

Exercise 7.1

A bridge crane has: trolley, two strand pulley with a centred load, width = 10 m, distance between the two briges = 2 m, load = 4000daN, $v_{\text{lift}} = 0.5 \text{ m/s}$, $v_{\text{movement}} = 2 \text{ m/s}$, time to accelerate = 9.1 m/s, springs: $\Delta L = 0.5 \text{ m}$. The cable has a resistance of 180 kg/mm^2 . The crane has a frequency which is approximately equal to low loads, medians and maximum a total duration of the mechanism of 50000 hours is estimated.

HYPOTHESIS: The load in line with the hook is the material load, weight of the hook and trolley do not have to be taken into account.

