0.0625		4.10	0.1614		6.35	0.2500		8.30	0.3268		10.30	0.4055
	1.60	0.0630		4.20	0.1654		6.40	0.2520		8.33	0.3281		10.32	0.4063
	1.70	0.0669		4.25	0.1673		6.50	0.2559		8.40	0.3307		10.40	0.4094
	1.75	0.0689		4.30	0.1693		6.53	0.2571		8.43	0.3319		10.49	0.4130
5/64	1.80	0.0709	3/16	4.37	0.1719	Letter F	6.60	0.2598	Letter Q	8.50	0.3346	Letter Z	10.50	0.4134
	1.90	0.0748		4.40	0.1732		6.63	0.2610		8.60	0.3386		10.60	0.4173
	1.98	0.0781		4.50	0.1772		6.70	0.2638		8.61	0.3390		10.70	0.4213
	2.00	0.0787		4.60	0.1811		6.75	0.2657		8.70	0.3425		10.72	0.4219
	2.10	0.0827		4.70	0.1850		6.76	0.2661		8.73	0.3438		10.75	0.4232
3/32	2.20	0.0866	13/64	4.75	0.1870	Letter H	6.80	0.2677	11/32	8.75	0.3445	27/64	10.80	0.4252
	2.25	0.0886		4.76	0.1875		6.90	0.2717		8.80	0.3465		10.90	0.4291
	2.30	0.0906		4.80	0.1890		6.91	0.2720		8.84	0.3480		11.00	0.4331
	2.38	0.0938		4.90	0.1929		7.00	0.2756		8.90	0.3504		11.10	0.4370
	2.40	0.0945		5.00	0.1969		7.04	0.2772		9.00	0.3543		11.11	0.4375
7/64	2.50	0.0984	Letter I	5.10	0.2008	Letter J	7.10	0.2795	Letter T	9.09	0.3579	7/16	11.20	0.4409
	2.60	0.1024		5.16	0.2031		7.14	0.2813		9.10	0.3583		11.25	0.4429
	2.70	0.1063		5.20	0.2047		7.14	0.2813		9.13	0.3594		11.30	0.4449
	2.78	0.1094		5.25	0.2067		7.20	0.2835		9.20	0.3622		11.40	0.4488
	2.75	0.1083		5.30	0.2087		7.25	0.2854		9.25	0.3642		11.50	0.4528
	2.80	0.1102	5.40	0.2126	7.30	0.2874	9.30	0.3661	11.51	0.4531				
	2.90	0.1142	5.50	0.2165	Letter L	7.37	0.2902	Letter U	9.35	0.3681	29/64	11.60	0.4567	

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15/32	11.70	0.4606	37/64	14.60	0.5748	11/16	17.25	0.6791	51/64	19.90	0.7835	57/64	22.62	0.8906
	11.75	0.4626		14.68	0.5781		17.30	0.6811		20.00	0.7874		22.70	0.8937
	11.80	0.4646		14.70	0.5787		17.40	0.6850		20.10	0.7913		22.75	0.8957
	11.90	0.4685		14.75	0.5807		17.46	0.6875		20.20	0.7953		22.80	0.8976
	11.91	0.4688		14.80	0.5827		17.50	0.6890		20.24	0.7969		22.90	0.9016
	12.00	0.4724		14.90	0.5866		17.60	0.6929		20.25	0.7972		23.00	0.9055
	12.10	0.4764		15.00	0.5906		17.70	0.6969		20.30	0.7992		29/32	23.02
31/64	12.20	0.4803	19/32	15.08	0.5938	45/64	17.75	0.6988	13/16	20.40	0.8031	59/64	23.10	0.9094
	12.25	0.4823		15.10	0.5945		17.80	0.7008		20.50	0.8071		23.20	0.9134
	12.30	0.4843		15.20	0.5984		17.86	0.7031		20.60	0.8110		23.25	0.9154
	12.40	0.4882		15.25	0.6004		17.90	0.7047		20.64	0.8125		23.30	0.9173
1/2	12.50	0.4921	39/64	15.30	0.6024	23/32	18.00	0.7087	53/64	20.70	0.8150	15/16	23.40	0.9213
	12.60	0.4961		15.40	0.6063		18.10	0.7126		20.75	0.8169		23.42	0.9219
	12.70	0.5000		15.48	0.6094		18.20	0.7165		20.80	0.8189		23.50	0.9252
	12.75	0.5020		15.50	0.6102		18.25	0.7185		20.90	0.8228		23.60	0.9291
	12.80	0.5039		15.60	0.6142		18.26	0.7188		21.00	0.8268		23.70	0.9331
33/64	12.90	0.5079	5/8	15.70	0.6181	47/64	18.30	0.7205	27/32	21.03	0.8281	61/64	23.75	0.9350
	13.00	0.5118		15.75	0.6201		18.40	0.7244		21.10	0.8307		23.80	0.9370
	13.10	0.5157		15.80	0.6220		18.50	0.7283		21.20	0.8346		23.81	0.9375
	13.20	0.5197		15.88	0.6250		18.60	0.7323		21.25	0.8366		23.90	0.9409
	13.25	0.5217		15.90	0.6260		18.65	0.7344		21.30	0.8386		24.00	0.9449
	13.30	0.5236		16.00	0.6299		18.70	0.7362		21.40	0.8425		24.10	0.9488
17/32	13.40	0.5276	41/64	16.10	0.6339	3/4	18.75	0.7382	55/64	21.43	0.8438	31/32	24.20	0.9528
	13.49	0.5313		16.20	0.6378		18.80	0.7402		21.50	0.8465		24.21	0.9531
	13.50	0.5315		16.25	0.6398		18.90	0.7441		21.60	0.8504		24.25	0.9547
	13.60	0.5354		16.27	0.6406		19.00	0.7480		21.70	0.8543		24.30	0.9567
	13.70	0.5394		16.30	0.6417		19.05	0.7500		21.75	0.8563		24.40	0.9606
35/64	13.75	0.5413	21/32	16.40	0.6457	49/64	19.10	0.7520	7/8	21.80	0.8583	63/64	24.50	0.9646
	13.80	0.5433		16.50	0.6496		19.20	0.7559		21.83	0.8594		24.60	0.9685
	13.89	0.5469		16.60	0.6535		19.25	0.7579		21.90	0.8622		24.61	0.9688
	13.90	0.5472		16.67	0.6563		19.30	0.7598		22.00	0.8661		24.70	0.9724
	14.00	0.5512		16.70	0.6575		19.40	0.7638		22.10	0.8701		24.75	0.9744
	14.10	0.5551		16.75	0.6594		19.45	0.7656		22.20	0.8740		24.80	0.9764
	14.20	0.5591		16.80	0.6614		19.50	0.7677		22.23	0.8750		24.90	0.9803
9/16	14.25	0.5610	43/64	16.90	0.6654	25/32	19.60	0.7717	1	22.25	0.8760	1	25.00	0.9844
	14.29	0.5625		17.00	0.6693		19.70	0.7756		22.30	0.8780		25.40	1.0000
	14.30	0.5630		17.07	0.6719		19.75	0.7776		22.40	0.8819			
	14.40	0.5669		17.10	0.6732		19.80	0.7795		22.50	0.8858			
	14.50	0.5709		17.20	0.6772		19.84	0.7813		22.60	0.8898			

Calculating conversions yourself

Forgive me if I'm teaching you something you already know, but it's been a while since a lot of us went to school, so a quick recap of fractions and how to convert them to millimetres and decimals might be handy for some.

Fractions are written as a number above the line (the numerator) and a number below the line (the denominator).

The denominator denotes how many parts the whole unit is being divided into. The numerator denotes how many of those parts you actually have.

For example, if the fraction is $3/16$, the whole unit is being divided into 16 parts (or into sixteenths), and you have 3 of them (or three sixteenths)

In fact $6/32$ is actually the same number, since the unit is being divided in parts that are half as big as 16ths but you have twice as many of them, however fractions are normally written using the *highest common denominator*. By that rationale, $12/64$ is also the same number.

The equations below assume that fractions are described as n/d where n is the numerator and d is the denominator.

1 inch = 25.4mm

Fractions to decimals = $n \div d$

Example: $3/16 = 3 \div 16 = 0.1875$

Fractions to millimetres = $25.4 \times n \div d$

Example: $3/16 = 25.4 \times 3 \div 16 = 4.76\text{mm}$

Millimetres to decimal inches = $1 \div 25.4 \times \text{mm}$

Example: $10.7\text{mm} = 1 \div 25.4 \times 10.7 = 0.4213$

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