

## *Comparative analysis of heat conduction of selected flooring materials*

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Principal:

**Venifloor**

wooden floors - **NEW GENERATION**

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Compilation:

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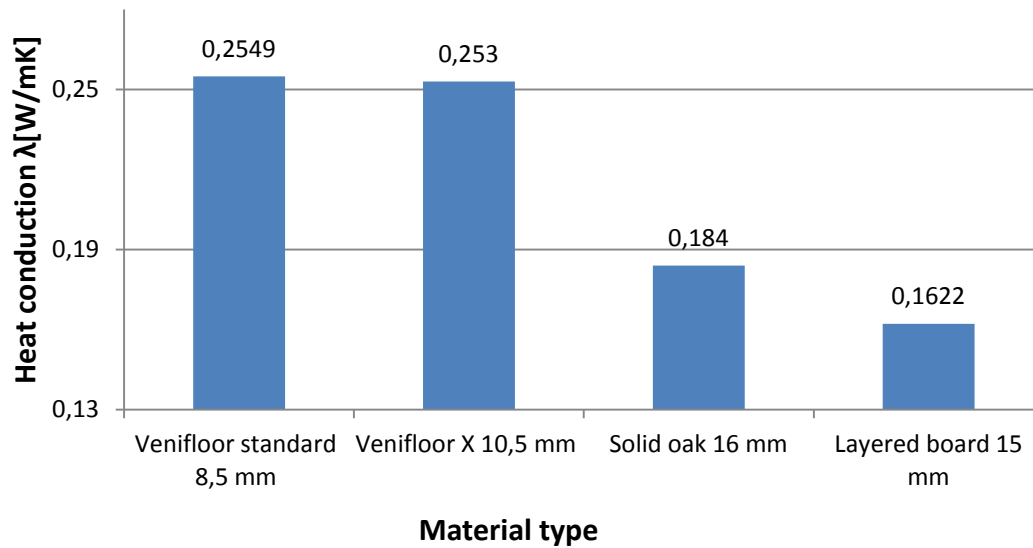
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### **Subject of analysis**

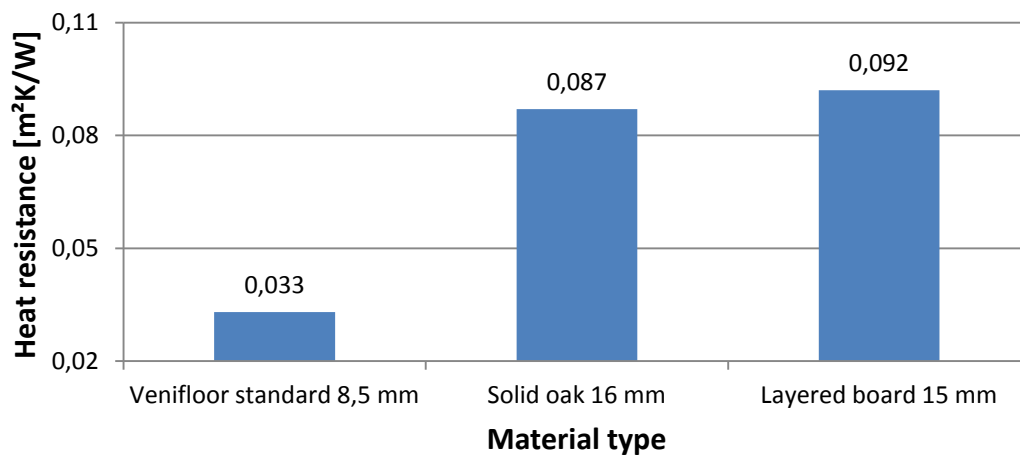
Determinations of the value of heat conduction of materials used as floor coverings were carried out. Materials such as: Veniflor board, solid wooden board (solid oak), layered board were compared. Materials thickness: Venifloor board standard 8,5 mm (and 11,5 mm), Venifloor board X 10,5 mm (with integrated mineral leyer), solid wooden plank (oak wood) 16 mm thick, layered board (3 mm warstwa użytkowa (drewno dębu)), (3 mm functional layer (oak wood), bottom layer 12 mm (softwood). Heat conduction was determined on 6 samples for each floor, average measurement results are presented in diagram 1. Resistance l was determined by calculations in diagram 2,3,4.

## Heat conduction

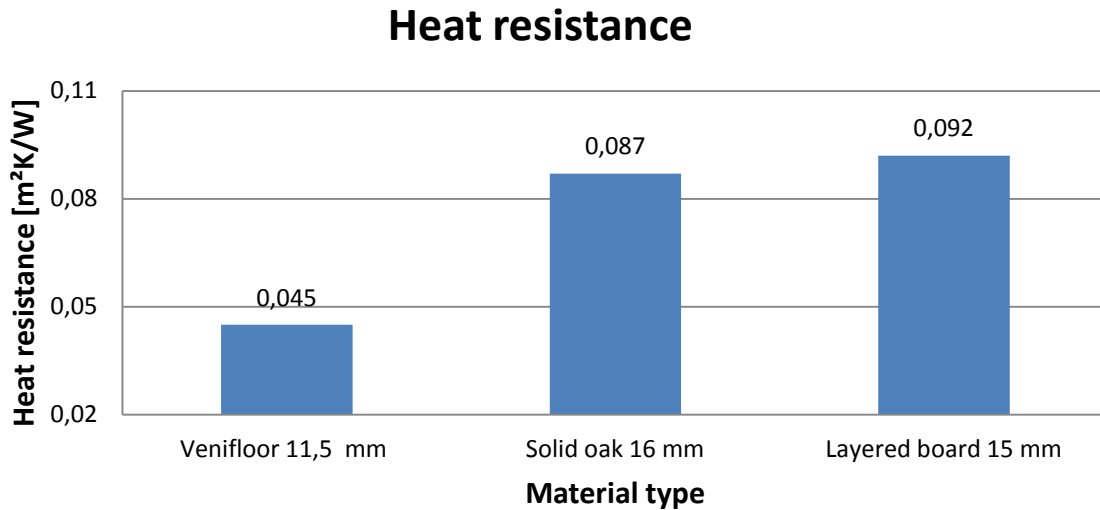


**Diagram 1.** Heat conduction of selected flooring materials

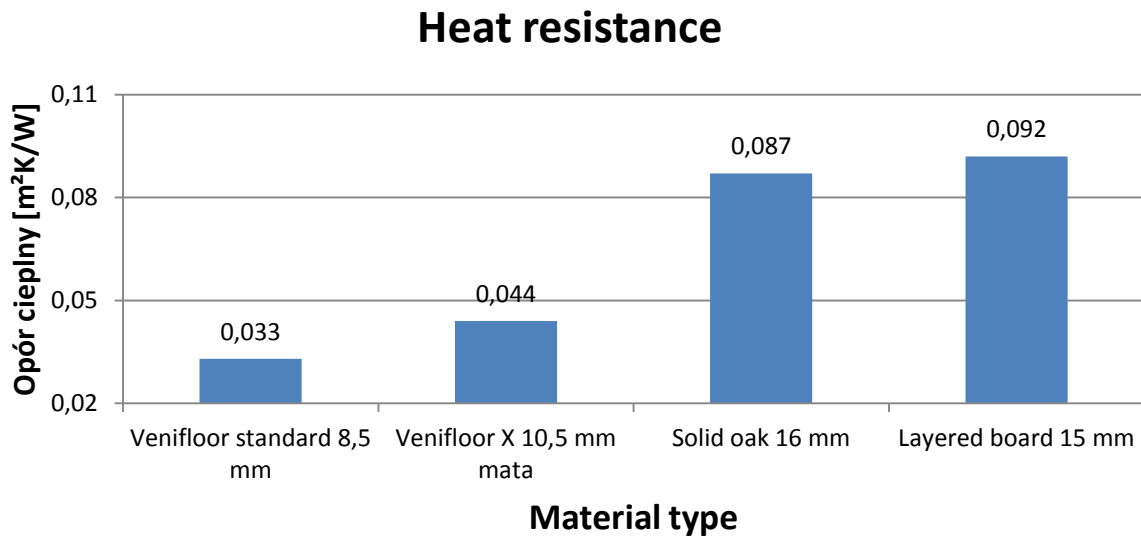
## Heat resistance



**Diagram 2.** Heat resistance of selected flooring materials



Wykres 3. Heat resistance of selected flooring materials



Wykres 4. Heat resistance of selected flooring materials

## Summary

The Veniflor board is characterized by more favorable heat conduction ( $\lambda$ ) (compared to solid wood, as well as a layered board (with bottom-up stabilizing layer (softwood)). A high heat conductivity ( $0.2549 \text{ [W / m} \cdot \text{K]}$ ) directly applied to low heat resistance ( $R = 0.033 \text{ m}^2\text{K / W}$ ).

## Literature

### Acknowledgment

The analysis of the heat transfer of Veniflor boards was carried out as a part of the doctoral dissertation of Phd Eng. Valerjan Romanovski, topic "Dimensional stabilization of wooden floors on a mineral foundation with heating" prepared at the Warsaw University of Life Sciences - SGGW at the Faculty of Wood Technology.

