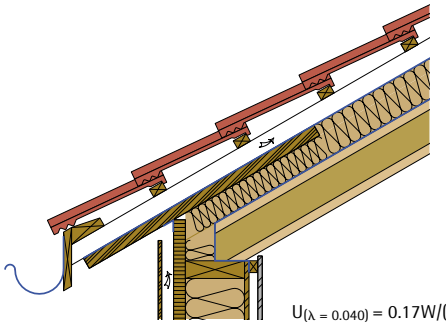
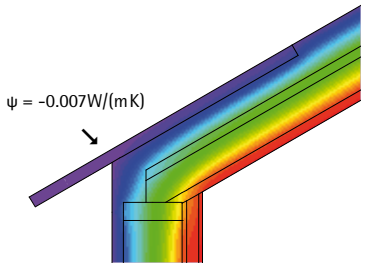
Thermal bridges

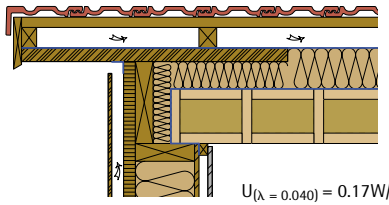


$U_{(\lambda = 0.040)} = 0.18 W/(m^2K)$

$U_{(\lambda = 0.040)} = 0.17 W/(m^2K)$

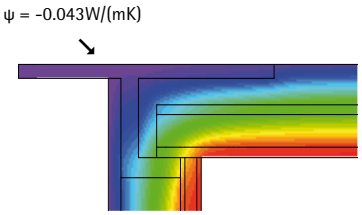


$\psi = -0.007 W/(mK)$

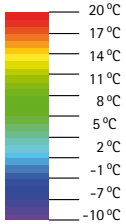


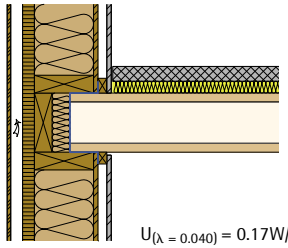
$U_{(\lambda = 0.040)} = 0.18 W/(m^2K)$

$U_{(\lambda = 0.040)} = 0.17 W/(m^2K)$



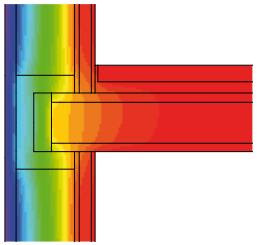
$\psi = -0.043 W/(mK)$





$U_{(\lambda = 0.040)} = 0.17 W/(m^2K)$

$\psi = 0.042 W/(mK)$ →



For the calculation of the energy performance certificate according to SIA 380 / 1 respectively EnEV thermal bridges must be proofed. This can be done by using thermal bridges catalogues, check lists with thermal bridge limits or with calculation programmes for detailed thermal bridges calculations. In timber construction the details often show no thermal bridges or even show negative Psi(ψ)-values. To offer you some guidelines for preplanning stage, we have calculated some standard details for linear thermal bridge coefficients.

The detailed thermal bridges calculation not only helps optimizing the details regarding energetical and moisture issues but also saves building costs by taking advantage of the potential for economic optimizing and higher funding levels.

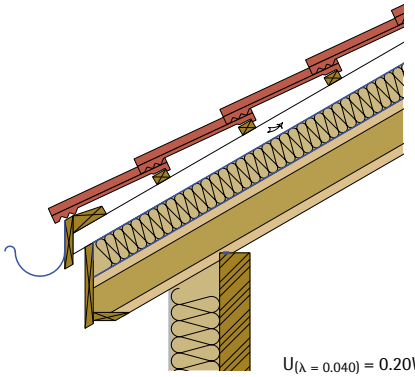
Basic conditions:

temperature
Θ_e = -10.0°C outside
Θ_i = 20.0°C inside

heat transmission resistance
R_{se} = 0.13m²K/W heavily ventilated outside
R_{se} = 0.04m²K/W outside standard
R_{si} = 0.13m²K/W inside standard

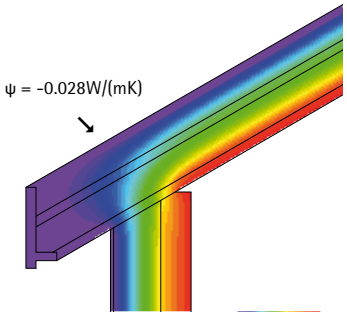
λ = thermal conductivity of thermal insulation

Thermal bridges

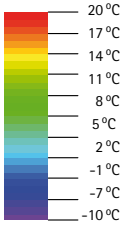


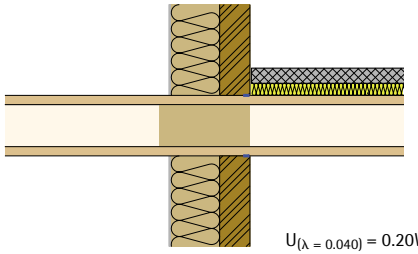
$U_{(\lambda = 0.040)} = 0.20W/(m^2K)$

$U_{(\lambda = 0.040)} = 0.20W/(m^2K)$



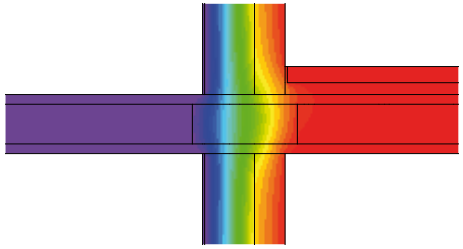
$\psi = -0.028W/(mK)$





$U_{(\lambda = 0.040)} = 0.20W/(m^2K)$

$\psi = 0.008W/(mK)$ →



For the calculation of the energy performance certificate according to SIA 380 / 1 respectively EnEV thermal bridges must be proofed. This can be done by using thermal bridges catalogues, check lists with thermal bridge limits or with calculation programmes for detailed thermal bridges calculations. In timber construction the details often show no thermal bridges or even show negative Psi(ψ)-values. To offer you some guidelines for preplanning stage, we have calculated some standard details for linear thermal bridge coefficients.

The detailed thermal bridges calculation not only helps optimizing the details regarding energetical and moisture issues but also saves building costs by taking advantage of the potential for economic optimizing and higher funding levels.

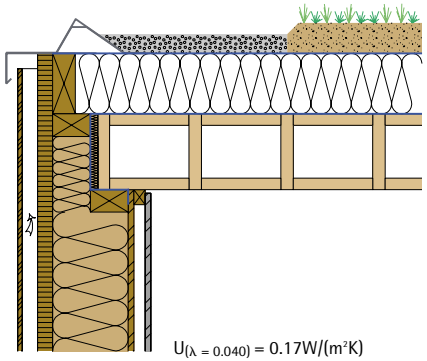
Basic conditions:

temperature
Θ_e = -10.0°C outside
Θ_i = 20.0°C inside

heat transmission resistance
R_{se} = 0.13m²K/W heavily ventilated outside
R_{se} = 0.04m²K/W outside standard
R_{si} = 0.13m²K/W inside standard

λ = thermal conductivity of thermal insulation

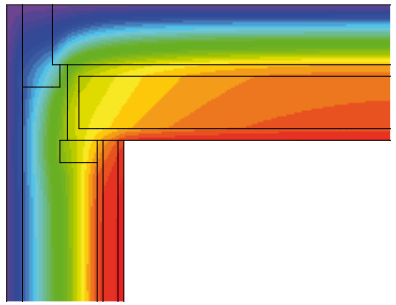
Thermal bridges

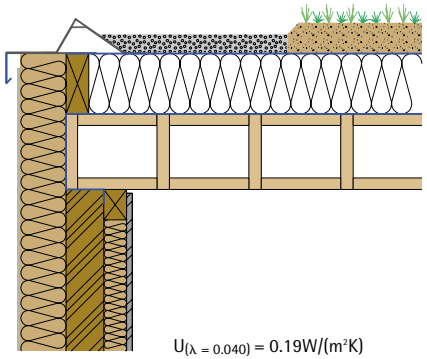


$U_{(\lambda = 0.030)}$ = 0.20W/(m²K)

$U_{(\lambda = 0.040)}$ = 0.17W/(m²K)

ψ = -0.040W/(mK)

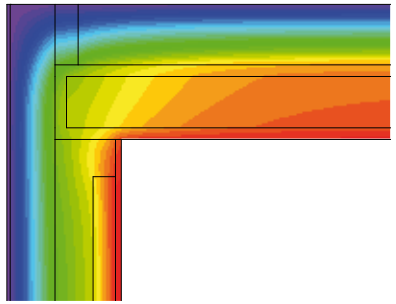


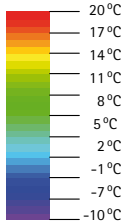


$U_{(\lambda = 0.030)}$ = 0.20W/(m²K)

$U_{(\lambda = 0.040)}$ = 0.19W/(m²K)

ψ = -0.037W/(mK)





For the calculation of the energy performance certificate according to SIA 380 / 1 respectively EnEV thermal bridges must be proofed. This can be done by using thermal bridges catalogues, check lists with thermal bridge limits or with calculation programmes for detailed thermal bridges calculations. In timber construction the details often show no thermal bridges or even show negative Psi(ψ)-values. To offer you some guidelines for preplanning stage, we have calculated some standard details for linear thermal bridge coefficients.

The detailed thermal bridges calculation not only helps optimizing the details regarding energetical and moisture issues but also saves building costs by taking advantage of the potential for economic optimizing and higher funding levels.

Basic conditions:

temperature
Θ_e = -10.0°C outside
Θ_i = 20.0°C inside

heat transmission resistance
R_{se} = 0.13m²K/W heavily ventilated outside
R_{se} = 0.04m²K/W outside standard
R_{si} = 0.13m²K/W inside standard

λ = thermal conductivity of thermal insulation