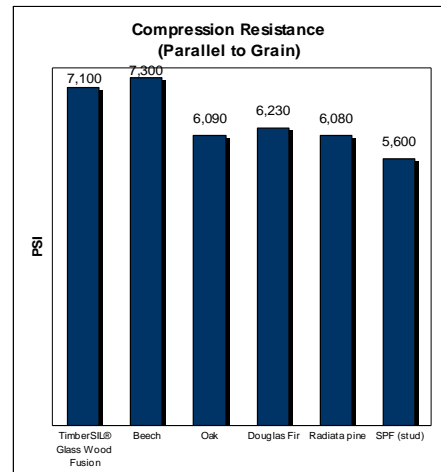
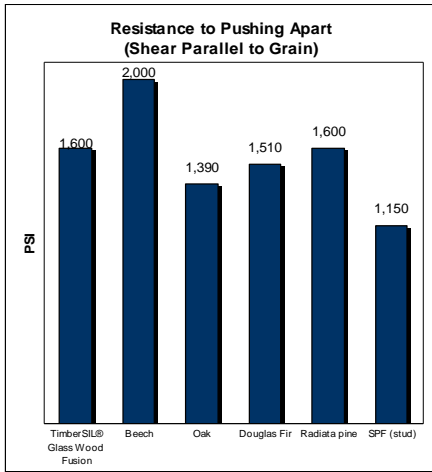
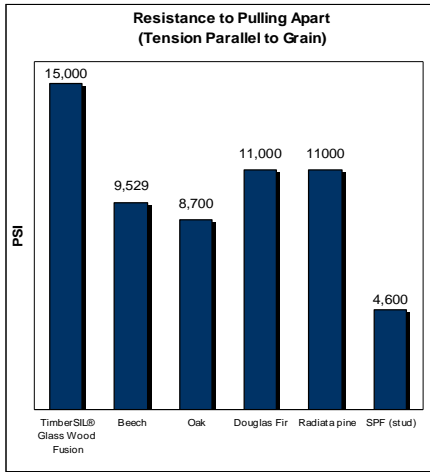
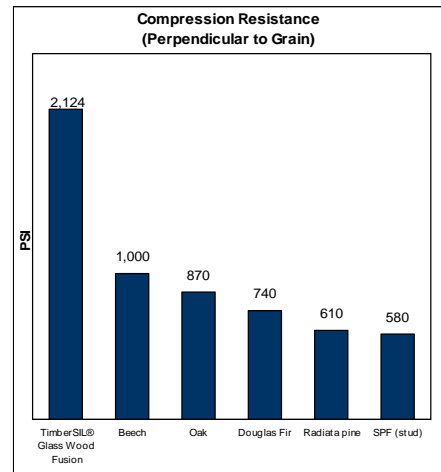
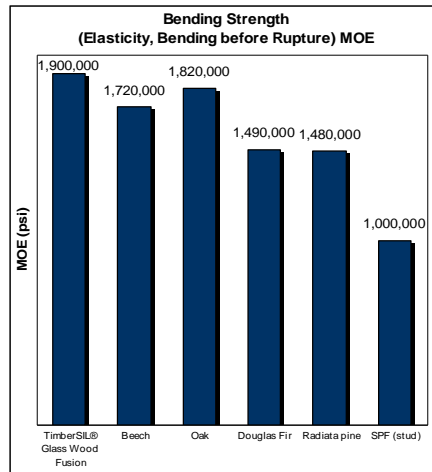
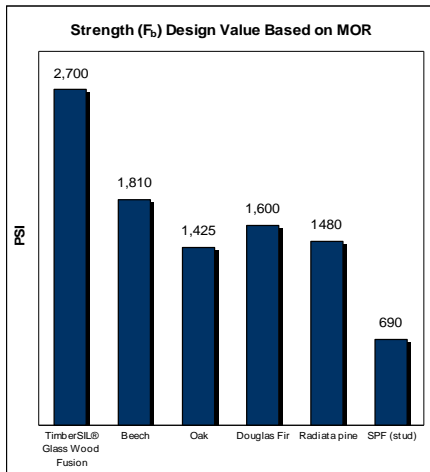




How TimberSIL® Strength Compares to Selected Wood Species

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	Beech	Oak	Douglas Fir	Radiata Pine	SPF (stud)
Strength (rupture) MOR (psi)	16,000	14,900	14,300	11,900	11,700	10,200
F_b (psi) (Grade 1, 2x4)	2,700	1,810	1,425	1,600	1,480	690
Strength (elasticity) MOE (psi)	1,900,000	1,720,000	1,820,000	1,490,000	1,480,000	1,000,000
Compression parallel to grain (psi)	7,100	7,300	6,090	6,230	6,080	5,600
Compression perpendicular to grain (psi)	2,124	1,000	870	740	610	580
Tension parallel to grain (psi)	15,000	9,529	8,700	11,000	11,000	4,600
Shear parallel to grain (psi)	1,600	2,000	1,390	1,510	1,600	1,150
Hardness (lb)	1,012	500	1,060	510	750	510

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.