

Defining Additional Conductances

Use *Additional Conductances* to directly create conductances between selected elements. A conductance of the specified magnitude and type is created from each element in Set 1 to each element in Set 2. Thus, if you select m elements in Set 1 and n elements in Set 2, there will be $m \times n$ conductances created.

[Locate the icon.](#)

Additional Conductance Type

Conductive Conductances

The basic additional conductance type is designated *Conductive*. It allows you to define a linear conductance, which is combined in parallel with any existing linear conductances between the elements. You can also define a linear conductance in series with existing conductances by using the *Series Conductive* type.

To create a linear one-way (advective) conductance "pointing" from one set of elements to another, use the *One-way Conductive* type. (Only the second set of elements will be affected by the conductance). This can be used to model fluid flow, where the first set is "upstream" and the second set is "downstream"; the conductance value is equal to the mass flow times the fluid's specific heat.

Radiative Conductances

For radiative conductances, the conductance magnitude is specified in area units (e.g. m^2) and is equal to:

$$A_i \times \epsilon_i \times VFG_{ij}$$

The conductances are combined in parallel with any existing radiative conductances between the elements. You can also define a radiative conductance in series with existing radiative conductances by using the *Series Radiative* type.

To create a one-way radiative conductance "pointing" from one set of elements to another, use the *One-way Radiative* type. (Only the second set of elements will be affected by the conductance).

Free Convective Conductances

A free convective conductance is created between the selected elements

where

$$Q = G_f \times \Delta T^{1+x}$$

You must enter a value for G_f and the exponent x (a standard value is 0.25).

Follower Conductances

The Set 2 element will "follow" the temperature of the Set 1 element. With this option, only a single element must be selected for Set 1. The Set 2 elements become heat sinks in the model. A follower conductance is equivalent to a very large one-way conductance.

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