

									Std Dia.:	Hunt Dia.							
									0.31250	0.34375							
Material	S.G. @ 12% moisture [1]	Stiffness (GPa) [2]	Modulus of rupture (MPa) [3]	Toughness (MPa) [4]	EqSD: Equivalent spine diameter (Std Dia. POC) [5]	EqSD, 1/64 inches [6]	Shaft drag ratio [7]	GPI @ EqSD (grains/inch) [8]	GPI @ Std Dia. (grains/inch) [9]	GPI @ Hunt Dia. [10]	Strength-to-weight ratio	Toughness-to-weight ratio [11]	Soft/Hard	Pre-made dowels available?	Ballistic Index - Linear [12]	Ballistic Index - Quadratic [13]	
Bamboo light	0.64	18.00	76.0	0.16	0.2785	18	0.79	9.9	12.4	15.0	119	0.25	Cane	Yes	1.16	1.47	
Sitka spruce	0.42	11.03	70.0	0.22	0.3147	20	1.01	8.3	8.1	9.9	167	0.53	Softwood	Yes	1.09	1.07	
Greenheart	1.01	24.64	185.5	0.70	0.2574	16	0.68	13.3	19.6	23.7	184	0.69	Hardwood	No	1.01	1.49	
Port Orford cedar	0.47	11.35	84.8	0.32	0.3125	20	1	9.1	9.1	11.0	180	0.67	Softwood	Yes	1.00	1.00	
Douglas fir	0.51	12.17	86.2	0.31	0.3071	20	0.97	9.6	9.9	12.0	169	0.60	Softwood	Yes	0.99	1.02	
Poplar	0.46	10.90	69.7	0.22	0.3157	20	1.02	9.1	8.9	10.8	152	0.48	Hardwood	Yes	0.98	0.96	
Ramin	0.66	15.55	120.9	0.47	0.2888	18	0.85	10.9	12.8	15.5	183	0.71	Hardwood	Yes	0.98	1.14	
Bamboo heavy	0.85	20.00	168.6	0.71	0.2712	17	0.75	12.4	16.5	19.9	198	0.84	Cane	Yes	0.97	1.29	
Purpleheart	0.90	20.26	151.7	0.57	0.2704	17	0.75	13.1	17.5	21.1	169	0.63	Hardwood	No	0.93	1.25	
Western larch	0.58	12.90	89.7	0.31	0.3027	19	0.94	10.6	11.2	13.6	155	0.54	Softwood	No	0.92	0.98	
Ipe	1.10	22.07	177.0	0.71	0.2646	17	0.72	15.3	21.3	25.8	161	0.65	Hardwood	No	0.83	1.16	
Balau	0.85	16.95	122.3	0.44	0.2827	18	0.82	13.5	16.5	19.9	144	0.52	Hardwood	Yes	0.83	1.01	
Hickory (Pignut)	0.83	15.59	138.6	0.62	0.2887	18	0.85	13.7	16.1	19.5	167	0.74	Hardwood	Yes	0.78	0.91	
Hickory (Shagbark)	0.80	14.90	139.3	0.65	0.2919	19	0.87	13.5	15.5	18.8	174	0.81	Hardwood	Yes	0.77	0.88	
Birch	0.61	10.97	84.8	0.33	0.3152	20	1.02	12.0	11.8	14.3	139	0.54	Hardwood	Yes	0.74	0.73	
Hard Maple	0.71	12.62	109.0	0.47	0.3043	19	0.95	13.1	13.8	16.7	154	0.66	Hardwood	Yes	0.74	0.78	
Red Oak	0.70	12.14	99.2	0.41	0.3073	20	0.97	13.1	13.6	16.4	142	0.58	Hardwood	Yes	0.72	0.74	
Honduran Mahogany	0.59	10.06	80.8	0.32	0.3221	21	1.06	12.2	11.4	13.8	137	0.55	Hardwood	Yes	0.71	0.66	
Hophornbeam	0.79	11.72	97.2	0.40	0.3100	20	0.98	15.1	15.3	18.5	123	0.51	Hardwood	No	0.61	0.62	

- [1] Specific gravity is a measure of density relative to the density of water.
- [2] Stiffer woods will be a smaller diameter for a given spine. Stiffer woods will be available in higher spines for a given diameter.
- [3] A measure of the overall strength of the wood.
- [4] Toughness is the amount of energy the wood can absorb without breaking.
- [5] This is the diameter an arrow of this wood, having the same spine as a Port Orford Cedar arrow of the standard diameter. Stiffer woods will have smaller equivalent diameters, meaning you can achieve the same spine as POC using a skinnier shaft.
- [6] Same as equivalent spine diameter, just in 64ths of an inch, for easier reading.
- [7] A measure of how aerodynamic an arrow of this wood is, relative to a POC arrow of equivalent spine. The smaller the ratio, the lower the drag and better the aerodynamics. Stiff woods have smaller equivalent diameters and therefore lower (better) drag ratios.
- [8] Grains per inch of an arrow shaft with spine equal to a POC shaft of standard diameter
- [9] Grains per inch of an arrow shaft of standard diameter
- [10] Grains per inch of a shaft with "hunt" diameter (1 1/32")
- [11] How tough the wood is for its density.
- [12] A combination of shaft weight and shaft aerodynamic drag, relative to POC. POC has a value of 1. Lighter, stiffer woods have higher values; denser, more flexible woods have lower values. Theoretically, higher number tends to indicate a wood better for flight or long-distance target shooting.
- [13] If you care more about aerodynamic drag than overall arrow mass.