

# Hard Maple and Yellow Birch under European Standards



Properties	Hard Maple <sup>1</sup> ( <i>Acer saccharum</i> )	Yellow Birch <sup>2</sup> ( <i>Betula alleghaniensis</i> )
Density at 12% in kg/m <sup>3</sup> (Standard: EN 408)	740	750
Compressive strength in N/mm <sup>2</sup> (Standard: NF B1-007 - EN 408)	61	71
Flexural strength in N/mm <sup>2</sup> (Standard: NF EN 408)	147	156
Bending modulus in N/mm <sup>2</sup> (Standard: NF EN 408)	14000	17800
Brinell hardness, perpendicular to grain in N/mm <sup>2</sup> (Standard: EN 1534)	53	42
Monnin hardness mm-1 (Standard: NF B51-013)	5.1	8.7
Impregnability / Perfect wood (Standard: EN 350-1)	Impregnable	Impregnable
Stability in service (Standard: B51-006)	Low to average stability	Low to average stability
Tangential shrinkage in % (Standard: B51-006)	9.41	8.03
Radial shrinkage in % (Standard: B51-006)	5.29	9.87
Volumetric shrinkage in % (Standard: B51-006)	14.68	14.58
Conductivity in W/(m.k) (Standard: EN 10456)	0.18	0.18
Withdrawal resistance of screws in kN (Standard: 1382)	5.40 (with pre-drilling) 6.11 (without pre-drilling)	4.07 (with pre-drilling) 6.13 (without pre-drilling)

1. Crittbois test no. 2013-460/Epinal, October 24, 2013 + main characteristics tested

2. Crittbois test no. 2014-308/Epinal, July 10, 2014 + main characteristics tested