LINKING DIMENSIONS

Scratch building requires dealing with a variety of dimensional systems; not just English and metric, but also systems for wire, drills and hardware. This table, updated in 2023, attempts to link those that are most likely to be used. Each row represents a common diameter.

Dimensions					American* Wire Gauge			Selected Telescopic Round Brass Tubes				Clearance Drill Sizes			Hardware							Tap Drill Sizes**		
															(typical dimensions)					Rod Dia		Hole Dia for		
English		Metric		Selected Full Size				Normal		Thin Wall					Size	Bolt Shaft		Hex Head		for External		Internal Thread Tap		
Fraction	Decimal		Round	Eqvlt				OD	ID	OD	ID	#	ins	mm				(across flats)		Thread Die				(Drill
in	in	mm	mm	(1/8 Scale)	Ga	ins	mm	(.014" Wall)		(.006" Wall)						(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	Size)
					28	0.014	0.36																	
1/64	0.016	0.40	0.4	1/8								78	0.016	0.41										
					26	0.017	0.43																	
					24	0.020	0.50			0.5mm	0.3mm	76	0.020	0.51	0.5mm	0.020	0.50	0.030	0.76	24 Gauge	0.50	0.015	0.37	79
				3/16								74	0.022	0.56	0000-160	0.021	0.53	0.047	1.19	23 Gauge	-	0.018	0.46	77
					22	0.025	0.64								0.6mm	0.024	0.60	0.039	1.00			0.021	0.53	75
1/32	0.031	0.79	0.8	1/4						1/32	1/64	68	0.031	0.79	0.8mm	0.031	0.80	0.042	1.07	1/32	0.80	0.026	0.66	71
										0.8mm	0.6mm													
					20	0.032	0.81																	
												66	0.033	0.84										
															000-120	0.034	0.83	0.08	2.00	0.036	-	0.029	0.74	69
												64	0.036	0.91										
										1.0mm	0.8mm													
				5/16	18	0.040	1.02					60	0.040	1.02	1.0mm	0.036	1.00	0.056	1.40	0.040	1.00	0.031	0.79	68
															1.2mm	0.045	1.14	5/64	1.98			0.038	0.97	62
3/64	0.047	1.19	1.2	3/8						3/64	1/32	56	0.047	1.19	00-90	0.047	1.19	5/64	1.98	3/64	1.20	0.041	1.04	59
					16	0.051	1.30																	
															0-80	0.060	1.52	3/32	2.38	1/16	1.50	0.055	1.40	54
1/16	0.063	1.59		1/2	14	0.064	1.63	1/16	1/32	1/16	3/64	52	0.063	1.60										
															1-72	0.073	1.85	7/64	2.78	0.072	-	0.060	1.51	53
5/64	0.078	1.98	2.0	5/8				5/64	3/64	5/64	1/16				Pocher Rod	0.079	2.00			5/64	2.00	0.063	1.61	52
								2.0mm	1.1mm															
					12	0.081	2.06					46	0.081	2.06	2-56	0.084	2.13	1/8	3.18	0.086	-	0.067	1.70	51
3/32	0.094	2.38		3/4				3/32	1/16	3/32	5/64	42	0.094	2.39										
					10	0.102	2.59																	
7/64	0.109	2.78		7/8				7/64	5/64	7/64	3/32													
1/8	0.125	3.18		1				1/8	3/32	1/8	7/64													
9/64	0.141	3.57						9/64	7/64	9/64	1/8													
5/32	0.156	3.97	4.0	11/4				5/32	1/8	5/32	9/64													
11/64	0.172	4.37						11/64	9/64	11/64	5/32													
3/16	0.188	4.76		11/2				3/16	5/32	3/16	11/64													
13/64	0.203	5.16																						
7/32	0.219	5.56																						
15/64	0.234	5.95	6.0																					
1/4	0.250	6.35																						
17/64	0.266	6.75																						
9/32	0.281	7.14																				** Will result in approx. 75% -		
19/64	0.297	7.54																				80% of thread depth in "soft"		
5/16	0.313	7.94	8.0																			metals and plastic.		