

BISCO COMPANY TRAINING – 1 DAY

(standard program, can be tailored on request)

1. Introduction & practical arrangements

- Physibel software introduction and status
- Physibel Portal for user and licence management
- How to use the online Physibel Knowledge Base?
- File transfer: BISCO training files

2. Introduction to heat transfer theory

- Concepts of conduction – convection – radiation
- Implementation in the Physibel software
- Link to the European standards (with focus on EN ISO 10077-2 and EN ISO 12631)

3. Geometric modelling in the Physibel software

- How to prepare a CAD-drawing for efficient input in BISCO?
- Program BiscoDxf : conversion of DXF > BMP
- Automatisation

4. Air cavities according to EN ISO 10077-2:2017

- “radiosity method” vs. “single equivalent thermal conductivity method”
 - non-ventilated: EQUIMAT method <-> TRANSMAT method
 - slightly ventilated: EQUIMAT method <-> BC_SIMPL method
 - surface emissivity
- Automatic handling of cavities in BISCO

5. Step-by-step exercises on window frame thermal transmittance U_f

- Understanding the different parameters in the calculation of U_f -value according to EN ISO 10077-2 in BISCO:
 - Step-by-step manual procedure
 - Settings and Calculation
 - Graphic output
 - Text output
- Automatic procedure in BISCO:
 - from DXF to thermal report in 5 minutes
 - Colour database
 - EN ISO 10077-2 preparation
 - Automatic report functions

6. Derived thermal properties for windows and reporting (EN ISO 10077-2)

- Frame thermal transmittance (U_{fr})
- Glazing spacer linear thermal transmittance (ψ)
- Window thermal transmittance (U_w)

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

8. BISCO miscellaneous topics

- Surface relative humidity and condensation (EN ISO 13788)
- Material template maintenance: Colour database
- Summer behaviour of windows/curtain walls with BISCO
- Batch calculations
- Adjusting BISCO files with BiscoBMP
- Detailed radiation on surfaces (RADCON type BC_SKY as alternative for BC_SIMPL)
- Calculation parameters.

9. Introduction to dynamic simulation using the solar processor: BISTRA

10. Questions & conclusions & File transfers.