Western Balkans Investment Framework WBIF

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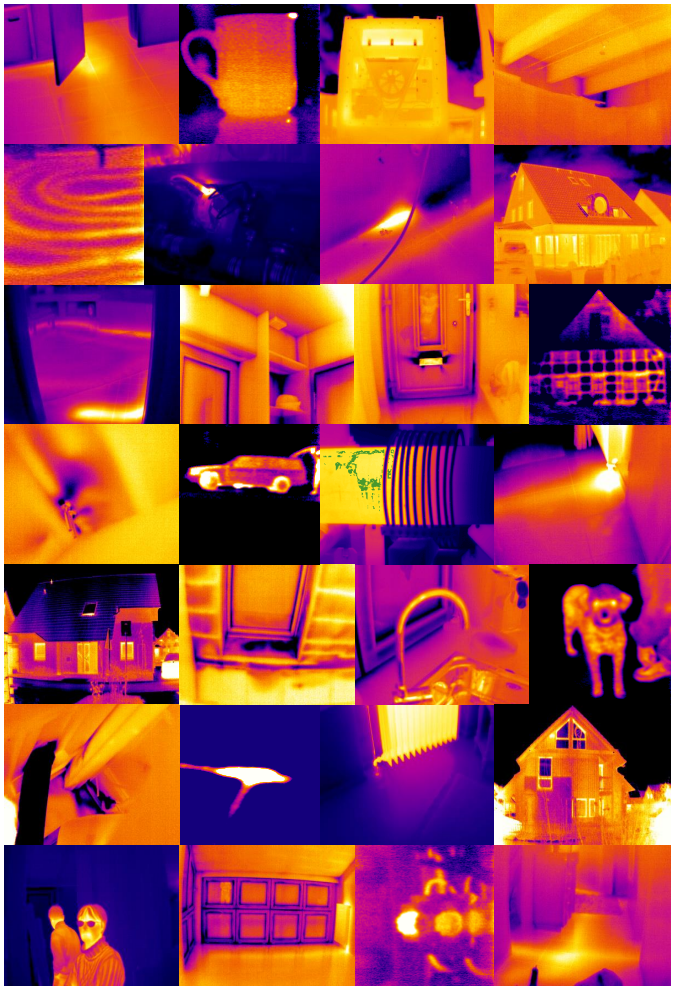
EE measures and Implementation - Trainings Program for Construction Companies and Supervisors

Thermography

10/11/2016

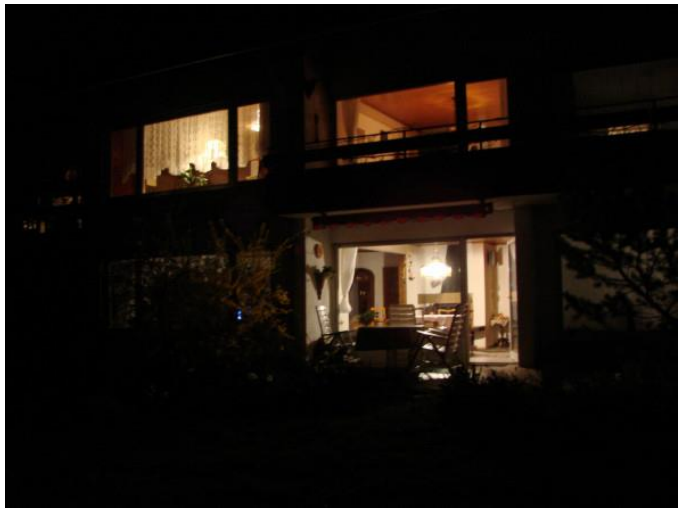


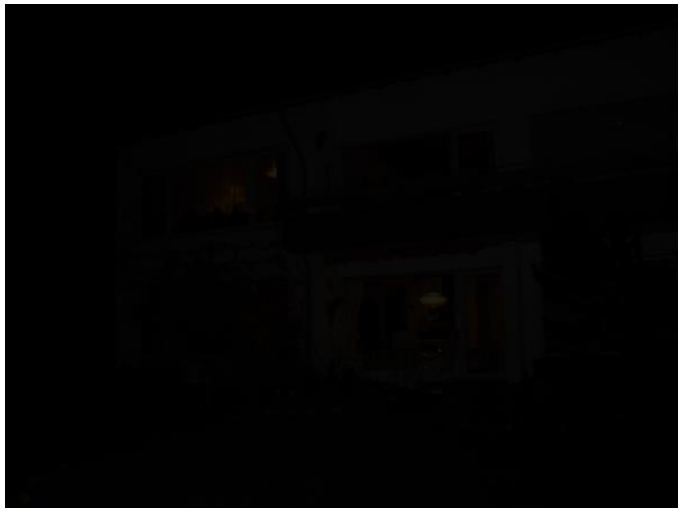
Basics of Thermography

What is thermography?

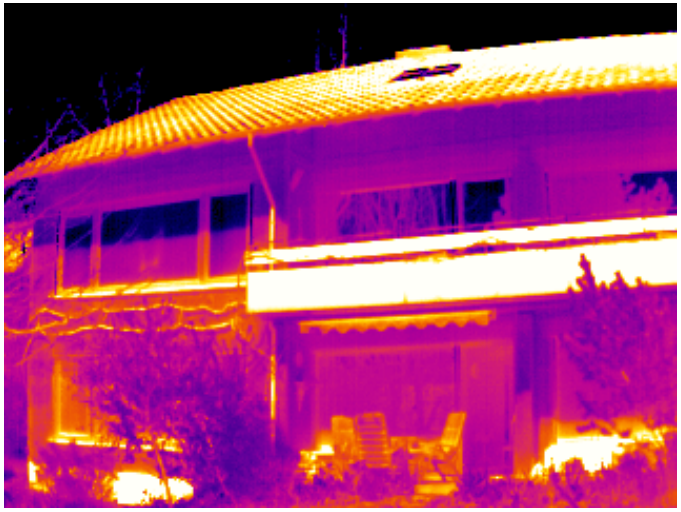
⇒ Termography is a photografic representation of the temperature distribution on a solid surface

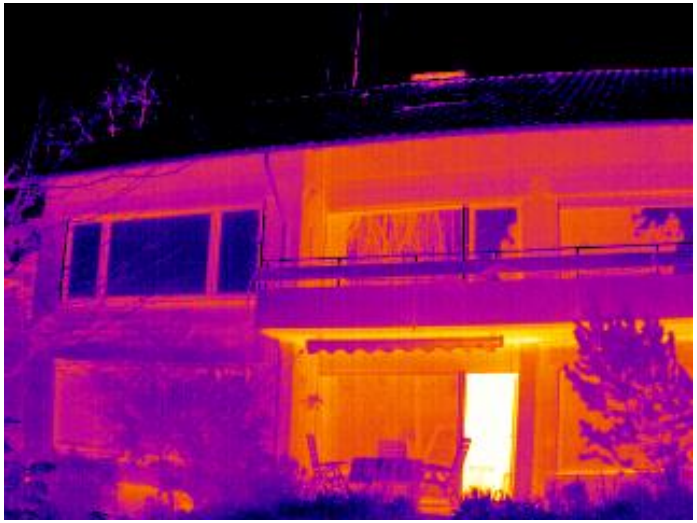
…This is how visible light works;

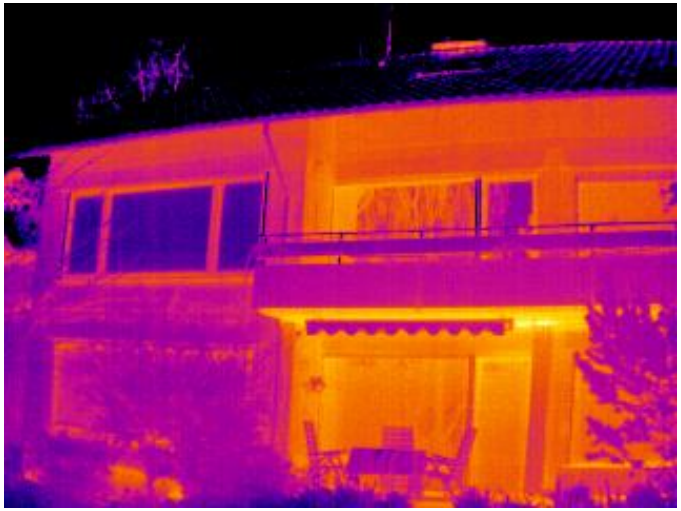


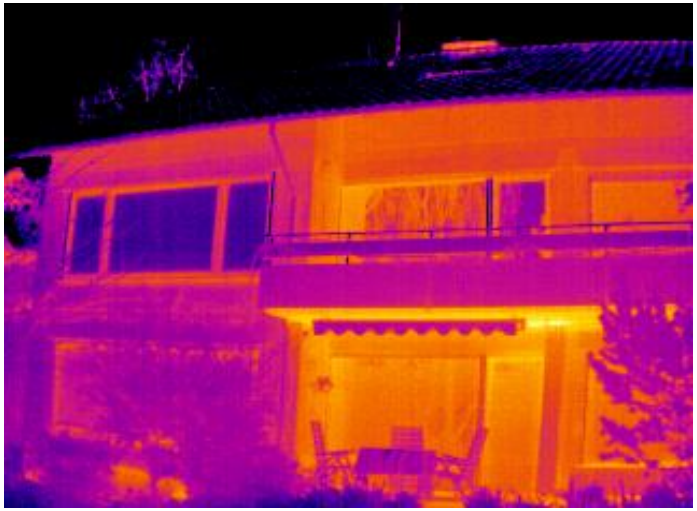


... This is how invisible light works ;





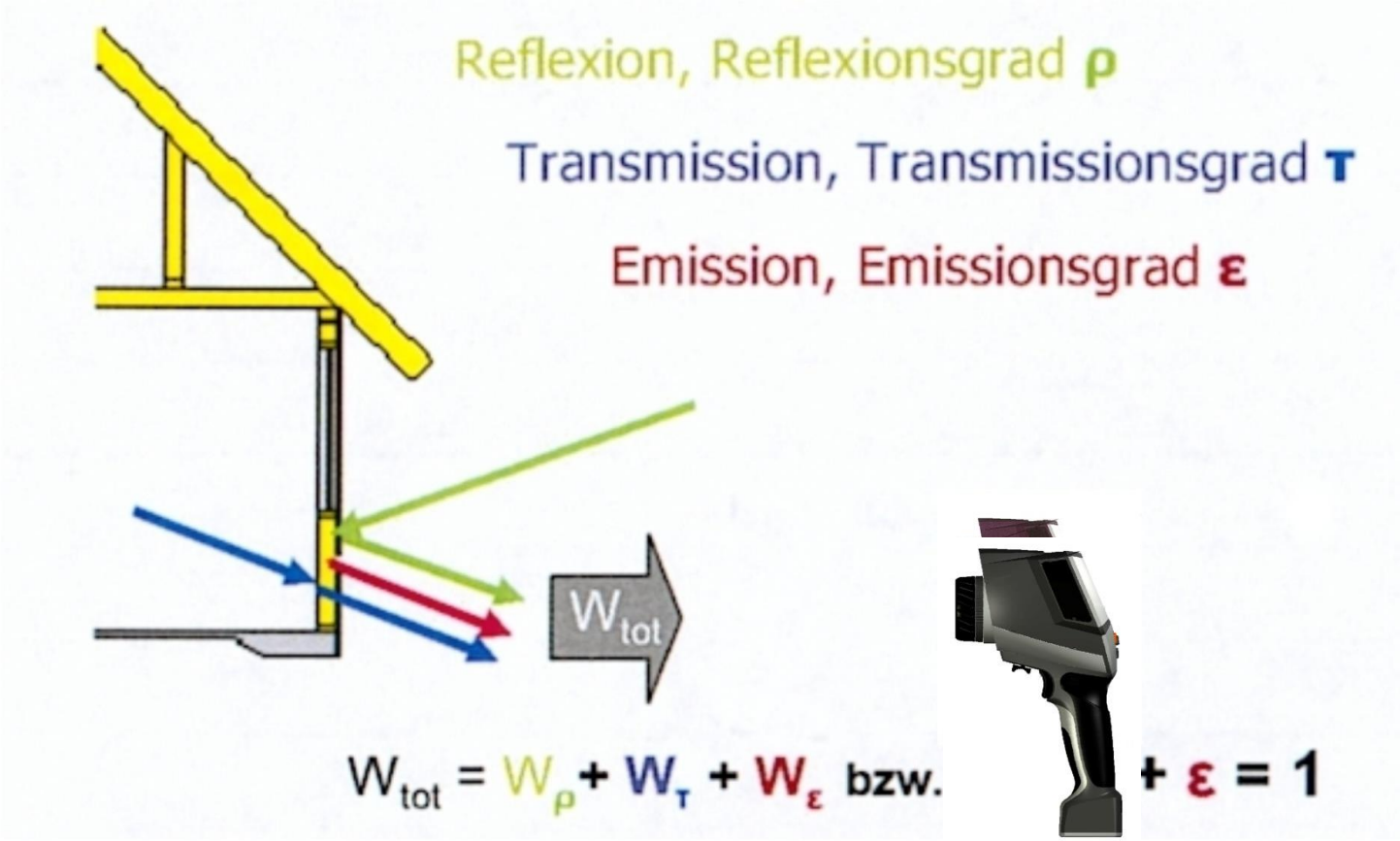




Basics of Thermography

- Each body that is warmer than - 273,15 ºC is emitting electromagnetic radiation
- IR-Camera does not detect temperature, but infrared radiation
- The camera is not emitting an radiation

Reflexion, Transmission, Emission



=> Kirchhoff'sches Gesetz

Heat transfer

Heat can be transfered on various ways;

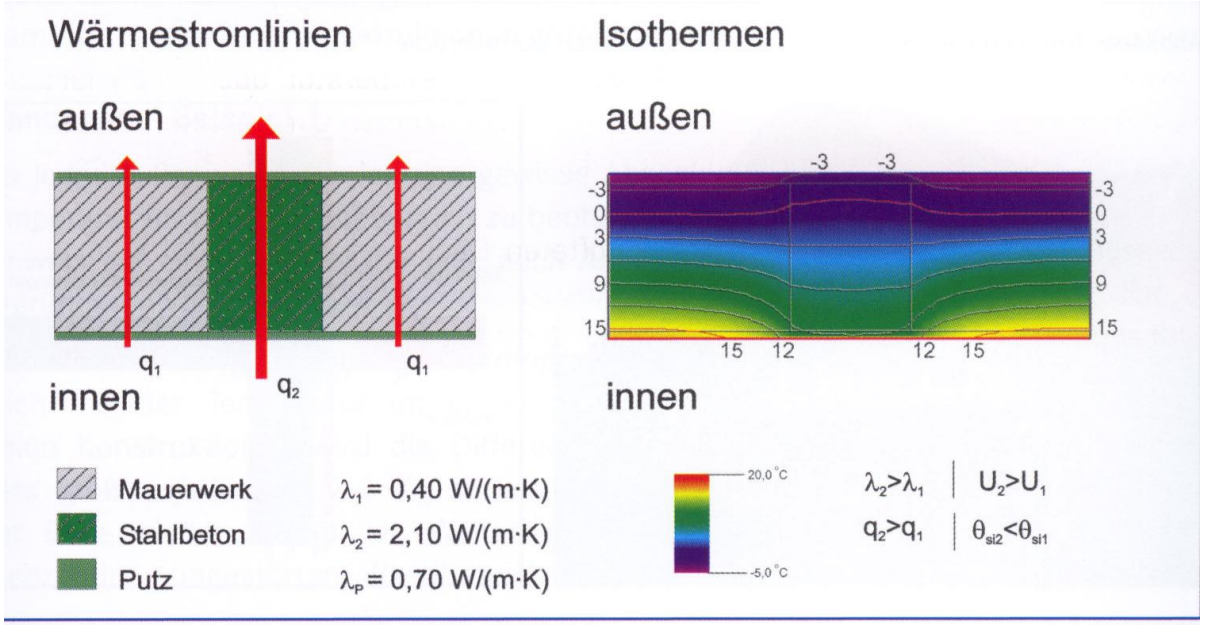
- Heat conduction
- Convection
- Thermal radiation

Application of thermography in construction

- Identification of thermal bridges
- Detection of mould and moister
- Identification of air leakages with Blower-Door procedure
- Quality control for possible flocculation
- Identification of leakages on water piping systems
- Identification and evaluation of historical construction elements

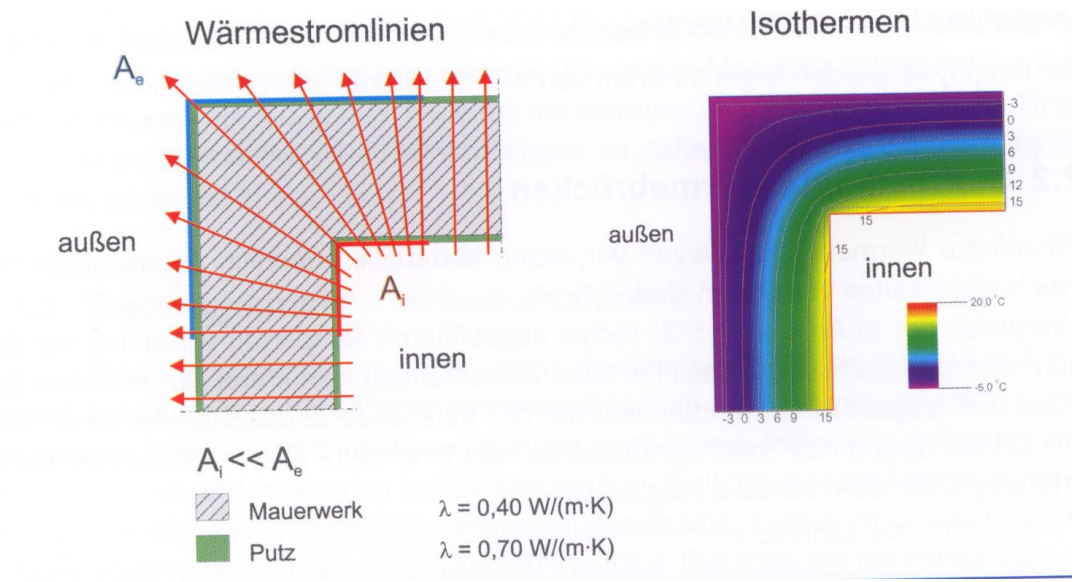
Thermal bridges in construction

Substance-related thermal bridges; materials with significantly different thermal properties



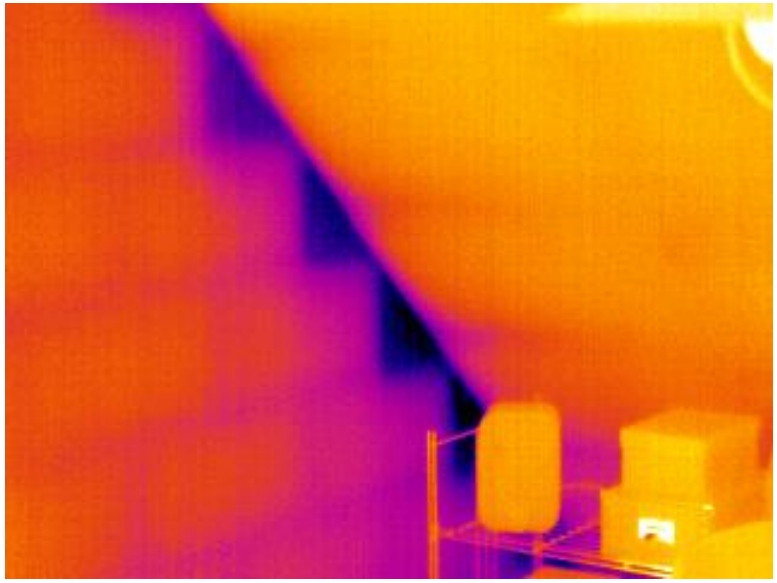
Thermal bridges in construction

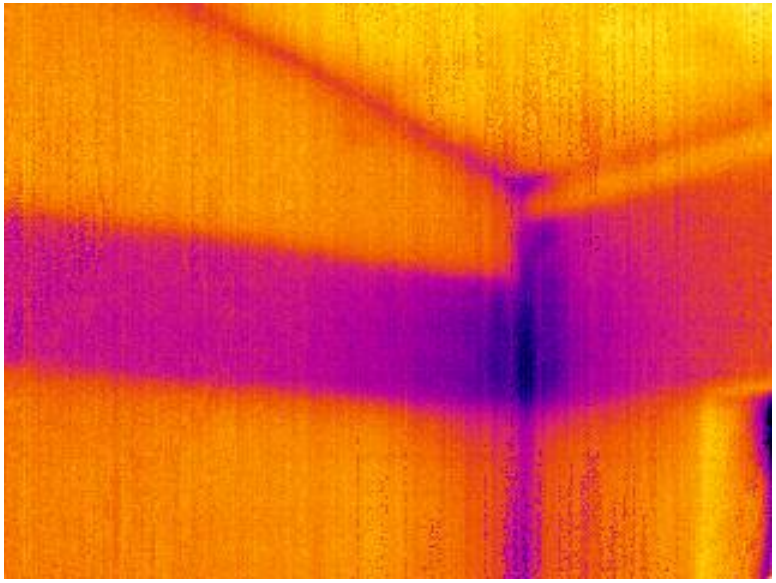
Geometry related thermal bridges; smaller transmittance area Ai on the inner side is opposite to the much bigger transmittance are Ae on the outside. This results in higher thermal transmittance in the corners.



Thermal bridges in construction

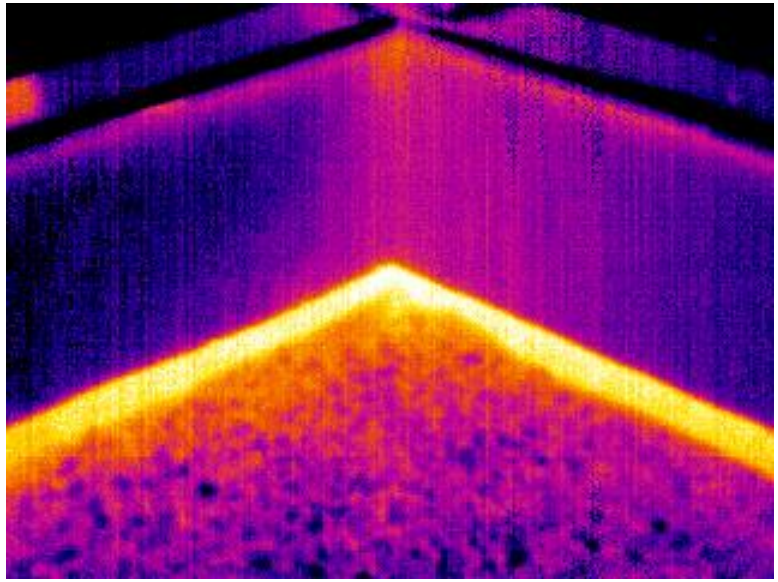
Identification from thermal bridges





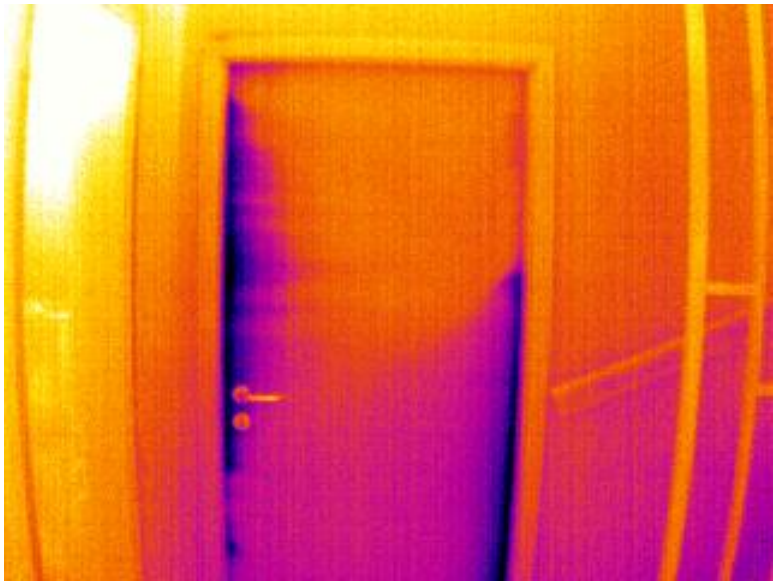
Thermal bridges in construction

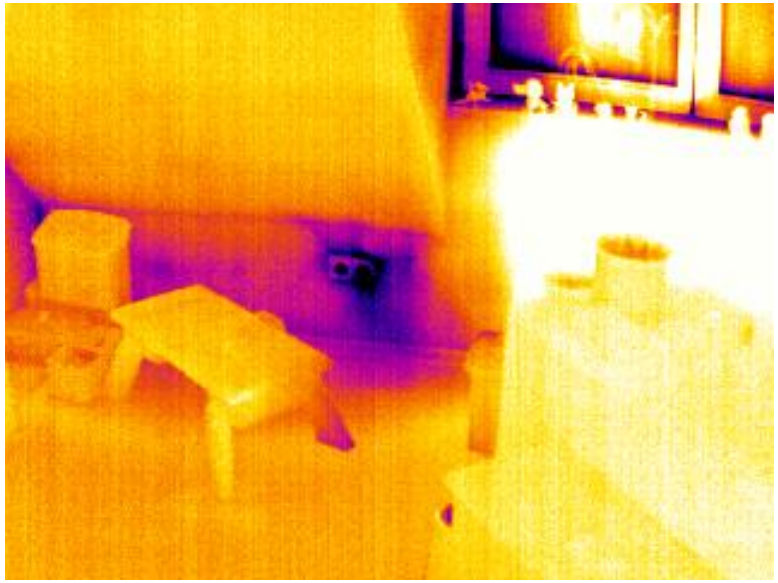
Detection of mould and moisture



Thermal bridges in construction

Identification of air leakages with Blower-Door procedure



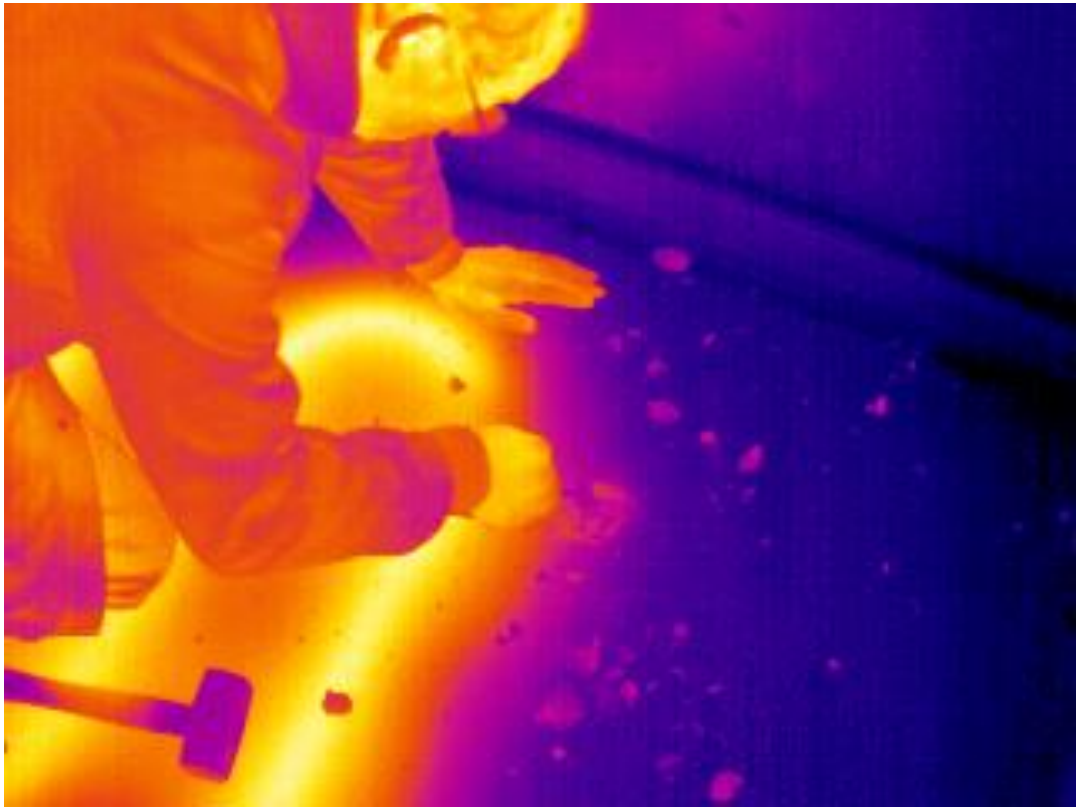


Thermal bridges in construction

Quality control for possible flocculation of thermal insulation

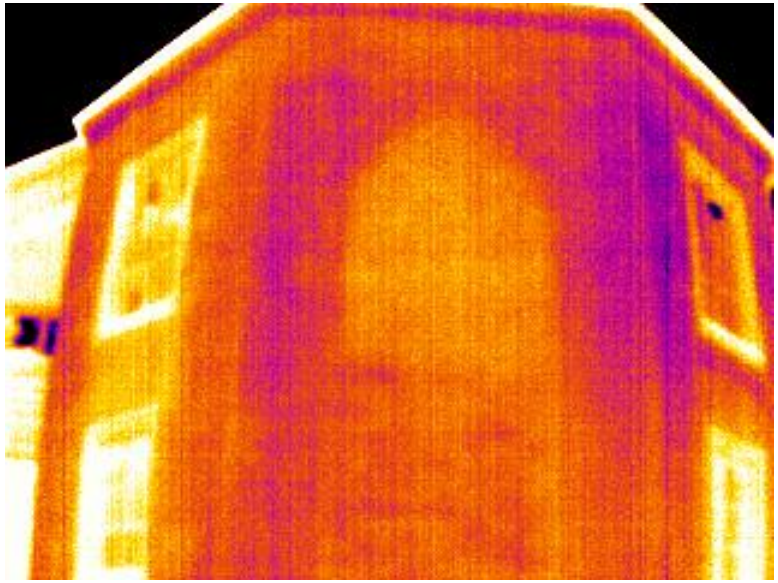
Thermal bridges in construction

Identification of leakages on water piping systems



Thermal bridges in construction

Identification and evaluation of historical construction elements



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We are looking forward
to the future.
Wherever!
Whenever!
With you.

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