



Problem Statement:

The dam is subjected to a water head of 10 m. The water is on the left side of the dam, and the right side is exposed to the atmosphere. The dam material has a unit weight of γ and a coefficient of friction of μ . Determine the safety factor against sliding.

QUESTION

The diagram shows a vertical dam of height H and base width B . On the left side, there is a water head of 10 m. A horizontal force P acts at a height of $\frac{H}{3}$ from the bottom. The weight W acts vertically downwards through the center of gravity. The resultant force R acts at an angle α from the vertical. A friction force F acts horizontally at the base. The angle of friction is ϕ .