

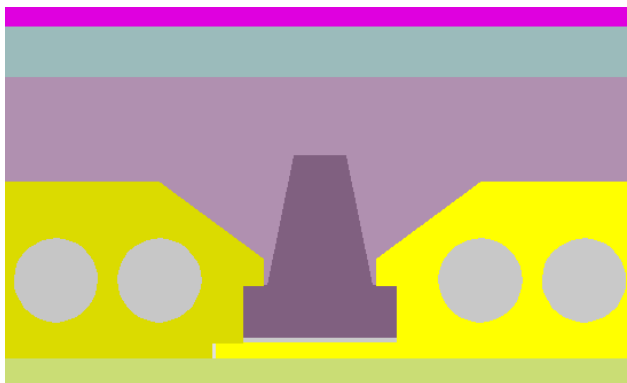
Introduction

This document describes example projects with BISCO related to building components. Following division is made:

- Thermal bridging
- Building physics, energy and thermal comfort
- Masonry

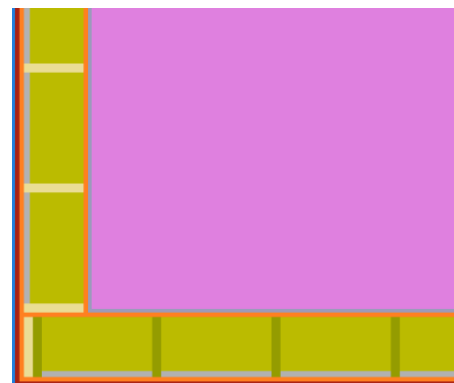
Thermal bridging

Equivalent thermal transmittance of a floor element (U_{2D} , W/m²K)



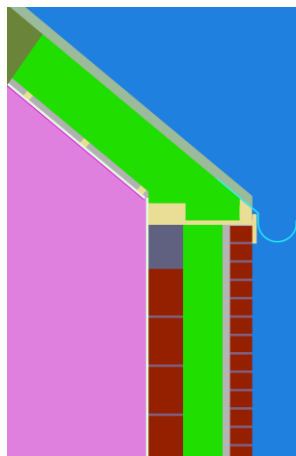
Bisco data [concrete_floor.bsc](#)

Linear thermal transmittance of corner (ψ , W/mK)



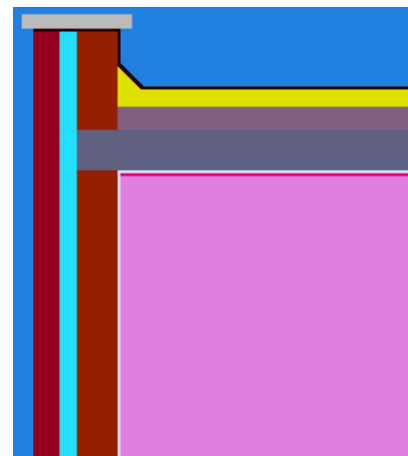
Bisco data [wooden_frame_corner_bsc.bsc](#)

Linear thermal transmittance of roof to wall junction (ψ , W/mK)



Bisco data [pitched_roof.bsc](#)

Linear thermal transmittance of roof to wall junction (ψ , W/mK)



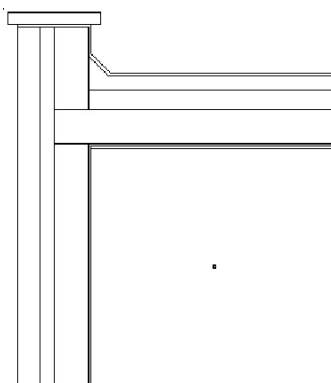
Bisco data [roof_junction.bsc](#)

The geometry, material properties and boundary conditions are directly imported in BISCO by the DXF files [pitched_roof_prepared.dxf](#) and [roof_junction_prepared.dxf](#). In these files every material is drawn in a separate layer. Further the 3 first digits of the layer name correspond to

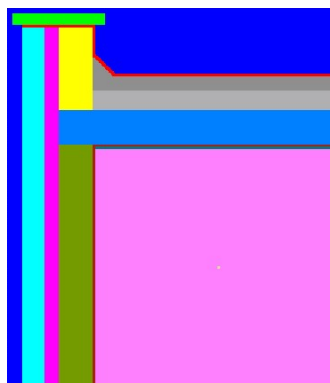
the Physibel Colour Database index¹ and the 5th digit corresponds to the required fill mode (1 = fill contour, 2 = flood fill), for example "15_1_WOOD-TIMBER".

In case all materials are drawn in the same layer ([roof_junction_1layer.dxf](#)) the following alternative procedure is possible:

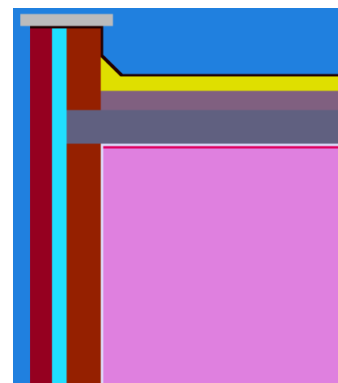
1. import the DXF file [roof_junction_1layer.dxf](#) via BiscoDxf (File-> OpenDXF...)
2. select Fill mode 'Line', generate BMP file, save and close BiscoDxf to open the line drawing in BISCO
3. within BISCO: 'Bitmap' -> 'Fill Line Drawing' to fill the different element
4. change the colours in the Window Colours to the desired properties or use alternately F5 to change the colour index in accordance to the indexes in the Colour database.



[roof_junction_line_drawing.bsc](#)



[roof_junction_line_drawing_fill.bsc](#)



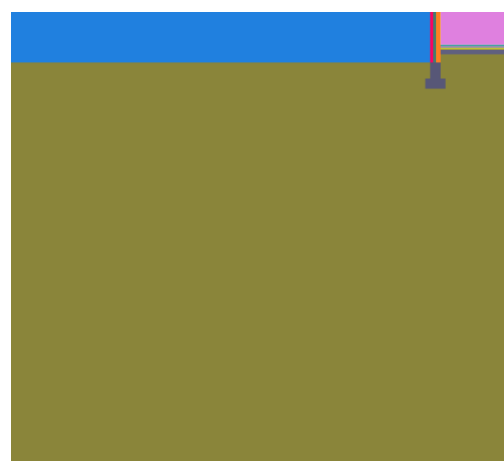
[roof_junction.bsc](#)

Thermal transmittance of floor on the ground
(U_g W/m²K)



Bisco data [foundation_psi_BI0.bsc](#)

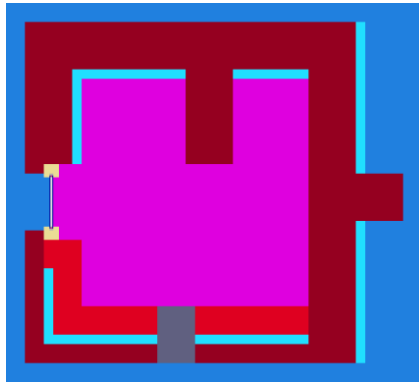
Linear thermal transmittance of foundation
(ψ , W/mK)



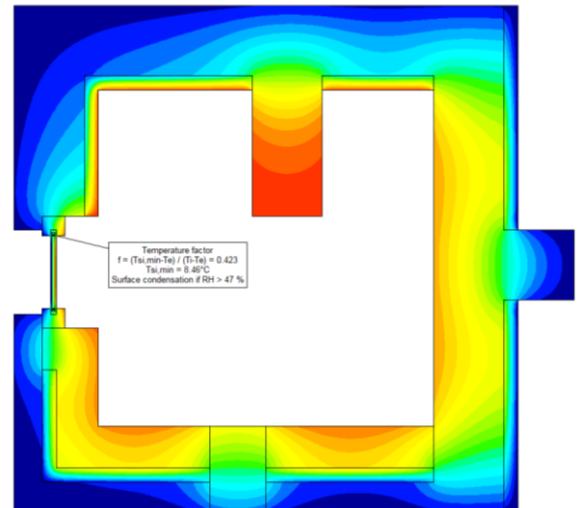
Bisco data [foundation_psi_BI1.bsc](#)

¹ More information: Knowledge Base document MATERIAL AND BOUNDARY CONDITIONS: EN 10077-2, EN 6946 and EN 10456.pdf

Thermal bridge: heat loss and surface condensation



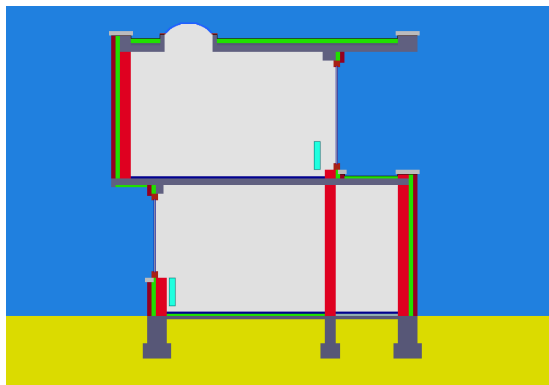
Bisco data [fictious_room_thermal_bridges.bsc](#)



Within the Graphic Output window: click right mouse to add labels (e.g. temperature factor, minimum temperature, condensation zone, zone with threshold relative humidity,...)

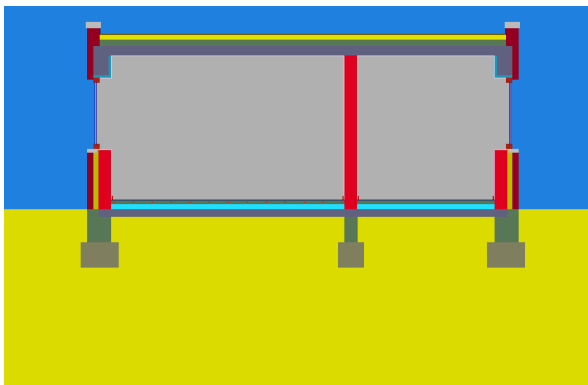
Building physics, energy and thermal comfort

Thermal comfort/performance within a whole building with a radiator.



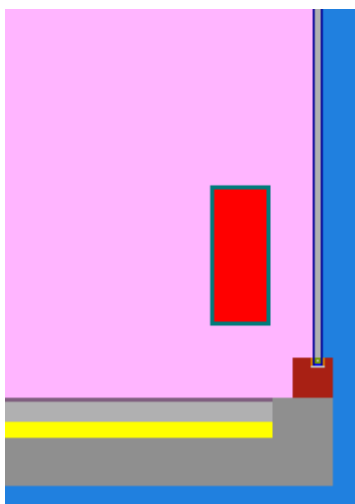
Bisco data [building 3 room section.bsc](#)

Thermal comfort/performance of a whole building with floor heating.



Bisco data [building 2 room section.bsc](#)

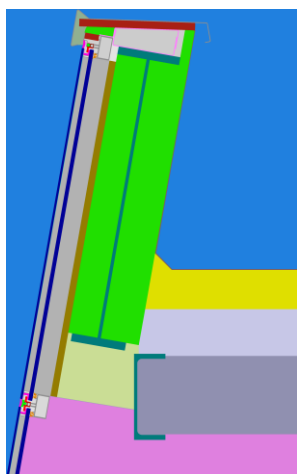
Heat transfer of a radiator near a window



Bisco data [radiator window 0.bsc](#)



Condensation control taking clear sky radiation into account

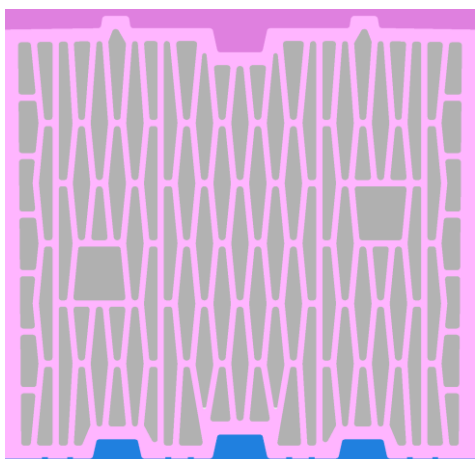


Bisco data [roof edge.bsc](#)



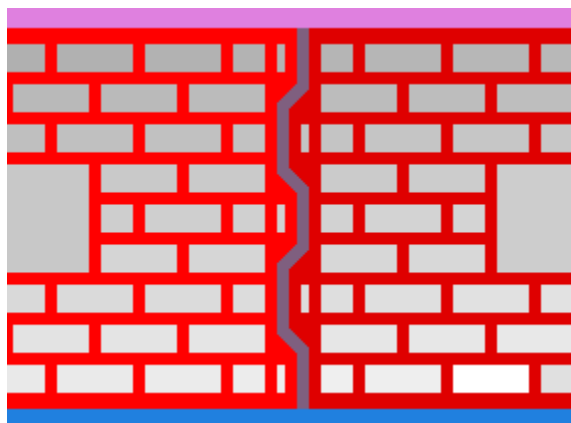
Masonry

Equivalent thermal conductivity of masonry



Bisco data [brick.bsc](#)

Equivalent thermal conductivity of masonry including a vertical joint



Bisco data [brick_vertical_joint.bsc](#)

The geometry of the brick can be imported in BISCO via the DXF file [brick_prepared.dxf](#).

More information on this topic can be found in the Physibel Knowledge base documents:

- VALIDATION OF THE PROGRAMS BISCO AND TRISCO ACCORDING TO EN 1745
- THERMAL TRANSMITTANCE OF MASONRY ACCORDING TO EN 1745