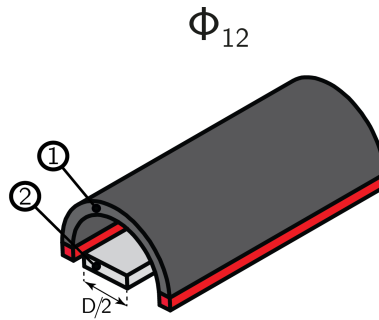


# View Factor 37

A long semi-circular body has a flat plate inside. Determine the view factor  $\Phi_{12}$ :



A flat plate can never see itself and therefore:

$$\Phi_{22} = 0$$

From the summation rule ( $\Phi_{21} + \Phi_{22} = 1$ ) one finds:

$$\Phi_{21} = 1$$

Using the reciprocity rule ( $\Phi_{12}A_1 = \Phi_{21}A_2$ ):

$$\Phi_{12} = \Phi_{21} \frac{A_2}{A_1} = \frac{\frac{1}{2}DL}{\frac{1}{2}\pi DL} = \frac{1}{\pi}$$