Remarks: See §5.2, pages 282 till 300

Answer:

a. Larger in position I than in position II

Explanation:

The average shear force: $\tau_{avg} = \left| \dfrac{s_x^{\mathrm{a}}}{b^{\mathrm{a}}} \right| = \left| -\dfrac{V_z S_z^{\mathrm{a}}}{I_{zz} b^{\mathrm{a}}} \right|$

In both positions, V_z, I_{zz} and b^{a} are the same, only the value S_z^{a} varies.

S_z^{a} is larger in position I than in position II.

S_z^{a} is determined by:

1) The area of the sliding element
2) The distance from the centroid of the surface area of the sliding
   element to the normal center of the cross-section

When the sliding element (the upper plank) of both positions are taken, then the distance from the centroid to the normal central in both cases are the same, whereas the surface area of the plank in position I is larger than in position II