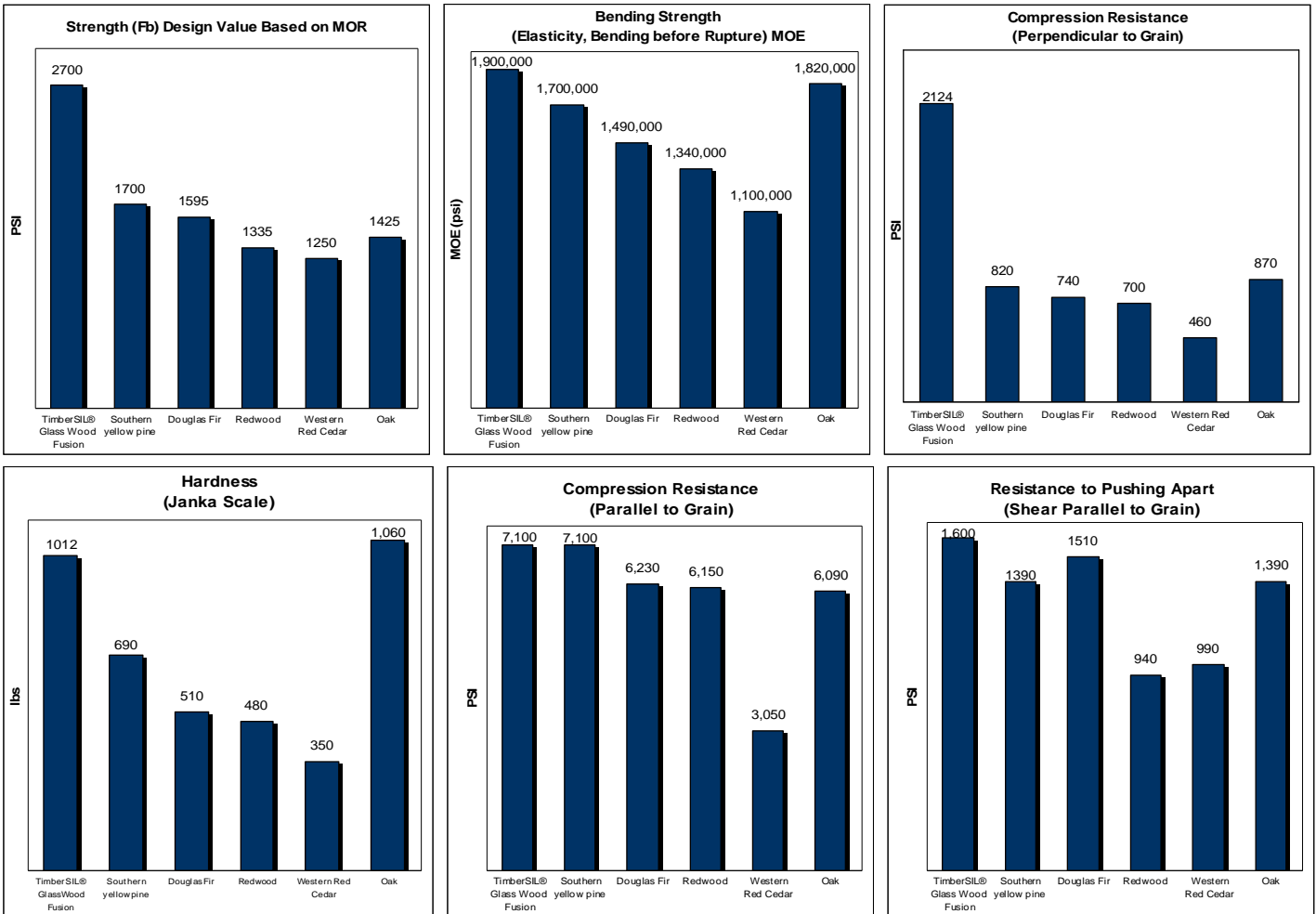




How TimberSIL® Strength Compares to Selected Wood Species

TimberSIL® Glass Wood fusion products are incredibly strong, resistant to fire, and durable. TimberSIL® is a southern yellow pine Glass Wood fusion material. By combining the strengths of two materials, glass and wood, TimberSIL® achieves exceptional strength while maintaining the flexibility necessary to absorb the shocks of earthquakes and the rumbles of trains.¹

The F_b design value shows that TimberSIL® is stronger than all softwoods, and stronger than all commercially available US hardwoods. This includes pecan, maple, oak, ash, beech, cherry, walnut, hickory, and poplar. The TimberSIL® Glass Wood fusion turns southern yellow pine softwood into hardwood and converts juvenile wood from plantation farms into the equivalent in strength of old growth wood.



Properties	TimberSIL® Glass Wood Fusion	Southern Yellow Pine	Douglas Fir	Red Wood	Western Red Cedar	Oak
Strength (rupture) MOR (psi)	16,000	13,100	11,900	10,000	7,500	14,300
F_b based MOR (psi)	2700	1700	1595	1335	1250	1425
Strength (elasticity) MOE (psi)	1,900,000	1,700,000	1,490,000	1,340,000	1,100,000	1,820,000
Compression parallel to grain (psi)	7,100	7100	6,230	6,150	3,050	6,090
Compression perpendicular to grain (psi) (proportional limit)	2124	820	740	700	460	870
Tension parallel to grain (psi)	15,000	12,800	11,000	9400	6600	16,700
Shear parallel to grain (psi)	1,600	1390	1510	940	990	1,390
Hardness (lb)	1012	690	510	480	350	1,060

¹ Sources of data for the comparisons to other wood are: US Forest Products Laboratory, 1999, Wood Handbook, Wood as an Engineering Material, General Technical Report FPL-GTR-113, Forest Service, United States Department of Agriculture. and American Wood Council, 2005, Supplement to span tables for joists and rafters in Design values for joists and rafters, American Forest & Paper Association, Washington, DC.