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TEST OF TAMPER PROOF SAFE BAGS

BAM reference	DL 21033869 5.3/10769/21
Copy	2 of 3
Customer	Plast-Farb Sp. z o.o. Sp. K Ul. M. Skłodowskiej Curie 87A 87-100 TORUN POLAND
Order date	2021-09-23
Reference	Ms Tołoczko
Receipt of order	2021-09-23
Test samples	Safebags
Receipt of samples	2022-02-03
Test date	Februar 2022
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 inclusive enclosures.

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The German version is legally binding, except an English version is issued exclusively.

KWDP01-F01e / 2021-04-26

Sicherheit in Technik und Chemie

1. General Mandat

According to the order, the tests are about the tamper-proof of Safebags. The tests were performed according the "Prüf- und Beurteilungsprogramm der BAM für Safebags zum Transport von Bargeld" (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 without any tools is tested.

2. Sample Receipt

The samples have been sent by mail and arrived at BAM on 2022-02-03. The quantity of the safebags is 50.

The safebags are made of a polymer film material (According to the imprint, it is a LDPE) and their size are approx. 25,5 cm x 40 cm.

The outside color of the safebags is white and the inside is black.

There are several prints on the front of the safebags like company name, web address, 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 of this report.

The safebags have a line of continuous "STOP" imprints at the outer seam.

The backside is white, with a black bar (overlap from the inside) on the top, without prints.

One safebag at delivery state is shown in *figure 1* in the enclosures.

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, adhesive tape, and clamp scissors.

The tests are performed by following these 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 and penetrating oil (WD-40, WD-40 Company) were used.

The details of test procedure are under non-disclosure.

4. Test Results

4.1 Room temperature – without tools

All opening attempts leave clearly visible indications. The plastic foil material of the used safebag is ripped, or the blue sealing tape also ripped, and the security letters appears highlighted and visible.

4.2 Heat

In all cases of the opening attempts at least one of the safety features were triggered. During the removal of the blue strip, one part of the blue foil remained stuck on the safebag. As a result, the reclosing was not possible without clear manipulation indications.

In addition, the thermal color indicator was switched on and change his color to red when using the hot air dryer at 50°C to 60°C.

Every manipulation attempt was clearly visibly.

(see *Figure 2*)

4.3 Cold

With the help of cold spray, it was partly possible to open the safebags. But small parts of the sealing tape remain at the safebag, so it was not possible to reclose the safebag without signs of manipulation..

A manipulation attempt was visibly.

(see *Figure 3*)

4.4 Solvents

Penetrating oil

The penetrating oil had a slight solving effect, but the security font became visible.

A manipulation attempt was clearly visibly.

(see *Figure 7*)

Water

With using water, it was not possible to solve the glue. During the manipulation, the sealing band cracked and the safety font appeared.

A manipulation attempt was clearly visibly.

(see *Figure 6*)

Ethanol

The Ethanol dissolved the glue partwise. As a result, the safety font appears, and the blue color of the tape was dissolved.

It was possible the wipe off the "STOP" print above the tape.

All manipulation attempts were clearly visibly.

(see *Figure 4*)

Acetone

The Acetone dissolved the glue partly. As with using Ethanol, the safety font appears, and the blue color of the tape was dissolved.

It was possible the wipe off the "STOP" print on the tape.

All manipulation attempts were clearly visibly.

(see *Figure 5*)

5. Conclusion, Assessment

It was not possible to open a safebag without damaging them or at least trigger one of the safety mechanisms.

For that reason, the tested safebags can be described as tamper proof.

Bundesanstalt für Materialforschung und -prüfung (BAM)
12200 Berlin

2022-02-21

Fachbereich 5.3 Polymere Verbundwerkstoffe (Polymer Matrix Composites)

By order

By order



Dr. Ing. Gerhard Kalinka
Test Manager





Oliver Schwarze
Technical Administrator

Distribution list: 1st copy: customer
 2nd copy: BAM

Enclosures



Figure 1, delivery status



Figure 2, after the manipulation with: heat

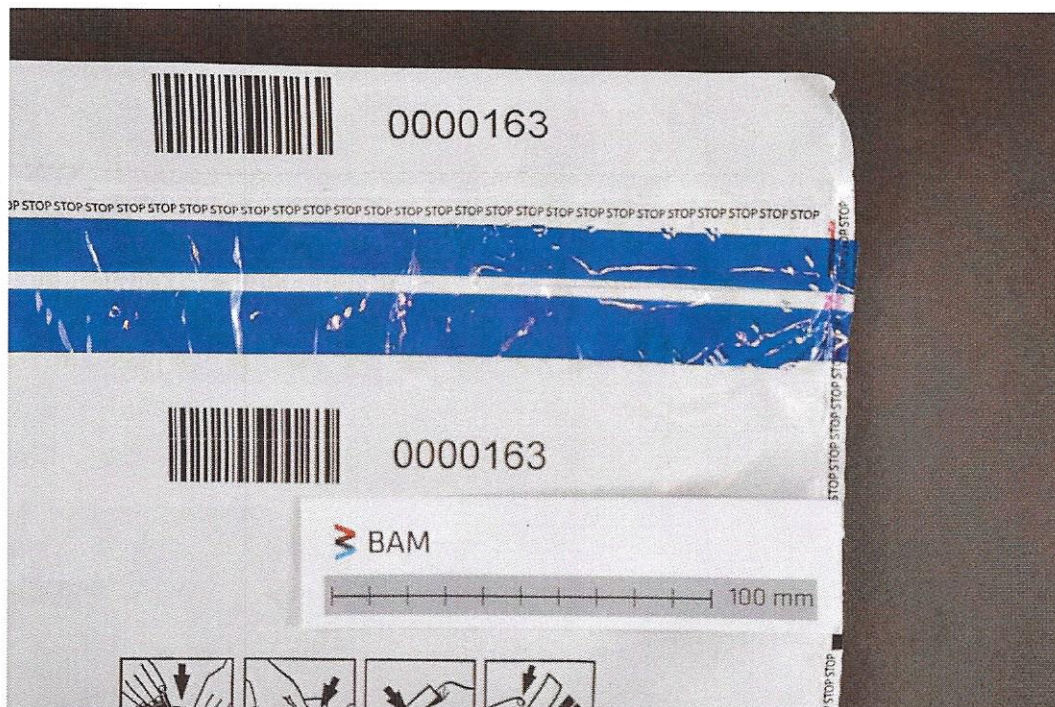


Figure 3, after the manipulation with cold spray





Figure 6, after the manipulation with water

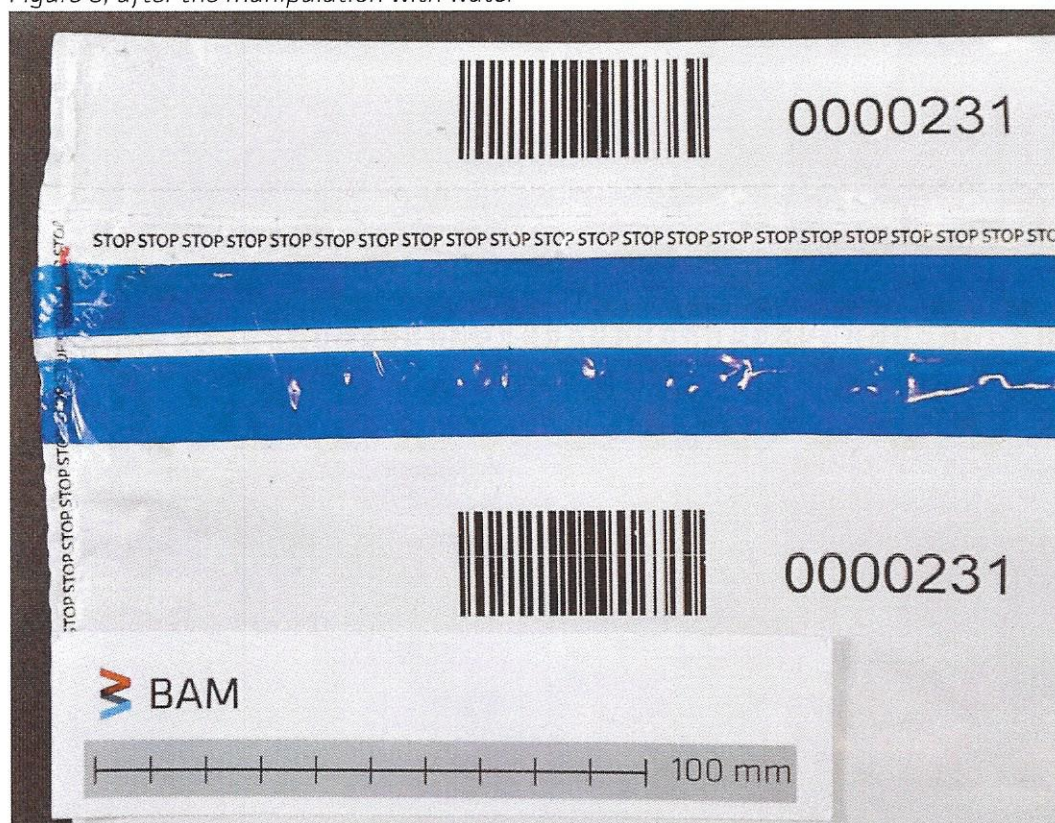


Figure 7, after the manipulation with penetrating oil