

Product requirement document (PRD)

Software title: U-value calculator

This product is designed to calculate the U value for the elements of building such as doors, walls, ground and so on. This product is in the form of a software which contains a window with two inputs and one output. The inputs are k value and l value, and the output is U value.

The motivation of designing this software is to reduce the working procedure of calculating the U value.

With the usage of this software, after typing two inputs, the output will be calculated automatically.

The principle of this calculator: the equation of calculation.

$$U = \frac{k}{l}$$

Where,

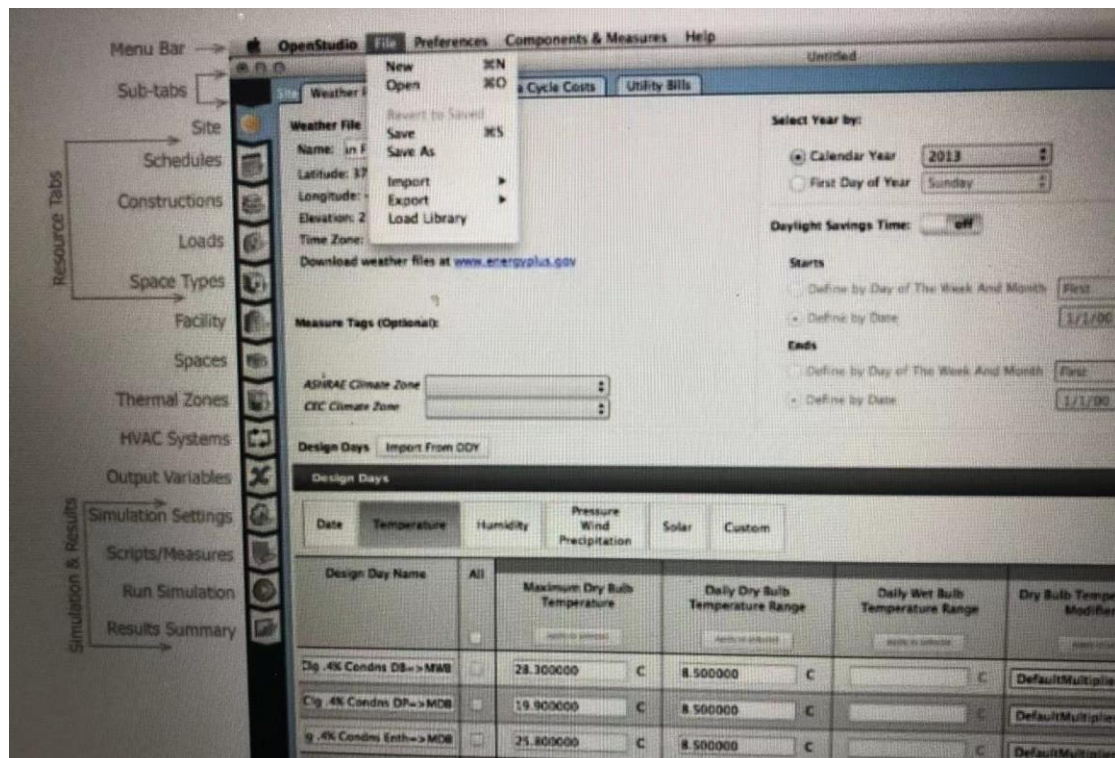
U stands for the U value which is thermal transmittance with the unit of W/m^2K

k stands for the thermal conductivity with the unit of W/mK

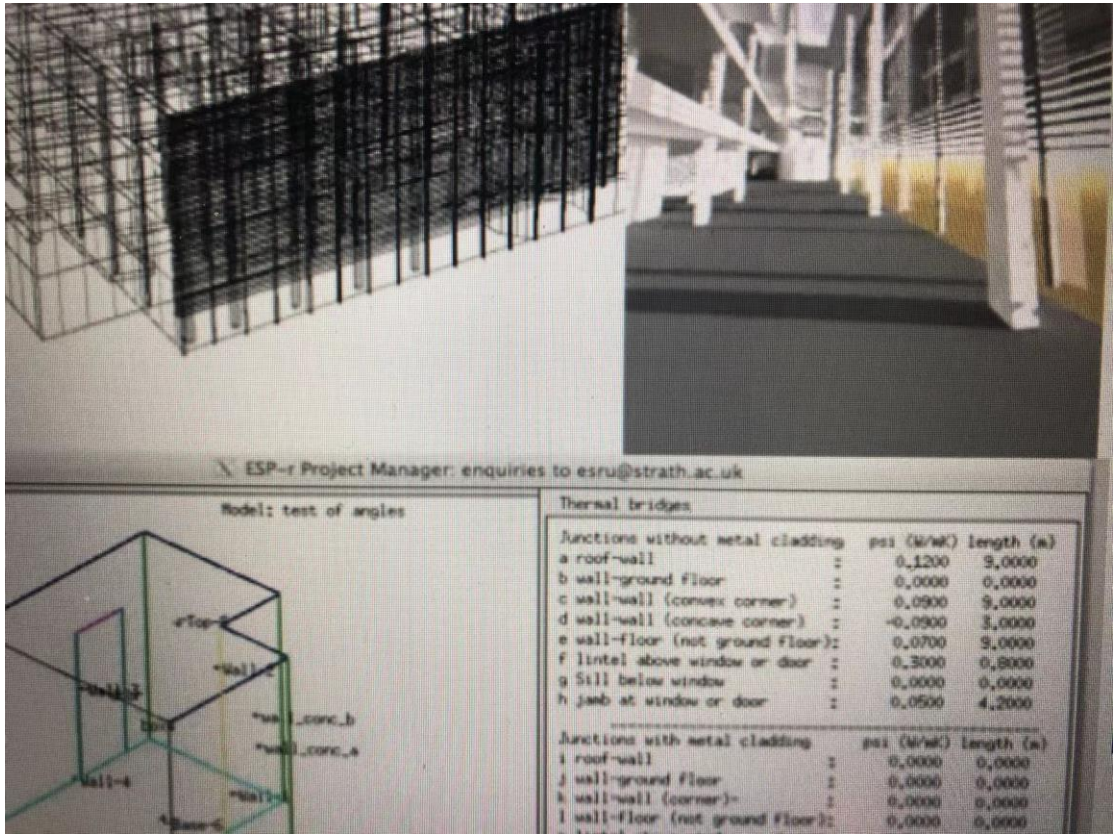
l stands for the thickness of the material with the unit of m

the similar products in the market: There are some similar products in the market. Examples can be HEAT2 and Open Studio. ESP-R can also realize this function.

Picture 1: Open Studio



Picture 2: ESP-R



The above two example software can all be used to calculate the U value and be used to analyse the energy usage of one building.