Test report (ADP_Forensic_2)

Aging behaviour of damp substances / crime scene evidence

Debatin products:
Debabreathe (Breathable material)

Tested by:
Oliver Tröber

Date
15.03.15

General remarks:

Debabreathe bags are made of a material which is permeable to water vapour, thus allowing contents to dry inside the bag after this has been sealed. This prevents mould or mildew from forming on the stored substances. If airtight packaging is used, there is a danger that mould could form and thus destroy the evidence. Breathable materials also reduce the formation of condensation. The air permeable Breathe material (porous polypropylene) tested here exhibited specific air permeability (499 ml/min) as well as permeability to water vapour (571 g/m²/24 h). The breathable film completely lines one side of the bag, resulting in a breathable bag which consists 50% of standard film and 50% of the air permeable material Breathe.

Procedure

Cotton garments were soaked in urine and blood. These garments were then folded (ill. 1), packaged in the Breathe bags and gently dried at 40% relative humidity and 38°C for 3 days. The packaged items were then stored for 30 days. The garments were then retrieved from the packaging and inspected for traces of mould or mildew.

Result:

The garments were examined inside the bag following the 3-day drying process; the bag was not opened for this examination. The blood was congealed and no damp areas were visible in the specimen. The assumption was therefore made that the garments were virtually dry.

Ill. 1: Cotton shirt soaked in blood and packaged

The storage test then immediately followed, after which the stored garments were examined.

Ill. 2: Blood-soaked garment after 30-day storage

After opening the Debabreathe bags, the garments were examined for dampness and mould. The items of clothing were unfolded and inspected. No mould was visible on either the blood-soaked or the urine-soaked garments.

Ill. 3: Opened bag with unfolded evidence

Ill. 4: Opened bag with unfolded evidence

Conclusion:

Following storage, the samples were dry and free of mould. Water vapour from inside the bag was able to escape through the Debabreathe bags under the given conditions.
The packaging with breathable material lining on one side of the bag allowed residual water to evaporate through the packaging and thus prevent the development of mould.

Dr.-Ing. Oliver Tröber, 20.03.2015