HW#4

Ex: Shear Stress – Bending Stress (Beam Design Problem)

**Given:** Beam shown below with cross-section. Max allowable stress in glue joint cannot exceed 300 psi.

**Find:**

a.) Magnitude & location of max shear stress  
b.) Shear stress in glue joint  
c.) Magnitude & location of max bending stress  
d.) Factor of safety, N if material is Aluminum 300 series w/ Sy = 18 ksi

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Cross-Section of Beam

Aluminum  
3003 – H12  
Sy = 18 ksi

Glue Joint  
\( \tau_g = 300 \text{ psi} \)