

Thermal bridges

with Heat2

Course on how to model and calculate thermal bridges in buildings using Heat2

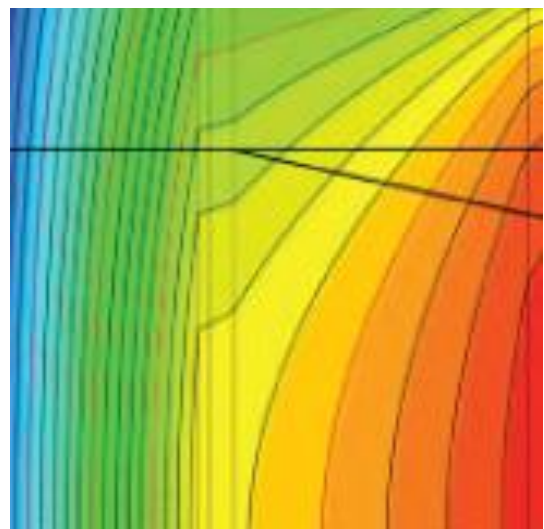
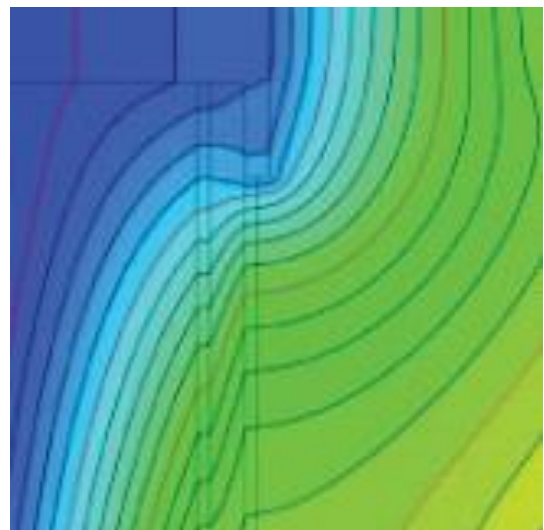
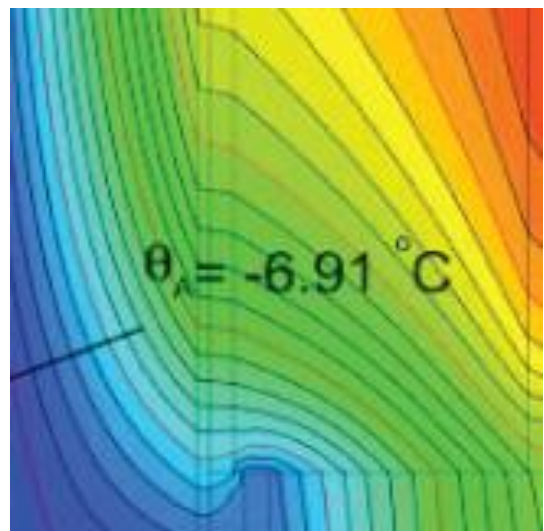
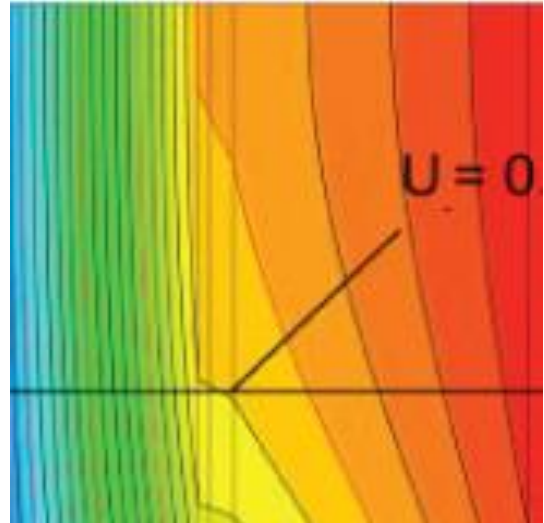
Online: *June 1 & 3, 2022 - 8:30 - 12:00 am (UTC)*
 Sept 27 & 29, 2022 - 1:00 - 4:30 pm (UTC)

Fee: *8 000 SEK excluding VAT (25%)*

Calculating thermal bridges may have different purposes. One might be that we want to obtain a more accurate estimate of the buildings total transmission losses for greater accuracy between calculated heating energy demands versus measured energy use. Another aim might be to obtain knowledge about the temperature distribution within a building detail to assess risks of condensation of moisture. A third goal might be a desire or need for improvement of existing building details.

The course introduces you to the practical work of modeling and calculating thermal bridges using the software Heat2. The training is divided into two separate occasions and includes a homework assignment.

We address you who work with energy-related issues in the design of high performance buildings, like architects, civil engineers, energy consultants or energy modelers. Our goal is to deepen your knowledge on thermal bridges either for more high-quality energy simulations or simply learn to energy-improve your construction details.



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About the course

Description

The course introduces you to the practical work of modeling thermal bridges with Heat2. We look at the necessary theory, but focus on how you work with the issues in your professional role. Each section includes basic theory, practical knowledge and examples from real building projects.

Recommended for

Building professionals with some familiarity with thermal bridges who want to build on their skills of using Heat2.

Heat2 license

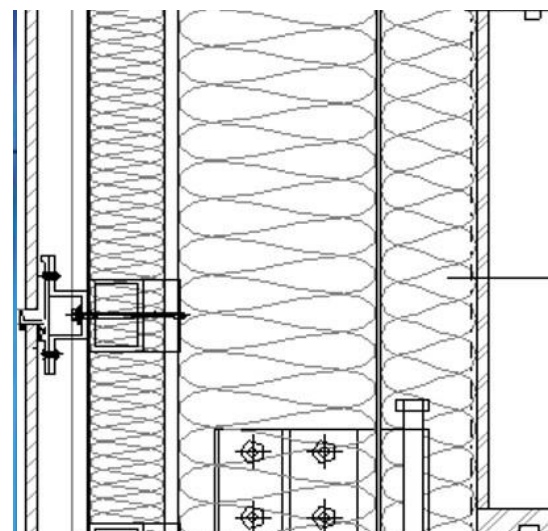
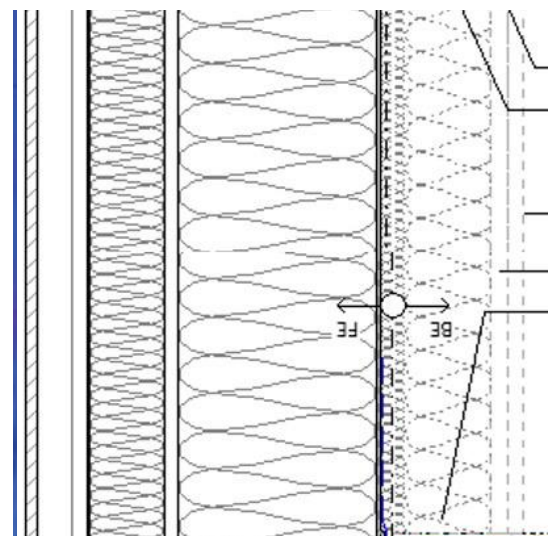
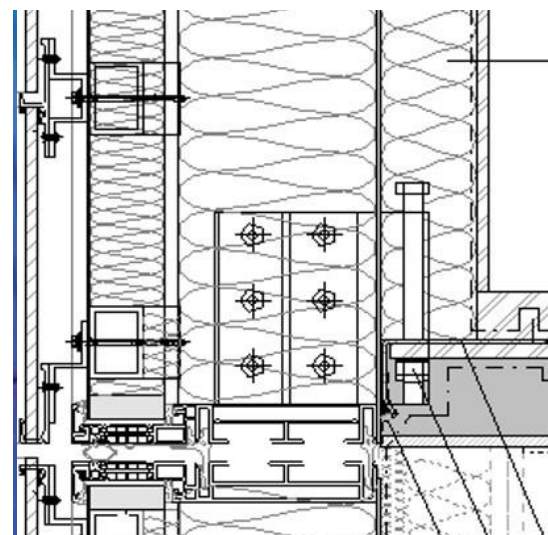
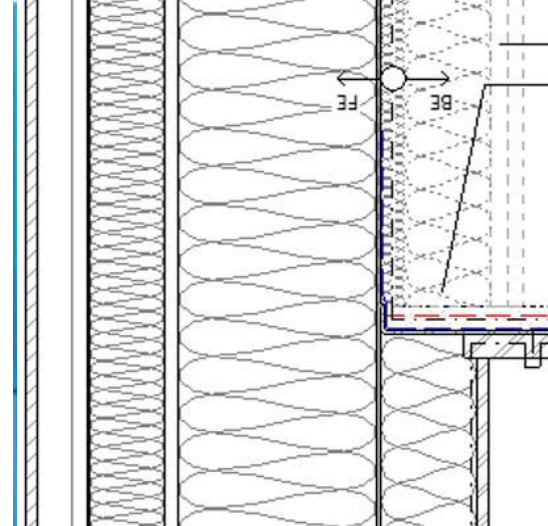
The course includes a three-week training license. Students who not already have the Heat2 software will be eligible for a discount of 20% for the first year of an annual license, see [Heat2 prices and orders](#).



Helena Bülow-Hübe, head of the energy and environment at FOJAB.

Instructor

Phd Helena Bülow-Hübe is head of the energy and environment department at FOJAB and a leading energy expert in Sweden. Working at a large architectural firm, she has a unique opportunity to follow projects from idea to finished building.



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Course program

1. Thermal bridges in common building types

We begin the course with a review of common thermal bridges. Which are usually large and which are small? How do real values deviate from accepted standard values and how does this affect the energy performance of the building?

2. The methodology of U-value calculation and area measurements defines the thermal bridges

What actually defines a thermal bridge depends on how both areas and U-values are calculated. Several “thermal bridges” are already included in the U-value of building components, like wall studs in an insulated wood stud frame. How you measure and sum up the surface areas of building components like exterior walls directly affects the estimate of transmission losses. The chosen area method will thus influence how much extra losses due to thermal bridges need to be added. We go through the methods for calculating areas and U-values according to current standards to set a good foundation for thermal bridge assessment.

3. Practical use of Heat2 – model and calculation

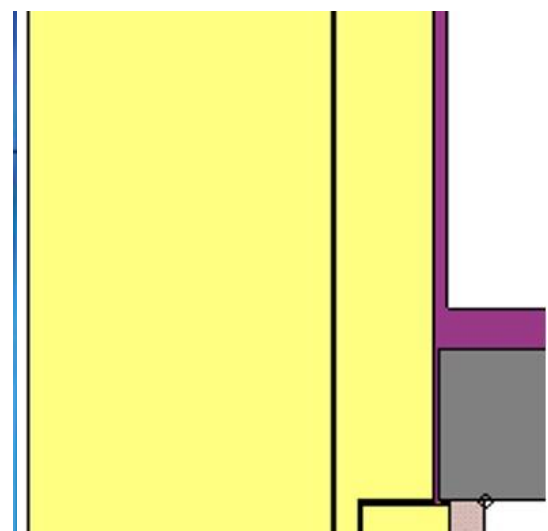
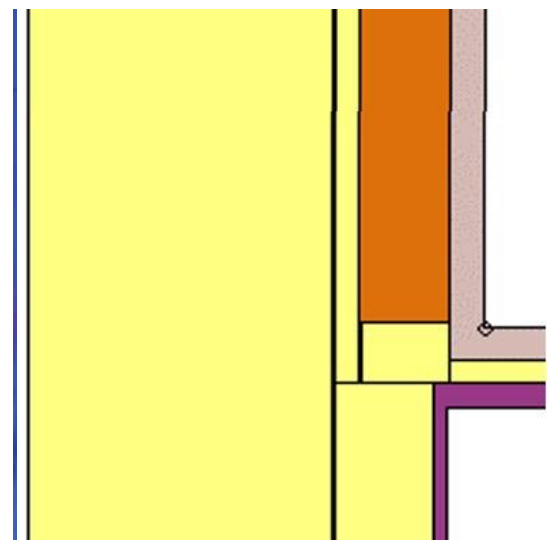
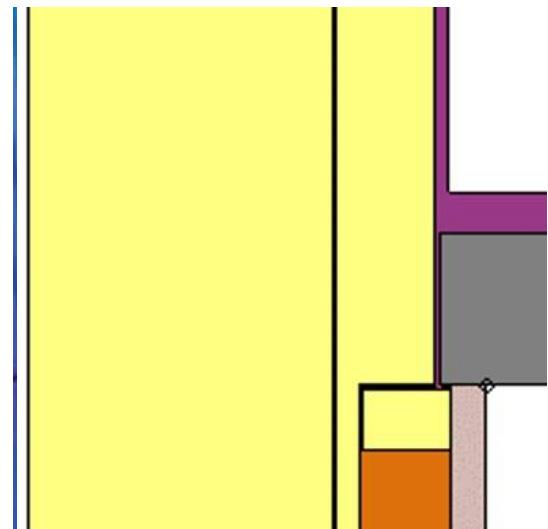
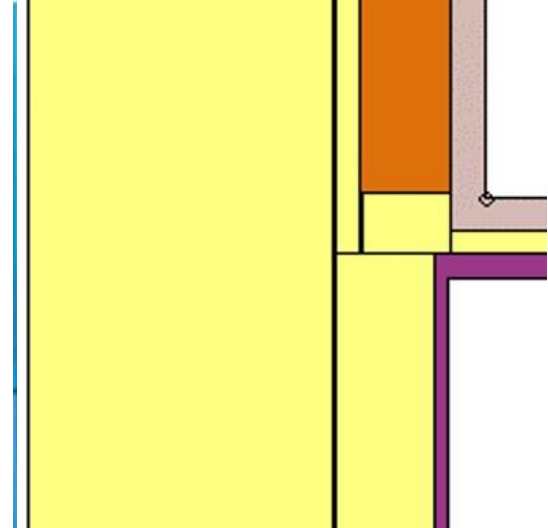
We will learn how to set up and draw some different type of details in HEAT2, how to input boundary conditions and material properties, and how to perform a steady-state heat flow calculation. We will also go through how the thermal bridge assessment is performed in HEAT2, and how to do it on your own for some more tricky details. For each work step there is a program-independent reasoning. The focus is on heat flows in 2D, with a touch on 3D.

4. Implementation in the energy calculation

The result given by Heat for a specific detail must often be implemented in an energy simulation of a building. We will go through how to assess drawings, identify important thermal bridges, measure relevant lengths and finally sum up the total transmission losses through thermal bridges. Last, we will discuss various ways of entering the thermal bridges into an energy simulation tool.

5. Design solutions for reduced heat loss

We finish the course with a review of improvement measures in common construction details and illustrate the potential in some real world examples.



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Register

Online: June 1 & 3, 2022 - 8:30 - 12:00 am (UTC)

Sept 27 & 29, 2022 - 1:00 - 4:30 pm (UTC)

Course fee: 8 000 SEK excluding VAT (25%)

Includes digital copy of course slides. The fee is invoiced and must be paid prior to the start of the course

Registration: The course is limited to 12 participants and will be live-only. Registration is binding, but can be transferred.

Application form:
www.svensk-energiutbildning.se

Information: Course coordinator Per Qvistbäck
email: info@svensk-energiutbildning.se
telephone: +46 73 330 46 20

The online course

We use Zoom and broadcast from our own studio. As a participant, you interact with your computer's microphone and camera as well as in the associated chat.

Svensk Energiutbildning AB

Svensk Energiutbildning AB (Swedish Energy Education) offers energy related training with its main focus towards the Swedish building and real estate sector. Always with the goal of providing objective and useful knowledge.

Information about our seminars and courses is available on the website: www.svensk-energiutbildning.se

