

American Railway Engineering and Maintenance of Way Association

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Clearly these are lower bound values, but one must be very careful if these are exceeded.

Similar tests were conducted with Douglas-fir Glued Laminated Timber Stringers at TAMU (Reference 1) at a stress level of 215 psi or higher, which is 30% higher than the Douglas-fir glulam design shear value of 165 psi published in Table 7-2-7.

Shear failure for Douglas-fir glued laminated timber at 215 to 216 psi in the TAMU tests occurred at:

- 142,000 cycles and
- 2,180,000 cycles

It is difficult, if not impossible, to distinguish between timbers that are only capable of carrying the lower bound capacities stipulated in the Grading Rules and those that are significantly stronger. Therefore, unit stresses for shear rating are limited to those shown in Table 7.3.1.

Add Reference 19:

A. S. Uppal, G. T. Fry, P. J. Sculley and B. C. Bartell, Fatigue Strength of Douglas Fir Railroad Bridge Stringers, Association of American Railroads/Transportation Technology Center, Inc.: Pueblo, CO, Research Publication R-953, 48 pages, Dec. 2001.