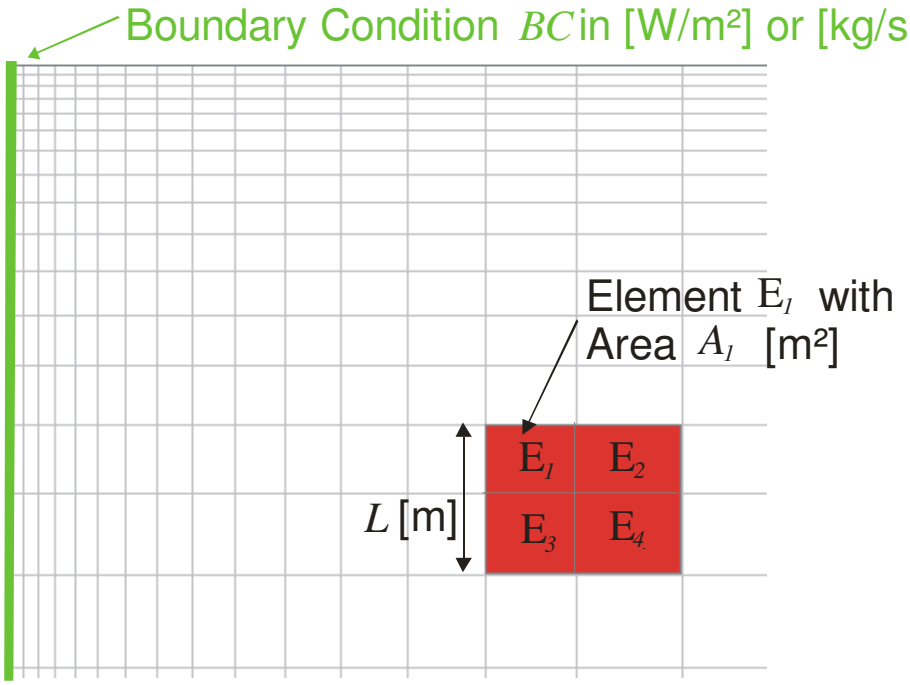
Sources and Sinks in WUFI 2D

How to express the source strength of thermal or hygric source as a fraction of the respective boundary condition



The whole source rate S [W/m] or [kg/ms] which will be evenly distributed over the red marked area is determined as:

$$S = fraction \cdot BC \cdot L .$$

Where BC is the incident solar radiation or driving rain and $fraction$ is a user defined value. The whole area over which the source rate will be distributed is determined as:

$A = \sum_{i=elementindex} A_i$. In the above example $A = A_1 + A_2 + A_3 + A_4$.

The whole source rate is then distributed over the grid elements within the source area in proportion to the individual element areas.

The source rate S_i of element i is determined as:

$$S_i = \frac{A_i}{A} \cdot S .$$

The WUFI®-Team