$$Q = U \times A \times \left(t_{Inside} - t_{Outside} \right)$$

Where:

$Q =$ Heat transfer in Btu/hr

$U =$ Heat transfer coefficient in Btu/hr - square foot - °F

$A =$ Area in square feet

$\left(t_{Inside} - t_{Outside} \right) =$ Inside to outside temperature difference in °F

U is the reciprocal of the sum of the thermal resistances of the various elements that make up the envelope structure, including the thermal resistance of the air film on each side of the envelope item and the components. For example, a wall in a wood frame house might have:

Outside air film

Siding

Vapor barrier

Sheathing

Stud cavity with insulation

Drywall

Inside air film