

# Annular Conductive Heat Transfer Coefficient @model

Mathematical model of [Heat Transfer Coefficient](#) through the [annulus](#) gap between concentric [pipes](#) filled with [solid body](#):

$$(1) \quad U = \frac{\lambda}{r_{in} \cdot \ln(r_{out}/r_{in})}$$

where

$\lambda$	thermal conductivity of the solid body
$r_{out}$	inner radius of outer pipe
$r_{in}$	outer radius of inner pipe

For the thin walls  $h \ll r_{in}$  the (1) equation simplifies to:

$$(2) \quad U = \frac{\lambda}{h}$$

where

$$h = r_{out} - r_{in} \quad \text{wall thickness}$$

## See also

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[Physics](#) / [Thermodynamics](#) / [Heat Transfer](#) / [Heat Transfer Coefficient \(HTC\)](#) / [Heat Transfer Coefficient \(HTC\) @model](#)

[ [Thermal conductivity](#) ] [ [Nusselt number \(Nu\)](#) ]