Wood density chart

Density is not one number per species — it rises with moisture content, so this table gives it at four reference points, densest first at 12% MC. Click a column header to re-sort.

Wood density by species and moisture content

Species ↑	lb/ft³ at 8% ↕	12% ↕	15% ↕	19% ↕	kg/m³ at 12% ↕	SG (gree
Alaska Yellow Cedar	30.8	31.5	31.9	32.5	504	
American Beech	42.4	43.0	43.4	44.0	689	
American Elm	34.1	34.7	35.2	35.8	556	
Baldcypress	30.8	31.5	31.9	32.5	504	
Balsam Fir	23.8	24.4	24.8	25.3	390	
Basswood	23.0	23.6	24.0	24.5	378	
Black Cherry	34.9	35.5	36.0	36.6	569	
Black Locust	51.0	51.6	51.9	52.4	826	
Black Walnut	38.2	38.8	39.3	39.9	622	
Douglas Fir	33.2	33.9	34.4	35.0	543	
Eastern Cottonwood	26.9	27.5	27.9	28.5	440	
Eastern Hemlock	27.7	28.3	28.7	29.3	453	
Eastern White Pine	24.5	25.1	25.6	26.1	403	
Engelmann Spruce	23.8	24.4	24.8	25.3	390	
Grand Fir	25.3	25.9	26.4	26.9	415	
Hem-Fir (Western Hemlock)	30.8	31.5	31.9	32.5	504	
Incense Cedar	25.3	25.9	26.4	26.9	415	
Interior Douglas Fir	34.1	34.7	35.2	35.8	556	
Lodgepole Pine	27.7	28.3	28.7	29.3	453	
Longleaf Pine	40.7	41.3	41.8	42.3	662	
Northern White Cedar	20.7	21.3	21.7	22.2	341	
Ponderosa Pine	27.7	28.3	28.7	29.3	453	
Quaking Aspen	25.3	25.9	26.4	26.9	415	
Red Alder	26.9	27.5	27.9	28.5	440	

Species ↑	lb/ft³ at 8% ↕	12% ↕	15% ↕	19% ↕	kg/m³ at 12% ↕	SG (gree
Red Maple	36.5	37.2	37.6	38.2	595	
Red Oak	42.4	43.0	43.4	44.0	689	
Red Pine	30.0	30.7	31.1	31.7	491	
Red Spruce	26.9	27.5	27.9	28.5	440	
Redwood	27.7	28.3	28.7	29.3	453	
Shagbark Hickory	49.3	49.8	50.2	50.7	798	
Shortleaf Pine	34.9	35.5	36.0	36.6	569	
Sitka Spruce	26.9	27.5	27.9	28.5	440	
Southern Yellow Pine (Loblolly)	34.9	35.5	36.0	36.6	569	
SPF (White Spruce)	23.8	24.4	24.8	25.3	390	
Sugar Maple	42.4	43.0	43.4	44.0	689	
Sugar Pine	24.5	25.1	25.6	26.1	403	
Sweetgum	34.1	34.7	35.2	35.8	556	
Tamarack	36.5	37.2	37.6	38.2	595	
Western Larch	35.7	36.3	36.8	37.4	582	
Western Red Cedar	22.2	22.8	23.2	23.7	365	
Western White Pine	25.3	25.9	26.4	26.9	415	
White Ash	41.5	42.1	42.6	43.2	675	
White Fir	26.9	27.5	27.9	28.5	440	
White Oak	45.8	46.4	46.8	47.3	743	
Yellow Birch	41.5	42.1	42.6	43.2	675	
Yellow Poplar	29.2	29.9	30.3	30.9	478	

> Every column here comes from the same model: basic specific gravity (the SG column, ovendry mass over green volume) converted to density at a given moisture content by Wood Handbook Eq. 4-13/4-14. Weight then follows from density times a piece's actual dressed volume — see methodology for the full derivation and its known limits.

Weights computed from USDA Forest Products Laboratory and NIST PS 20-25 data — US Government works, public domain. Actual boards vary; verify critical loads with the piece in hand.