

E-LAM® Engineered Laminated Wood Structures - Fire Resistance



E-LAM® laminated wood structure after a grass fire shows minimal char and less than 1% reduction in strength.

Heavy wood construction develops a char at the rate of 1/40 in (0.65 mm) per minute under an ASTM E-119 fire exposure test.



Glulam laminated wood sample during (top photo) & after (above photo) ASTM E-119 fire exposure test.

ASTM E-119 Time & Temperature Table

5 min - 1,000° F	Engineered wood beams as small as 6-3/4" x 13-1/2" can be assigned a one-hour fire rating.
10 min - 1,300° F	
30 min - 1,550° F	
1 hr - 1,700° F	

Fire Type	Fire Exposure	Char Thickness	% of Strength Reduction W= 12.25 in. D= 36 in.
Grass Fire @ 1,500° F	1 Minute	0.025 in	1%
Brush Fire @ 1,500° F	5 Minutes	0.125 in	4%
Tall Brush Fire @ 1,500° F	7 Minutes	0.175 in	5%
Crown Forest Fire @ 2,000° F	10 Minutes	0.25 in	7%

Minimize pole fires due to loose ground wire to pole hardware connections. Engineered E-LAM[®] structure members are fabricated per ANSI 05.2 out of kiln dried lumber with insignificant shrinkage in the field.

