

Practice on stresses and static admissibility

Let us consider the continuum body Ω in its present configuration where

$$\Omega = \{0 \leq x_1 \leq a; 0 \leq x_2 \leq b; 0 \leq x_3 \leq b; \} \quad (1)$$

and $\partial\Omega$ is boundaries of the domain Ω .

Question 1: What are the surface tractions over the boundary $\partial\Omega$ when the stress state is $\underline{\underline{\sigma}} = a(\underline{e}_3 \times \underline{e}_3)$?

Question 2: What are the surface tractions over the boundary $\partial\Omega$ when the stress state is $\underline{\underline{\sigma}}(\underline{x}) = \tau(\underline{e}_1 \otimes \underline{e}_3 + \underline{e}_3 \otimes \underline{e}_1)$?