**NATIONAL TECHNICAL UNIVERSITY OF ATHENS**
**SCHOOL OF CIVIL ENGINEERING**
**INSTITUTE OF STEEL STRUCTURES**
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# TEST REPORT
**No EMK-TR022014**

**Applicant:** Porta Block, Leoforos Karamanli 207 – 13672 AHARNES, Greece

**Test specimen:** Single leaf hinged door (Product Group 1 to ELOT EN 1627:2011) with 2 hinges and 15 locking points

**Product name:** PORTA BLOCK ROCK-15

**Dimensions of test specimen:** Height 1945 mm, Width 784 mm

**Date of manufacture of the specimen:** 1/11/2013

**Infilling materials:** MDF wood 7 mm – Steel sheet 1.1 mm – MDF wood 7 mm

**Hardware:** Lock SECUREMME Type SERIE 25 MOD 2500FD28
Cylinder SECUREMME Type Z4246X24

**Locking conditions during testing:** Fully locked

**Installation instructions:** Annex to this report

**Resistance class to static loading:** RC 4 to ELOT EN 1628:2011

The Director of the Institute

Athens 24 February 2014

Prof. Ioannis Vayas

## 1. Objective

This document describes the manual burglary attempts according to ELOT EN 16230:2011 that have been performed on a security door with the assignment *Porta Block ROCK-15*. The tests were performed to examine if the door complies with the requirements in order to be classified in resistance class RC 4 according to the provisions of ELOT EN 1627:2011.

## 2. Test specimens

According to ELOT EN 1627:2011 two test specimens are required, one for the pre-test, which shall be the same as the one in the static test, and one for the main test. Figure 1 shows the two test specimens. The dimensions and other details of the specimens are described in test report EMK-TR022014 to which reference is made in this report.

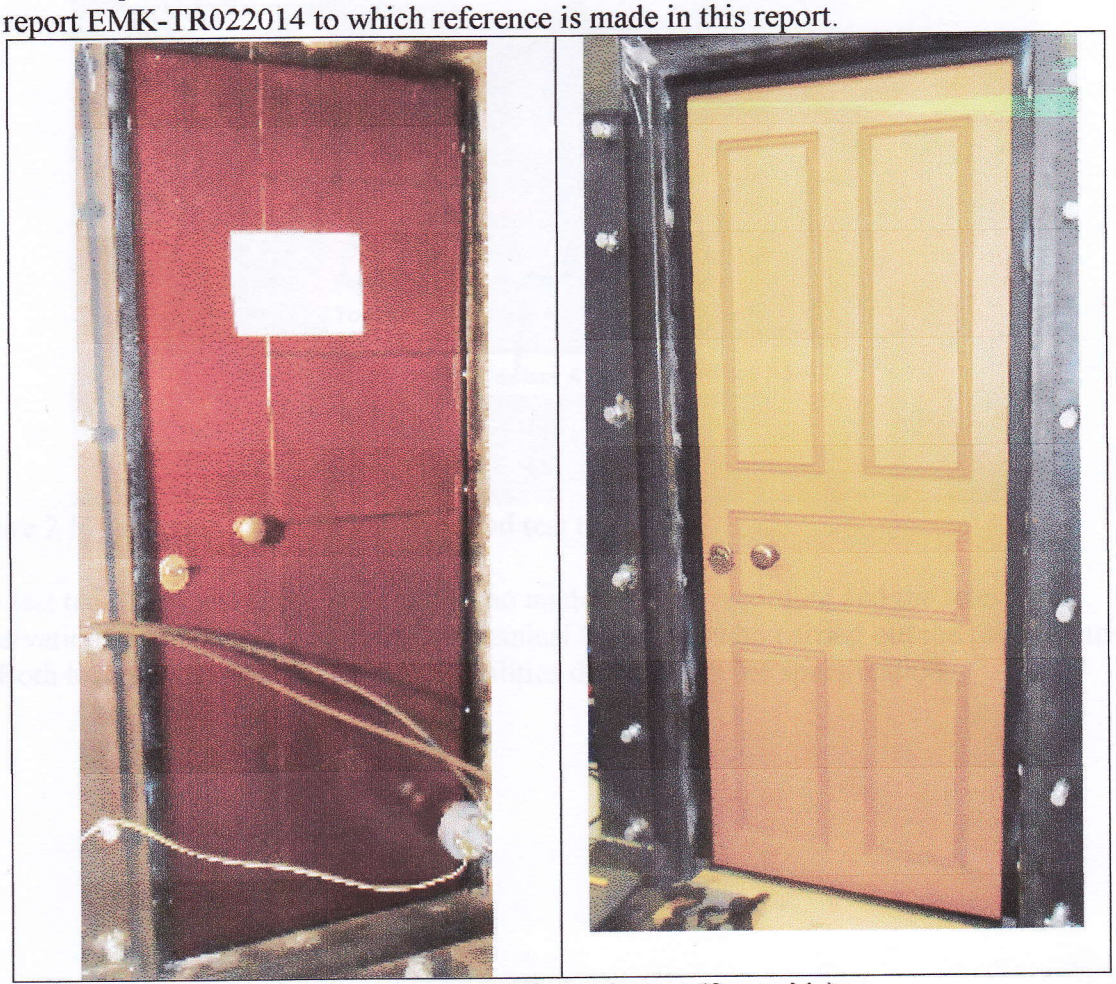

Figure 1 Test specimen for the pre-test and the main test (front side)

## 3. Test apparatus and test team

The test rig to which the test specimens were mounted is described in test report EMK-TR022014. The total test time was measured by a computer and was digitally displayed on a screen during the test (Figure 2), while the resistance time was measured manually on a chronometer (Figure 3). Temperature and relative humidity were also measured as indicated in Figure 4 of test report EMK-TR022014. The tools used are composed of the toolsets A1 to A4 as described in the specification (Figure 2). In addition to the time measurements, both pre-test and main test were fully recorded with a video recorder.

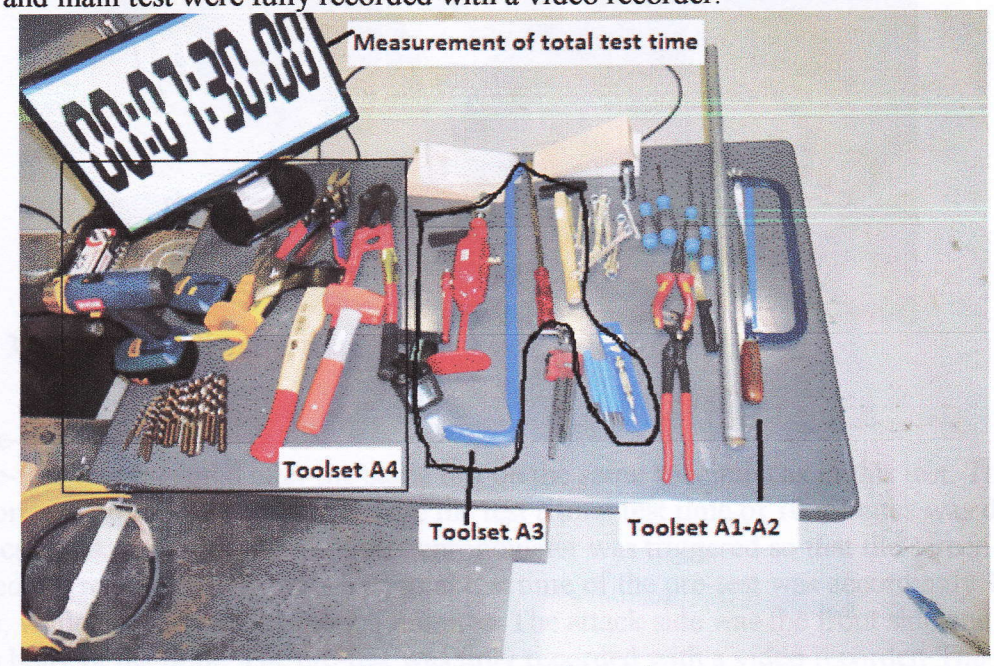


Figure 2 Equipment for measuring time and test tools used

The test team comprised Dr. X. Lignos who made the data recording and the relevant observations and Mr. S. Katsatsidis, Mechanical Engineer, who carried out the tests (Figure 3). Both test team members had the capabilities described in the specification.


Figure 3 Test team during the tests

## 4. Pre-test

The pre-test was executed after the static test on the same specimen as in this test. The execution was on the 21/02/2014. Before the test a total test time of 10 minutes was displayed on the screen. At test start the computer chronometer was triggered so that the screen displayed the remaining test time. The total test time of the pre-test was accordingly 10 minutes, while the resistance time 2.5 minutes. The attack side was the front side and attack area the body of the door. The pre-test was fully recorded with a video recorder. The temperature during the pre-test was $26^0$ C and the relative humidity 45%.
During the pre-test there was not possible to open the tested door or make an opening (Figure 4). However, the pre-test allowed an evaluation of the effectiveness of the tools used.

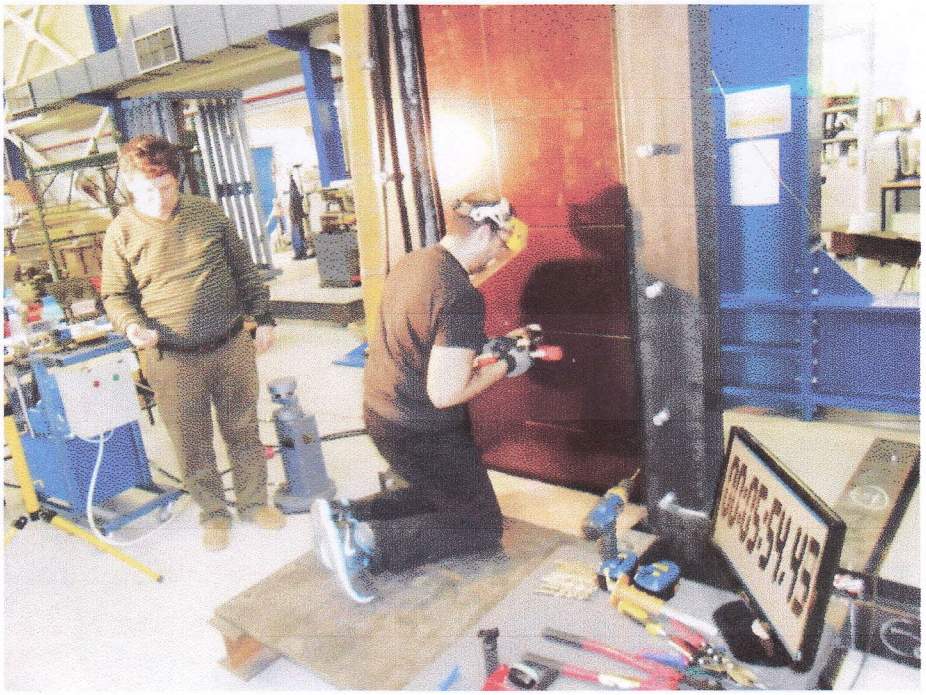

Figure 4 Execution of the pre-test

## 5. Main test and conclusion

The main test was executed after the pre-test test on a second specimen. The execution was on the 25/02/2014. Before the test a total test time of 30 minutes was displayed on the screen. At test start the computer chronometer was triggered so that the screen displayed the remaining test time. The total test time of the test was accordingly 30 minutes, while the nominal resistance time 10 minutes. The attack side was the front side and attack area the body of the door. The pre-test was fully recorded with a video recorder. The temperature during the main test was $26^0$ C and the relative humidity 45%.

Initially holes were drilled in the door and subsequently it was tried to make an accessible opening using template E1, a rectangle 400x250x20 mm, as described in the specification. The total test time was kept at 30 minutes. However, the resistance time was prolonged to 14 minutes to examine if it would be possible to open the door or make the opening. However, both were not possible, even after 14 minutes resistance time. Figure 5 shows photos during the test.

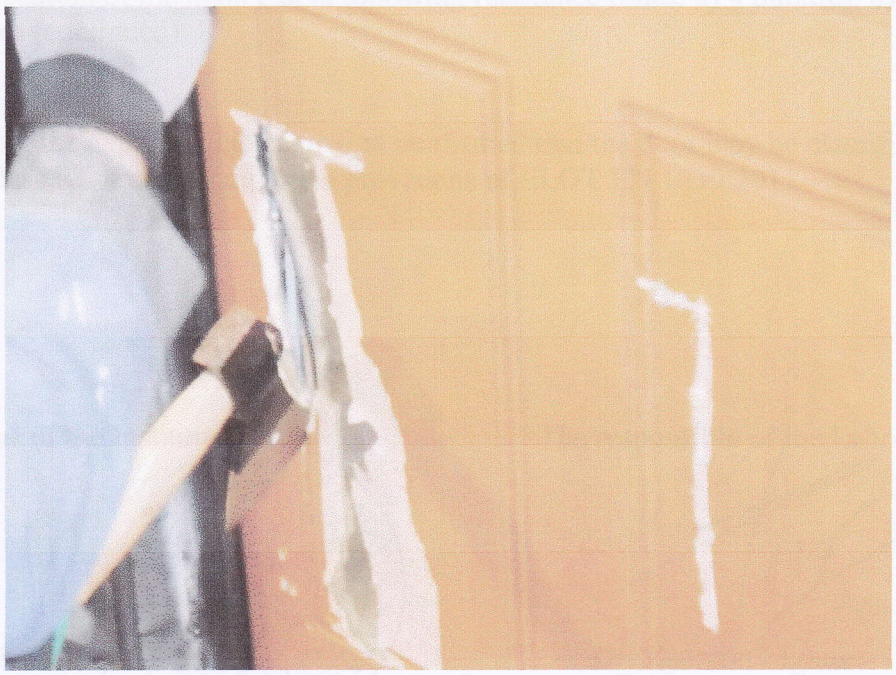

Figure 5 Execution of the main test at following resistance times: a) 4 minutes, b) 10 minutes, c) 12 minutes

Figure 5 Execution of the main test at following resistance times: a) 4 minutes, b) 10 minutes, c) 12 minutes (continued)

In conclusion, the experimental campaign confirmed that the door may be classified in resistance class RC 4 according to the provisions of ELOT EN 1630:2011.

The Director of the Institute

Prof. Ioannis Vayas

The responsible of the Laboratory

Dr. Xenofon Lignos