



TREAT Quick Tips

This is part of a series of Modeling Articles designed provide quick tips and guidance for common TREAT questions

TREAT Help Desk available at <http://help.psdconsulting.com/>

For additional TREAT training information, visit Performance Systems Academy at:

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Modeling Challenge:

New and experienced users of TREAT sometimes find it difficult to properly define and input space and surfaces in TREAT.

Tip 1: Whenever possible combine similar areas into one common space. The best models have the least number of spaces necessary. In the most basic terms, only two space types typically exist:

- Conditioned Space
- Unconditioned Space

Tip 2: When defining your surfaces, move from conditioned to unconditioned to outside. Demonstrated below.

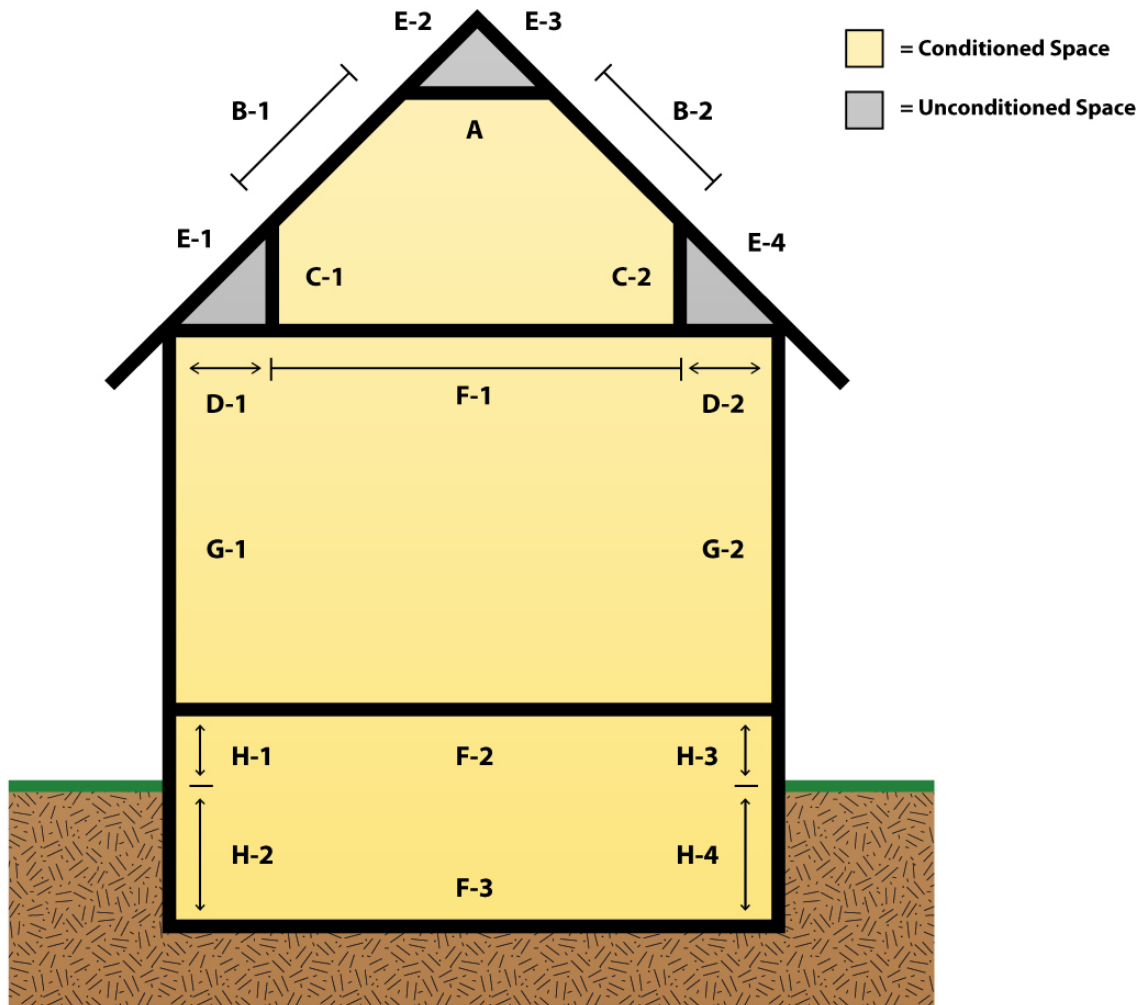
Tip 3: Surfaces that separate the same space type don't exist as far as an energy model is concerned.

To see these concepts in action, let's look at inputting surfaces into TREAT for a Cape Style home. Spaces have been identified as either conditioned or unconditioned in the diagram below.

- 1) First define the spaces in TREAT in the spaces screen. The unconditioned "knee wall" attics can be either input separately on the spaces screen, or included in the total area of the general attic space. We have chosen to create two unconditioned spaces to make it easier to identify improvements later on.

Spaces							
Space Type*	Space Name*	Ceiling Height Ft* ?	Floor Sq Ft* ?	Elevation ft* ?	Conditioned*	Occupied Hrs/Day*	Persons*
▼					▼		
Unheated Low ACH	Attic	3.0	500	16.0	No	0.0	0
Whole Building	Conditioned Space	8.0	1000	0.0	Yes	16.0	4
Unheated Low ACH	Second Floor Kneewalls	3.0	400	8.0	No	0.0	0

- 2) Input all surfaces adjacent to the outdoors or ground. Surfaces labeled in the diagram above should be modeled as follows:



- A. A ceiling in the conditioned space adjacent to the attic. It is not a floor in the attic adjacent to a conditioned space. -> (Tip 2)
- B. Sloped ceilings in the conditioned space adjacent to the outside.
- C. Walls in the conditioned space adjacent to the knee wall attic.
- D. Ceilings in the conditioned space adjacent to the knee wall attic.
- E. Roofs in the knee wall space, adjacent to the outside.
- F. F-1 & F-2 don't exist in an energy model. F-3 does and is a floor adjacent to the ground. If the basement were unconditioned, F-2 would exist and would be a floor in conditioned space adjacent to unconditioned basement. -> (Tip 3)
- G. These are walls in the conditioned space adjacent to the outside.
- H. H-1 & H-3 are walls in conditioned space adjacent to the outside. H-2 & H-4 are walls adjacent to the ground. Although H-1 & H-3 are physically part of the same wall, they should be modeled separately since they are adjacent to different things.

Here is an example of the surfaces A, C, D, and B, input into the surfaces screen.

Walls / Ceilings / Floors

Surfaces in : **Conditioned Space** ▼

Previous Space Next Space Copy (CTRL+C) Paste (CTRL+V)

Description*	Code	Type*	Adjacent to*	Exposure*	Length ft.*	Height or Width ft.*
Gyp Bd, 2x6 16" OC, 4" Fiberglass, R-13	160	Ceiling	Attic	NA	25.0	20.0
Gyp Bd, 2x6 16" OC, 5.5" Air, 1" Wood, R-6	11	Wall	Second Floor Kr	NA	20.0	3.0
Gyp Bd, 2x6 16" OC, 2" Fiberglass, R-7	158	Ceiling	Second Floor Kr	NA	20.0	10.0
2x6 16" OC, 4" Fiberglass, 0.5" Wood, Asphalt F	252	Sloped roof	Outdoors	NE	20.0	3.0

We hope you find this quick tip useful in understanding TREAT better and energy modeling in general. We welcome feedback or feel free to provide suggestions on other subjects by emailing us at this [TREAT Quick Tips](#) link.