

# **PRODUCT TEST**



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## **Company information**

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## **Reading instructions**

Please note that this test report is supported with a list that contains the appendices. To get a clear understanding of this report, it is recommended to refer to the appendices when needed.

## **Terms & definitions**

| User(s)             | - | The person / persons operating the S-CAPEPLUS                  |
|---------------------|---|--|
| Victim              | - | The person lying inside the S-CAPEPLUS                         |
| Evacuation Mattress | - | In this report, it refers to the basic model of the S-CAPEPLUS |
| Manikin             | - | A jointed model of the human body                              |





# **Test information**

| Test date                 | September 5, 2018   |
|---------------------------|---|
| Test location             | Eindhoven, the Netherlands                                  |
| Product being tested      | S-CAPEPLUS Evacuation Mattress – Basic version (Appendix 1) |
| Article number of product |   |
| Tested by                 | Tetcon  |
| Persons involved in test  | Piet Hezemans, Bob Hezemans                                 |
| Recording materials used  | iPhone 6, iPhone 7, GoPro Hero 6                            |
| Additional materials used | Ruth Lee Manikin 50 kg (Appendix 2)                         |
|                           | Weight vest 20 kg (Appendix 2)                              |

| Location information          |                                   |  |  |
|-------------------------------|-----------------------------------|--|--|
| Building name                 | Blok 59 – Strijp S (Appendix 4)   |  |  |
| Address                       | Philitelaan 59, 5617 AK Eindhoven |  |  |
| Number of floors              | 19 floors                         |  |  |
| Number of steps per staircase | 17 steps                          |  |  |
| inside the building           |                                   |  |  |
| Surface material on staircase | Concrete (Appendix 3)             |  |  |
| inside the building           |                                   |  |  |

#### Test objectives

The objective of this test is to measure the descending time from a multi-storey building when using the S-CAPEPLUS and the abrasion resistance on the product's bottom side after descending multiple staircases. As a result of these findings, Tetcon and external parties can use the data to provide potential users with valuable insights on the product's qualities and the potential benefits it might have during an emergency evacuation.





#### Presentation of results

Results will be provided using photos. These photos were made during the test. The conclusion of those photos will be in a written form and will be concluded objectively..co

#### Clarification of materials used

To provide a solid overview of the product's sturdiness, a brand new S-CAPEPLUS was used both for the inside staircases and the perforated staircase which is outside of Blok 59. The manikin and weight vest had a total weight of 70 kg / 154 lbs. This reflects the average weight of women in the Netherlands (Bruggink, 2012). A manikin and a weight vest were used because the weight of a human being fluctuates over time. Therefore, the results might differ over time.

The weight vest will be placed around the manikin's upper body and will then be placed onto the S-CAPEPLUS.

#### Video proof

The test was recorded on camera. The video can be found on Youtube. <u>To get access to the video, click on</u> this link.

#### Important information about this test

- Please note that the likeliness of different test results in the future is fairly high.
- Use this test as a guideline.
- The skill of the user(s) affects the descending time via the staircase.
- Regular training with the S-CAPEPLUS might improve the descending time via the staircase.
- The outcome of this test might differ when a human being lies on the S-CAPEPLUS.





## Test results after 19 staircases



#### Results after 19 staircases:

- The bottom side of the S-CAPEPLUS is covered with unclean substances (dust).
- No visible damages on the polyester bottom side of the S-CAPEPLUS.
- No visible damages on the stitches.

Descend time 19 staircases

09:09 minutes







## Test results after 38 staircases





#### Results after 38 staircases:

- The bottom side of the S-CAPEPLUS is covered with unclean substances (dust).
- No visible damages on the polyester bottom side of the S-CAPEPLUS.
- No visible damages on the stitches.

#### Descend time via 38 staircases:

21:16 minutes (going up and down twice via the 19 staircases)

## Conclusion of the test

- The physical shape of the users will affect the speed of descending the staircase. Whenever user fatigue starts to kick in, it is advisable that users change their positions. Whenever there is only a single user, it is advisable to take some rest when needed.
- The S-CAPEPLUS was not damaged after 38 staircases.
- The S-CAPEPLUS can still be used after 38 staircases on this type of surface and under these circumstances.
- Sharp edges or protrusions may damage the S-CAPEPLUS.





## Appendix 1 – A brand new S-CAPEPLUS being used for this test



Appendix 2 – Materials being used for the test







## Appendix 3 – Staircase across 19 floors inside Blok 59



Appendix 4 – Blok 59 building, Strijp S, Eindhoven, the Netherlands



