

# BISTRA COMPANY TRAINING – 1 DAY

(standard program, can be tailored on request)

Prerequisites for BISTRA training (1 day):

- Prior use of the software BISCO (steady-state 2D heat transfer)

It is possible to combine the BISTRA company training with the BISCO company training.  
The standard total training time for BISTRA & BISCO training is 1.5 day.

## 1. Introduction to heat transfer theory

- Concepts of conduction – convection – IR and short wave radiation – dynamic heat transfer
- Implementation in the Physibel software (Physibel Types)

## 2. Geometrical modelling

- See BISCO training

## 3. Dynamic heat transfer exercises

- Material properties – Boundary conditions
- Exercise 1: Dynamic building component properties according to EN ISO 13786
- Exercise 2: Cooling of a tube

## 4. BISTRA input Functions

- User defined input functions (e.g. climate functions, power functions...)
- Creating climate files as input for BISTRA
- Using standard climate formats (TRY, EPW) as input for BISTRA
- Selecting warmest day from yearly climate data file

## 5. Solar processor

- Solar processor functionalities
- Defining glazing properties
- Exercise 1: defining IGU
- Exercise 2: opaque element behind glass
- Exercise 3:  $\Delta T_{max}$  calculation for a shadow box in line with principles of the standard DTU 39

## 6. Ventilation flows

- Exercise 1: ventilated basement vs. non-ventilated basement
- Exercise 2: ventilation in double-skin facade section

## 7. Fire calculations

- Material properties and boundary conditions for fire calculations – fire curves
- Exercise 1: concrete column
- Exercise 2: glazed facade

## 8. Exercises (on files delivered by company): DXF and/or BSC/BST files sent by company (week in advance)

## 9. BISTRA miscellaneous topics:

- Material template maintenance: Colour database
- Parameter variations – batch calculations
- Calculation parameters

## 10. Questions, conclusions & File transfers.