

Building physics

What are the basic ways of heat dissipation?

:r1 conduction, convection, radiation

:r2 convection, conduction

:r3 conduction, radiation

:r1 ok 2

:r2 -1

:r3 -1

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Heat dissipation through conduction occurs:<br />

&nbsp;

:r1 mainly in gaseous substances

:r2 mainly in solids

:r3 mainly in liquid substances

:r1 -1

:r2 ok 2

:r3 -1

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Which boundary conditions for outdoor environment are important for thermos-technical calculations?

:r1 air temperature and humidity

:r2 air temperature

:r3 humidity

:r1 ok 2

:r2 -1

:r3 -1

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What do the values of boundary conditions for indoor environment depend on?

:r1 nothing

:r2 the purpose of the object use

:r3 the geographic location of a building

:r1 -1

:r2 ok 2

:r3 -1

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:r1 nothing

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:r3 the geographic location of a building

:r1 -1

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:r3 ok 2

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Design indoor temperature is value:

:r1 including the effect of air temperature and influence of surface temperatures on boundary structures

:r2 of indoor air without the influence of radiation from surrounding areas

:r3 of outer surface

:r1 ok 2

:r2 -1

:r3 -1

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What are the important thermo-technical properties of building materials?

:r1 thermal conductivity, diffusion resistance factor, density, specific heat capacity

:r2 thermal conductivity, diffusion resistance factor

:r3 density, specific heat capacity

:r1 ok 2

:r2 -1

:r3 -1

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Which value of thermal conductivity is necessary to use for the calculations of outer structure?

:r1 declared value

:r2 characteristic value

:r3 design value

:r1 -1

:r2 -1

:r3 ok 2

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What is the thermal conductivity?

:r1 It characterizes the substance's ability to conduct heat.

:r2 It is a dimensionless quantity indicating how many times the respective water vapor material is less permeable than air.

:r3 It is a dimensionless quantity indicating how many times the respective water vapor material is more permeable than air.

:r1 ok 2

:r2 -1

:r3 -1

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What does the thermal conductivity coefficient depend on?<br />

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:r1 Bulk density, density, porosity, specific heat capacity

:r2 Density and bulk density, moisture, the direction of heat flow of non-isotropic substances, chemical composition, temperature

:r3 Bulk density, density, porosity, absorption

:r1 -1

:r2 ok 2

:r3 -1

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What does the thermal resistance during heat transfer take into account?

:r1 Structure ability to put resistance during the heat transfer

:r2 Heat transfer coefficient

:r3 Heat exchange on the structure surface between the structure and the surrounding environment. On the basis of air flow on the structure surface and the radiation between the structure surface and surrounding bodies.

:r1 -1

:r2 -1

:r3 ok 2

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What is heat transfer coefficient?

:r1 Structure ability to put resistance during the heat transfer

:r2 Revers value of the thermal resistance

:r3 Thermal resistance of the boundary air layer adjacent to the inner or outer side of the structure.

:r1 -1

:r2 ok 2

:r3 -1

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What is required value of heat transfer coefficient?

:r1 the maximum permissible value

:r2 the minimum permissible value

:r3 the average value

:r1 ok 2

:r2 -1

:r3 -1

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What is linear heat transfer coefficient?

:r1 It characterizes thermo-technical properties of two-dimensional thermal bridges and bonds.

:r2 Lowest surface temperature

:r3 It indicates the thermal conductivity of the material

:r1 ok 2

:r2 -1

:r3 -1

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What is thermal bridge (bond)?

:r1 It indicates the thermal resistance.

:r2 It indicates the thermal conductivity of the material

:r3 Thermal bridge/bond is a part of building envelope, where the heat flow changes significantly

:r1 -1

:r2 -1

:r3 ok 2

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What are the impacts of thermal bridges?

:r1 Higher heat losses, lower surface temperature, water vapor condensation, mold growth

:r2 The highest temperature

:r3 No impacts

:r1 ok 2

:r2 -1

:r3 -1

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How is the minimum surface temperature assessed?

:r1 It's not assessed

:r2 Using the temperature factor

:r3 It must be as low as possible

:r1 -1

:r2 ok 2

:r3 -1

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What can cause a low surface temperature?<br />

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:r1 Water vapor condensation, mold growth

:r2 Nothing.

:r3 Better hygiene conditions

:r1 ok 2

:r2 -1

:r3 -1

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What is active annual balance of condensation and evaporation?

:r1 The line showing the actual partial water vapor pressures is not in the graph.

:r2 All moisture condensed during the annual cycle evaporates during the same cycle

:r3 Moisture is not able to evaporate completely during the annual cycle and there is a long-term accumulation inside the structure.

:r1 -1

:r2 ok 2

:r3 -1

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What is passive annual balance of condensation and evaporation?

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:r2 -1

:r3 ok 2

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For which room is the thermal stability of the room during the summer period assessed?

:r1 For a critical room; a space with the highest heat load; a room with the largest direct sunlit glazed areas oriented to the W, SW, S, SE, e in relation to the floor area of the adjacent space.

:r2 For all rooms

:r3 Far a hallway

:r1 ok 2

:r2 -1

:r3 -1

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What is the reference building?

:r1 It is a virtual building of the same dimensions and same spatial layout as the building under consideration. Same purpose and location. All envelope surfaces have the required value.

:r2 Average heat transfer coefficient.

:r3 It affects heat loss through heat transfer, heat loss increases with increasing surface area of the envelope structures.

:r1 ok 2

:r2 -1

:r3 -1