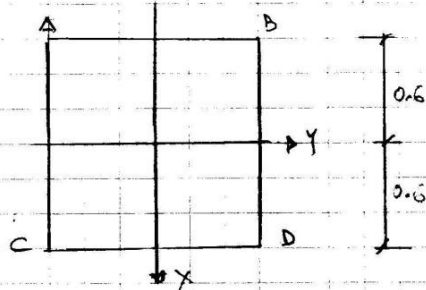


Ejemplo

Calcular el factor de seguridad contra el vuelco

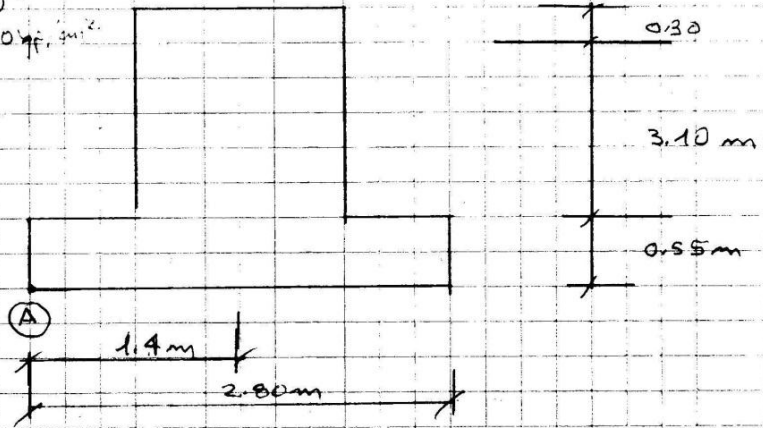
Datos



Peso unitario del suelo = 1955 kgf/m^3

Ángulo de fricción interna = 19°

$\gamma_{adm} = 1.50 \text{ kgf/m}^3$



$F_a = -40389.39 \text{ kgf (T)}$
 $F_b = 2427.11 \text{ kgf (C)}$
 $F_c = 1325.17 \text{ kgf (C)}$
 $F_d = 44076.45 \text{ kgf (C)}$

$P_{concreto} = 14.356 \times 2400 = 34454.4 \text{ kgf}$
 $P_{tierra} = 13.868 \times 1955 = 27111.94$
 $P_{tierra\ como} = 9.56 \times 1955 = 18689.8 \text{ kgf}$
 $P_{toma} = 6000 \text{ kgf}$
 $P_{suelo\ total} = 86256.14 \text{ kgf}$

$M_{x-x} = 52930.87 \text{ mkgf}$
 $M_{y-y} = 50810.6 \text{ mkgf}$

$FS = \frac{M_{resistente}}{M_{actuante}} = \frac{86256.14 \times 1.4}{52930.87} = 2.28 > 2.0$

Verifica