



TEST OF TEMPER-PROOF SAFE BAGS

BAM reference	5.3/10743-2/19 DL20004750
Copy	2 of 3
Customer	Plast-Farb Sp. z o.o. Sp. K Ul. M. Skłodowskiej Curie 87A 87-100 TORUN POLAND
Order date	2020-01-29
Reference	Frau Kończal
Receipt of order	2020-01-30
Test samples	Safebags
Receipt of samples	2020-01-13
Test date	February 2020
Test location	12205 Berlin, Unter den Eichen 87
Test procedure according to	Based on the test program "Prüf- und Beurteilungsprogramm der BAM für Safebags zum Transport von Bargeld" (status July 2014).

TEST REPORT

This test report consists of page 1 to 8.

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MH-2.7.3-F2/2019-11-11

Sicherheit in Technik und Chemie

1. General Mandate

This report is about the tests on temper-proof for safebags. The tests were performed according "Prüf- und Beurteilungsprogramm der BAM für Safebags zum Transport von Bargeld" (Stand Juli 2014). Upon request of the customer only the points 2 B, 2 C, 2 D und 2 E of the test program were tested. In these four points, the manipulation safety against heat, cold and solvents as well as opening at room temperature is tested.

2. Sample Receipt

The samples have been sent by mail and arrived at BAM on 2020-02-13. The quantity of the safebags is approx. 35.

The safebags are made of transparent polymer film material and their size are approx. 25,5 cm x 40,5 cm.

There are several prints on the safebags like text fields, bar codes, a schematic short instruction and a seven-digit number. This number is different on every safebag and is used as sample name in the protocols.

3. Test Procedure

For the tests only commonly available items and tools are used. The most important tools are an adjustable hot air dryer, cold spray, tweezers and clamp scissors.

The tests are done by following steps: fix the safebag, apply the manipulation medium or temperature and try to pull off the sealing strip. Every step is done by some variations. For point 2 E of the test program the solvents ethanol, water, penetrating oil (WD-40, WD-40 Company) and acetone were used.

The details of test procedure are under non-disclosure.

4. Test Results

4.1 Room temperature – without tools

Marks of opening attempts of the safebags at room temperature were always visible for all attempts (see figure 3).

It was only possible to open the safebags by visibly destroying the sealing.

4.2 Heat

All tested safebags have shown a triggering of the security features during the opening test. The two most important signs were the release of the safety font and the tearing of the blue perforated band. There was also a change of the structure of the glue, which connects the

sealing band with the foil bag. Less clearly, but recognizable, was the thermal color indicator. This one turned red, but not very color intensive.
(see figure 1)

4.3 Cold

The result for the manipulation tests with the cold spray was that the safety font was clearly visible. A manipulation with using cold was therefore always in evidence. (see figure 2)

4.4 Solvents

Penetrating oil

The penetrating oil had a slight adhesive effect, but the security font became visible. (see Figure 4)

Ethanol

Ethanol dissolved the glue and with continuing manipulation attempts the safety font appeared. It was possible to dissolve the glue in the middle of the blue security band (in the colorless part) and to reach into the safebag with a tweezer. However, the opening was too small to be able to take out anything without leaving a trace. Also, the security font easily appeared. (see figure 5)

Water

The water hadn't a solvent effect to the glue. During the manipulation tests the sealing band cracked and the safety font appeared. (see figure 6)

Acetone

Acetone had the consequence that the safety font as well as the sealing band was completely and immediately detached. The red color of the thermo indicator also appeared and proceeded. A manipulation attempt was clearly visibly (see figure 7)

5. Conclusion, Assessment

All manipulation tests on the tested safebags have had the effect, that at least one security feature was shown.

The rating "manipulation safe" can be granted for the four tested subpoint (2 B, 2 C, 2 D and 2 E) of the test program "Prüf- und Beurteilungsprogramm der BAM für Safebags zum Transport von Bargeld" (status July 2014).

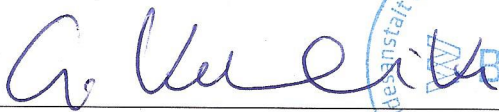
Bundesanstalt für Materialforschung und -prüfung (BAM)
12200 Berlin

2020-03-25

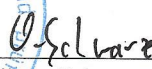
Department 5.3: mechanics of polymers

By order

By order



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Enclosures



figure 1 – manipulation with heat



figure 2 – manipulation with cold



figure 3 - manipulation without tools, at room temperature



figure 4 - manipulation with solvents, penetrating oil



figure 5 - manipulation with solvents, ethanol



figure 6 - manipulation with solvents, water

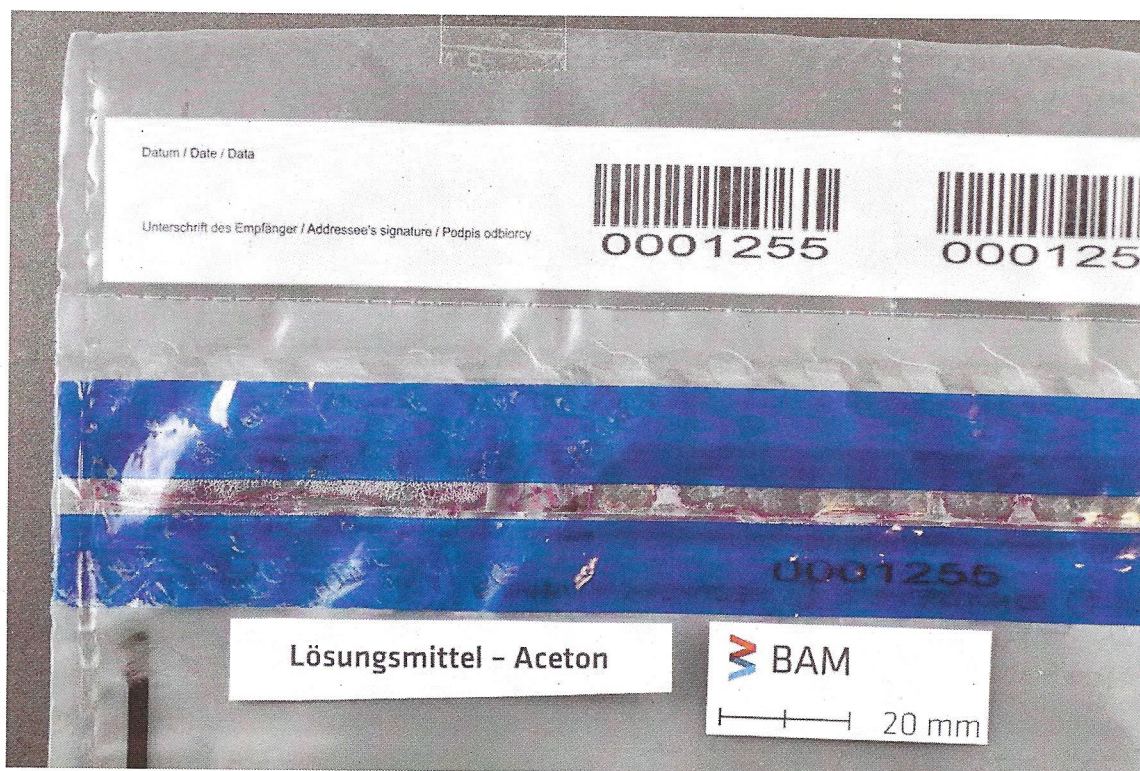


figure 7 – manipulation with solvents, acetone



figure 8 – safebag, delivery status