

## TESTREPORT



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|--------------------------|------------------------------------------------------------|
| <b>Report number</b>     | 17.00927 rev.01                                            |
| <b>Date of test</b>      | 15-01-2018                                                 |
| <b>Date report</b>       | 06-04-2018                                                 |
| <b>Applicant</b>         | Arte Viva BV<br>Keulenaar 6b<br>3961 NM Wijk bij Duurstede |
| <b>Size report</b>       | This report consists of 8 pages.                           |
| <b>Subject</b>           | Testing of "Finger alert Anti-slam".                       |
| <b>Inspector</b>         | J.G. van de Wetering                                       |
| <b>Technical Manager</b> | dr. ir. A. van Beek                                        |

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## 1 PURPOSE OF THE TEST

Arte Viva BV which is located in Wijk bij Duurstede has ordered SKG-IKOB to execute a test on a finger protection device according to the protocol described in chapter 2. The purpose of the test is to determine the mechanical function and structural integrity of the shut controlling device.

## 2 TEST PROTOCOL

- a. Review of the installation instruction
- b. Mounting doorstopper on a meranti wooden doorset according to the mounting instructions.
- c. Functionality test of the stopper before durability with a pendulum impactor applying an impact load of 14,7 Joule at the lock (50 kg with a drop height of 30 mm). Functionality is defined as minimizing the risk of crushing injuries to fingers at the handle edge of the door by controlling the deceleration of the door leaf or preventing the door from shutting suddenly
- d. Durability test of 250.000 cycles with a speed of 6 cycles per minute.
- e. Functionality test of the stopper after durability with a pendulum impactor applying an impact load of 14,7 Joule (50 kg with a drop height of 30 mm).
- f. Strength test of the stopper and mounting with 3 impact loads of 220 Joule. Testing of the functionality of the specimen after each test load.
- g. Overload test of the stopper and mounting with an impact load of 367.5 Joule (50 kg with a drop height of 750 mm) and 539 Joule (50 kg with a drop height of 1100 mm). Determine the functionality after each test load.

The impact load is applied with a pendulum impactor with two pneumatic tyres and a total mass of 50 kg.

## 3 DESCRIPTION OF THE EXAMINED PRODUCT

Finger protection device type: **Finger-Alert ANTI-SLAM**



#### 4 SAMPLING

The samples were delivered on 15-01-2018 to SKG-IKOB by the applicant.

SKG-IKOB marked the samples before testing.

The samples were made available by the applicant. As a result this report only applies to the tested samples, and it cannot be regarded as representative for a larger party.

#### 5 TEST RESULTS

Concept installation instruction has been reviewed before and during the installation of the first test.

Functionality test of the stopper before durability,

- Position of the door in opened position against the doorstopper, gap between door leaf and door frame 75 mm. impactor 50 kg at the position of the lock at 1,05 m.
- Drop height of 0.03m,  $W=(50 \times 9.8) \times 0.03=14.7$  J closing gap between door leaf and door frame 50 mm

Functionality test of the stopper after durability,

- Durability of 250.000 cycles successfully accomplished.
- Position of the door in opened position against the doorstopper, gap between door leaf and door frame 75 mm. impactor 50 kg at the position of the lock at 1,05 m.
- Drop height of 0.03m,  $W=(50 \times 9.8) \times 0.03=14.7$  J closing gap between door leaf and door frame 50 mm

Functionality and strength test of the stopper and mounting with an impact load of 220 Joule

- Dynamic test on the stopper, drop height 450 mm
- Stopper should still function after the test.
- Position of the door in opened position against the doorstopper, gap between door leaf and door frame 75 mm. impactor 50 kg at the position of the doorstopper on the top of the door
- 1<sup>st</sup> impact: product enters into operation and is still fully functional
- 2<sup>nd</sup> impact : product enters into operation and is still fully functional
- 3<sup>rd</sup> impact : product enters into operation but blocks and doesn't function anymore.

Strength and overload test of the stopper and mounting with an impact load of 367,5 Joule and 539 Joule (drop heights 750 and 1100 mm)

- Tested with a new sample for every test.
- Position of the door in opened position against the doorstopper, gap between door leaf and door frame 75 mm. impactor 50 kg at the position of the doorstopper on the top of the door
- 750 mm drop height: 367.5 Joule impact, product enters into operation but blocks and doesn't function anymore
- 1100 mm drop height: 539 Joule, product enters into operation but blocks and doesn't function anymore

Note:

1. This report may only be reproduced word by word and in its entirety, unless prior written permission has been obtained from SKG-IKOB.
2. The samples were made available by the applicant. As a result this report only applies to the tested samples, and it cannot be regarded as representative for a larger party.

Drafted at Geldermalsen, The Netherlands on 06-04-2018



dr. ir. A. van Beek  
Technical manager

6 DRAWING(S) / PHOTOS

Mounting instructions:

**Instructions**

1. Tools and materials: screwdriver, 3.9 x 16 mm aluminium door frames, 4.2 x 19 mm wooden door frames, 8 cm stopper, 4 x 40 screws, and a step ladder.

2. Positioning the device on the door frame.

3. Marking the installation points with a minimum distance of 4 cm.

4. Drilling holes and inserting the screws.

**Warnings:**

- Use the right screws for your door post.
- Door post should have a minimum thickness of 4 cm. There has to be at least 8 cm free space from a closed door on the side of the door post.
- Spray WD40 on the pin and into the stopper, repeat once every 3 months.

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**DISCLAIMER**  
Arte Viva BV shall not be responsible for any consequential, direct or indirect loss or damage suffered by any person or property, which is the result of a failure to install and/or use of the Finger Alert Anti-Slam as set forth in the above instructions, or based upon misuse, neglect or modification of the Finger Alert Anti-Slam

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**Instructions**

5. Tightening the screws.

6. Adjusting the device.

7. Final adjustments and testing.

8. Final check of the installation.

9. Final check of the door operation.

**Warnings:**

- Step 7, 8 and 9 are to test the installation.
- Ensure that the product does not interfere with closing the door.

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Functionality test: Impact on position of the lock



Strength and overload test: Impact on position of the stopper



Functioning of the doorstopper