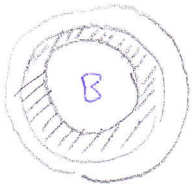
3-11

III. vyd



$d_o = 30\ mm$

$d_i = 25\ mm$ (stěna 2,5 mm)

$d_{ki} = 24\ mm$ (kámen 0,5 mm)

$\lambda_1 = 47\ W/m.K$ (ocel)

$\lambda_2 = \doteq 1{,}7\ W/m.K$ (kot. kámen) } CHI-tabulky

$\alpha_A = 10000\ W/m^2.K$ (vnější strana)

$\alpha_B = 4000\ W/m^2.K$ (vnitřní strana)

$t_w = 100°C$

$$K_L = \frac{\pi}{\frac{1}{\alpha_A d_o} + \frac{1}{2\lambda_1} \ln\frac{d_o}{d_i} + \frac{1}{2\lambda_2} \ln\frac{d_i}{d_{ki}} + \frac{1}{\alpha_B d_{ki}}}$$

$$K_L = \frac{\pi}{\frac{1}{10000 \cdot 0{,}030} + \frac{1}{2 \cdot 47} \ln\frac{30}{25} + \frac{1}{2 \cdot 1{,}7} \ln\frac{25}{24} + \frac{1}{4000 \cdot 0{,}024}}$$

kond. pára | ocel. stěna | kot. kámen | vnější voda

$$K_L = \pi / \{ 0{,}003333 + 0{,}001940 + 0{,}01201 + 0{,}01042 \}$$

$$K_L = 113{,}4\ W/m.K$$

(Bez kotelního kamene by $K_L = 205{,}7\ W/m.K$)