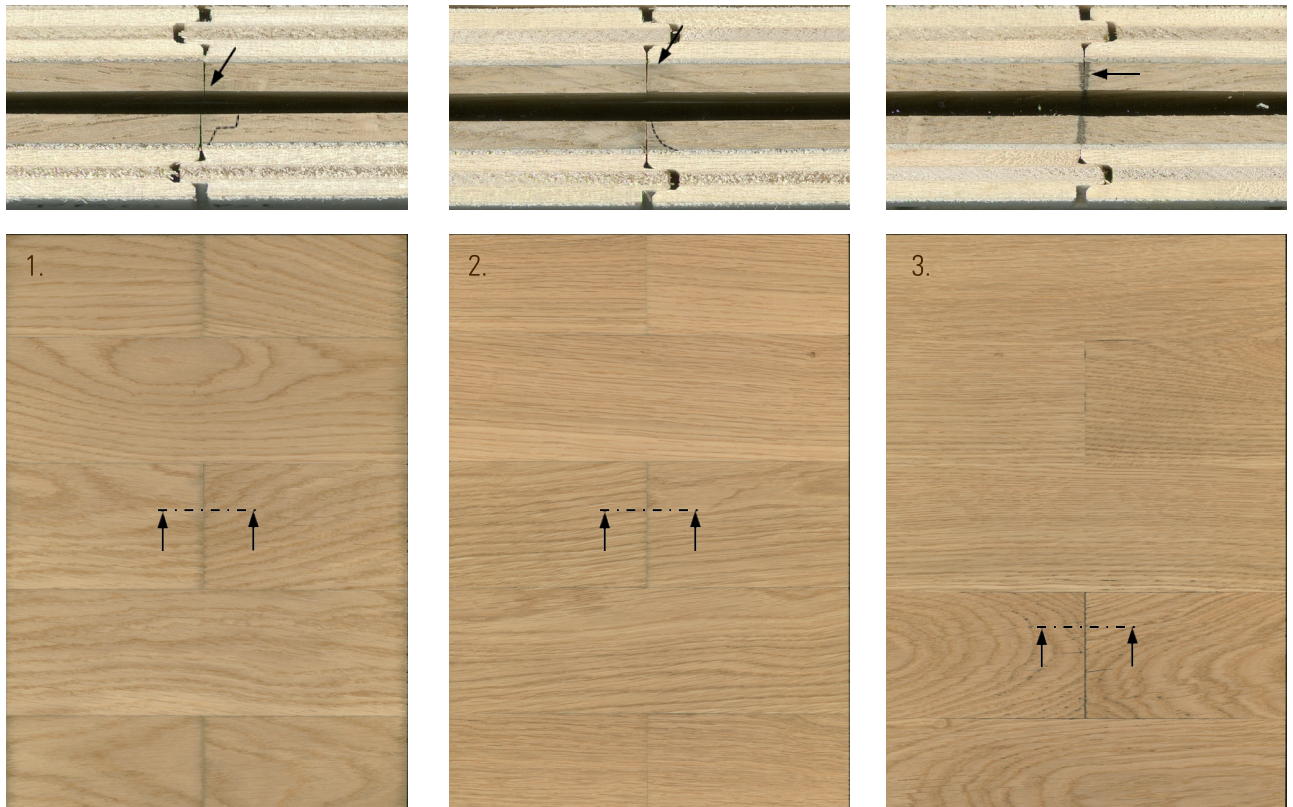


INFORMATION SHEET

COLOUR CHANGES AT PARQUET JOINTS

Wooden floors are very well protected against many influences by coatings or surface treatments. In recent years in some cases dark grey brown discolorations at the edges of parquet elements, occasionally also inside an element at joints of top layer lamellae or on long side joints are found. More frequently this is observed in new buildings, where rooms are not used instantly or not occupied over longer periods (e.g. prototype apartments, vacancies, holiday apartments, weekend homes).

APPEARANCE



1. diffuse discoloration wider on the surface (caused by exposure to gas phase from outside)
2. diffuse discoloration wider on the top layer bond line or on the lower side of top layer (caused by exposure to gas phase from below)
3. discoloration with sharp borders (caused by dirt or exposure to liquids; cracks, deformations, open gaps, compressions on the end grain joints can be caused by liquids)

Visual inspection is made from two opposite locations from eye height when standing upright under an angle of approximately 45° to the floor.

The distribution of discolorations over the floor area gives information on the sources of critical gasses or liquids.

Discolorations at skirtings or their joints as well as on the floor edges at the walls are indicators for exposure to gas phase from below.



CAUSES

- Materials emitting ammonia, e.g. some wall paints or screeds with additives, can lead to dark colours of tannin rich wood species, such as oak, chestnut, cherry or robinia from the gas phase.
- Too low or missing ventilation of the rooms leads to absent air exchange and this causes higher concentrations of emissions of building materials and occasionally higher air humidity.
- Alkaline liquids, such as some cleaning agents, can lead to dark colours of wood.
- At surfaces with coatings unprotected areas are affected first, e.g. joints of flooring elements which leads to dark grey brown discoloration of joints.
- At higher moisture on the wood surface, e.g. after cleaning, ammonia causes more pronounced staining.

Analytic chemistry with discoloured wood allows in most cases to narrow possible causes of discoloration.

PREVENTION

- Avoid the use of building materials that can cause alkaline emissions. In cases of doubt the compatibility with the parquet can be tested at laboratories with adequate equipment and knowledge.
- The residual moisture content of screeds must be below the limit values in existing standards. If floor heating systems are used, screeds must be preheated.
- Avoid direct contact with alkaline or colouring substances.
- Laying of parquet flooring should be scheduled as late as possible in construction works. So, a possible exposition during the building phase can be avoided or kept short.
- Good and periodic ventilation of rooms must be provided.
- After laying the air conditions for use according to manufacturer's specifications must be maintained.
- The need for initial care on wooden floors is defined by the manufacturer. This can contribute to protection of the joints. Application according to manufacturer's specifications. Parquet care products based on natural oils or polymer dispersions improve the resistance of parquet and joint areas. They can reduce the risk for discoloration, but they cannot avoid it.
- Cleaning must be done according to the cleaning instructions. Only cleaning agents and devices recommended by the parquet producer, trader or foorer must be used.
- Cleaning water must be removed quickly, standing water must be avoided.

Contact:

Dr. Andreas Fischer
Institut für Holztechnologie Dresden
andreas.fischer@ihd-dresden.de
Tel.: +49/351/4662 317

Dr. Gerhard Grüll
Holzforschung Austria
g.gruell@holzforschung.at
Tel.: +43/1/798 26 23-61