



Assessment to determine if the CLST properties met or exceeded performance targets calculated using the shear-analogy methodology in Appendix X3 of PRG 320.

Three-layer CLST manufactured with 1.55E LSL for Lignor Ltd., was evaluated through flatwise bending and shear testing. Mechanical properties for comparison to the predicted values, determined using the shear-analogy methodology in ANSI/APA PRG 320.

In all cases, the value for comparison must equal or exceed the predicted values determined using the shear-analogy methodology in PRG 320. For the CLST tested met performance requirements.



Northland

Conclusion

The results of the PFS TECO testing show that Lignor’s CLST produced with 1.55E LSL material is a superior choice for building construction. The higher bending stress and stiffness values allow higher load capacities, longer spans and/or reduced panel thicknesses compared to the other CLT products identified. It should be noted that while it is as much as 3 times stronger in bending than the CLT products in the major strength direction, it is 4 to 5 times stronger in bending in the minor strength direction. This is a significant advantage when using these panels in two-way floor/roof plate construction.

Sincerely,

Thomas D. Rines, PE, SE
Principal Partner

Professional Certification:

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Thomas D. Rines, PE, SE
MN Reg. No. 46116

CLST Manufactured with Laminated Strand Lumber									
Supplier	Grade	Major Strength Direction Lamination				Minor Strength Direction Lamination			
		F _{b,0}	E ₀	F _{v,0}	F _{s,0}	F _{b,0}	E ₀	F _{v,0}	F _{s,0}
		(psi)	(10 ⁶ psi)	(psi)	(psi)	(psi)	(10 ⁶ psi)	(psi)	(psi)
Lignor	Aspen	2620	1.55	155	50	2620	1.55	155	50
PRG 320	S2	1900	1.3	150	50	1900	1.3	150	50
Lignor CLST Difference		138%	119%	103%	100%	138%	119%	103%	100%