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Registro Imprese di Rimini n. 00 549 540 409

TEST REPORT No. 319852

Place and date of issue: Bellaria-Igea Marina - Italia, 31/10/2014

Customer: VIOMETALOUMIN BOUTSINIS J. - BAFALOUKAS J. G.P. - Thesi Patima Aspropyrgos - 19300 ATHENS - Greece

Date testing request: 11/07/2014

Order number and date: 63738, 14/07/2014

Date sample received: 27/08/2012 and 03/10/2014

Date of testing: from 05/08/2014 to 21/10/2014

Purpose of testing: Burglar resistance and classification (resistance under static load, resistance under dynamic loading and resistance to manual burglary attempts) according to standards UNI EN 1627:2011, UNI EN 1628:2011 and UNI EN 1629:2011 of removable grill

Place of testing: Istituto Giordano S.p.A. - Via Erbosa, 72 - 47043 Gatteo (FC) - Italia

Origin of sample: sampled and supplied by the Customer

Identification of sample received: 2014/1574 and 2014/1987

Name of sample*

The sample under test is named “T 80”.

(*) according to that stated by the Customer.

LAB N° 0021

Description of sample*

The sample under test consists of a removable grill, featured as listed in the following table.

Sample total nominal width	1000 mm
Sample total nominal height	750 mm
Sample usable width	900 mm
Sample usable height	750 mm

The metallic system T80 has a frame which consists of two vertical aluminum profiles with holes and a plurality of removable horizontal rods. The first vertical profile has a receptor for accepting a blade that reinforces the front part of profile and an interior vertical reinforcement so that it creates a second level of support for removable rods and a second interior reinforcement supporting both the inner sides of profile and a wavy formation at the point of support of the frame on the wall, preventing the screws from coming out or the frame falling out and rings are placed in each hole so that the rod slides in without damaging its color and two protective covers sealing the top and bottom part of profile and a security lock which joining to reinforcement mechanism and which once locked does not allow the movement or the removal of the rods. The second vertical profile has the same features except the security lock. The reinforcement mechanism in this profile is stabilization. Each rod has an aluminum tube profile each reinforced in its interior by a revolving steel rod which rotates freely preventing in this manner the system from being cut and two protective cover.
Further details of sample specifications can be seen in the Customer-supplied list of components and schematic drawings set out hereafter.
Finally, the sample has a surrounding steel frame used to hold the test installation securely in place.

Customer-supplied list of components.

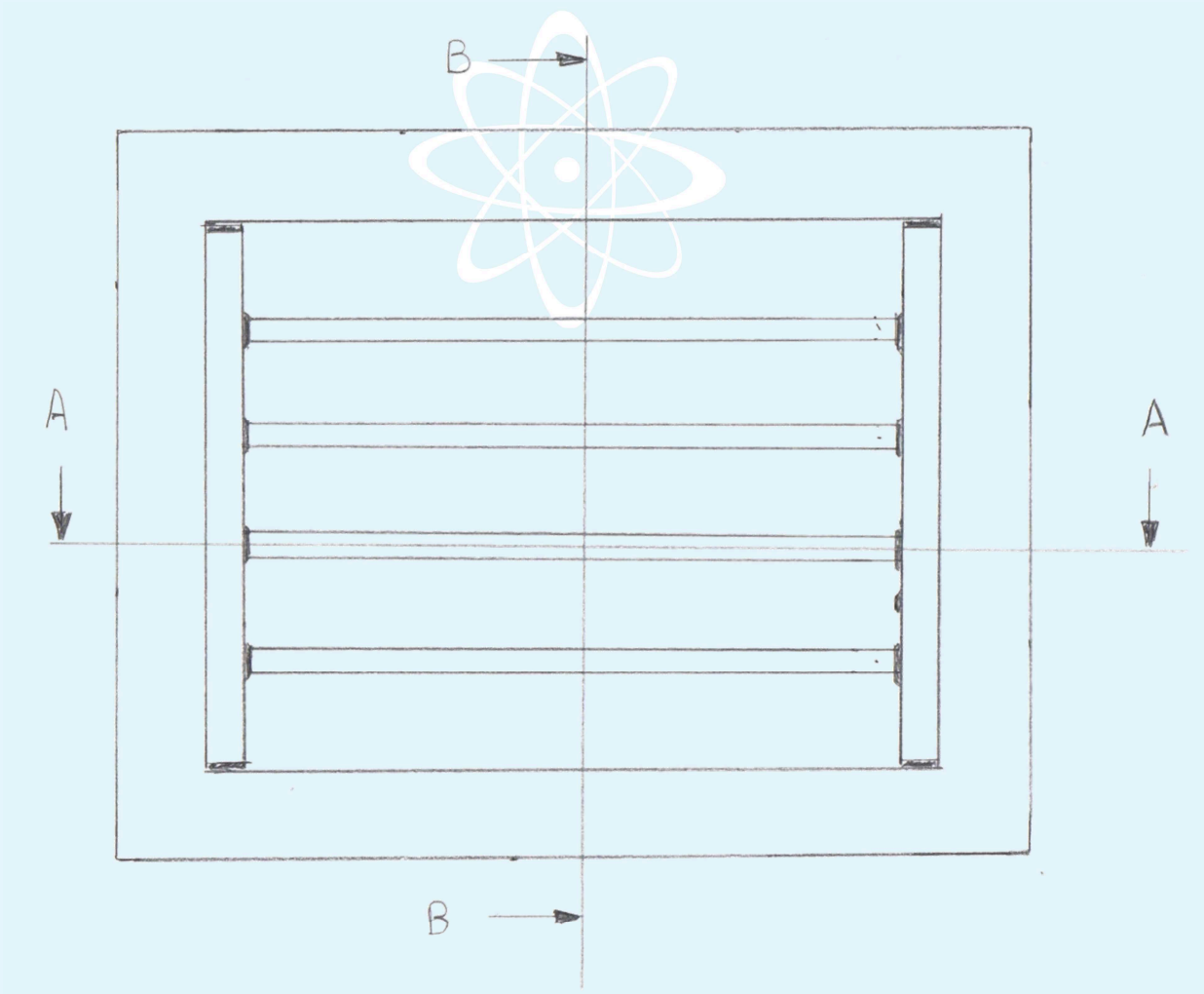
Code	Description	Quantity
14.41	frame profile	2
14.42	plate reinforced	2
14.43	locker mechanism	2
14.44	tube profile	4
14.45	solid steel rod	4
14.71	lock	1
14.72	plastic frame cover	4

(*) according to the technical documentation supplied by the Customer and on the basis of checks carried out by staff from Istituto Giordano S.p.A..

LAB N° 0021

Code	Description	Quantity
14.73	plasic lock cover	1
14.74	plastic frame ring	8
14.75	plastic rod cover	8
14.76	rivet Fe 4×20	4
14.77	pin Ø4	2
14.78	plate lock	1
14.79	plate base lock	1
14.80	metal screw 5,3×30	8

SAMPLE ELEVATION



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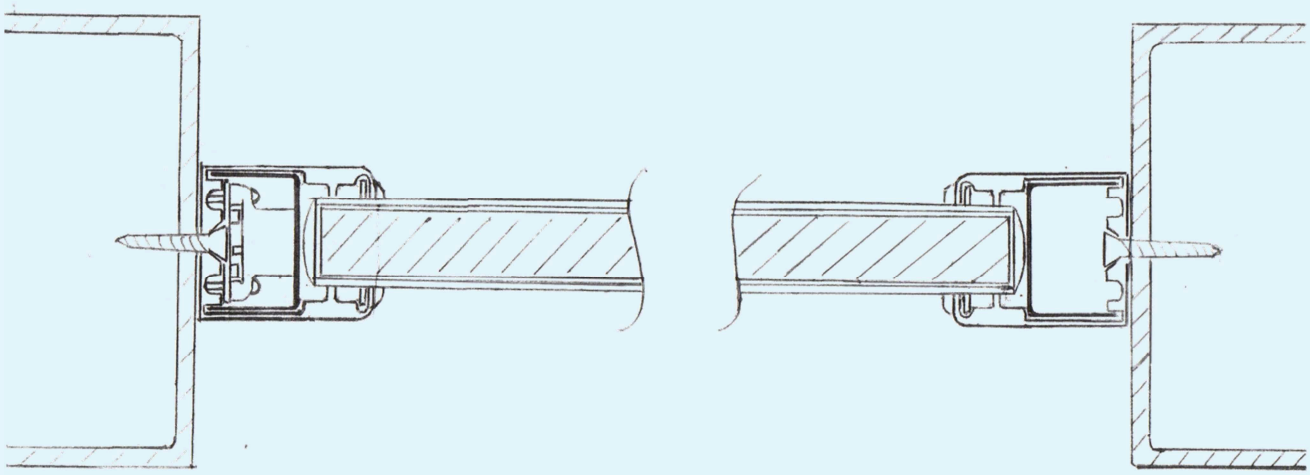
HORIZONTAL SECTION



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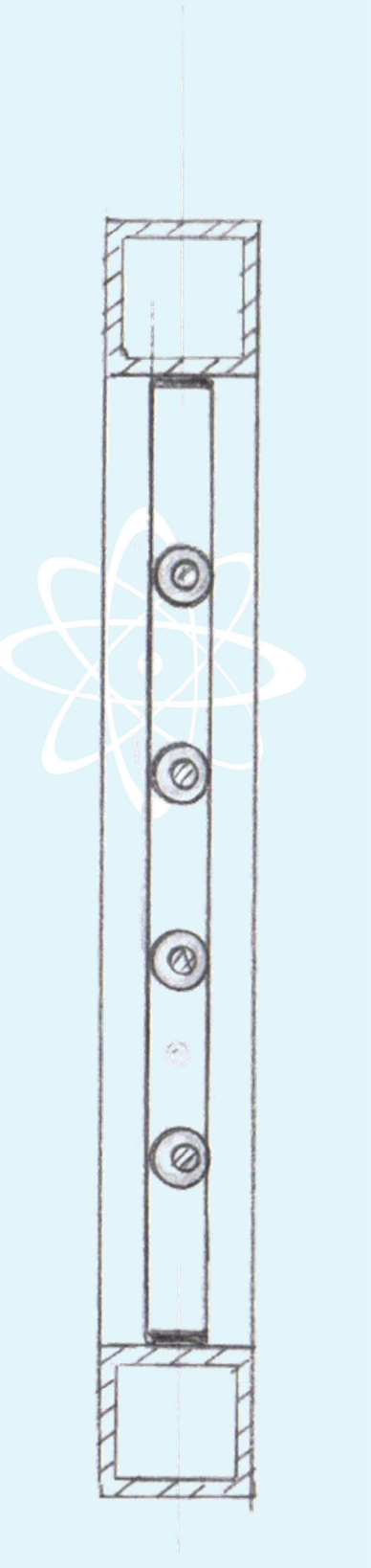
VERTICAL SECTION



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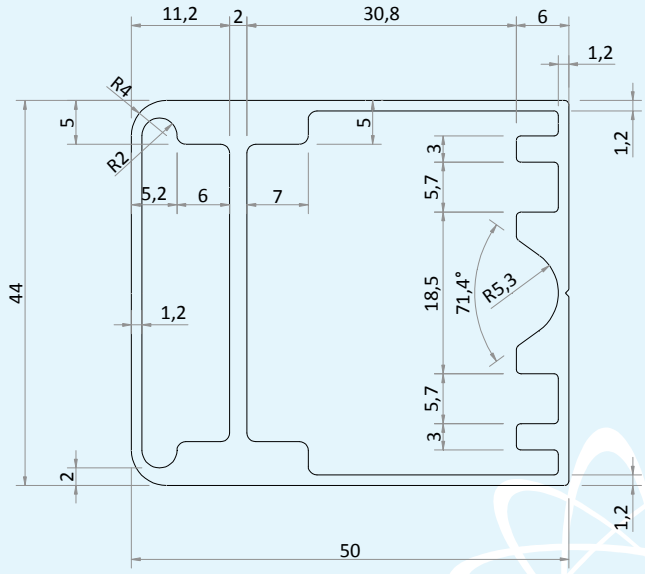
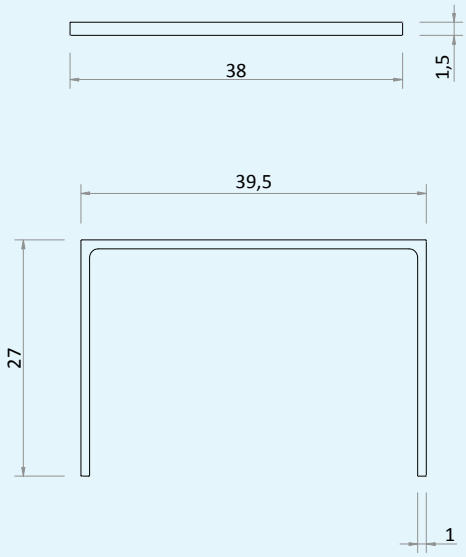
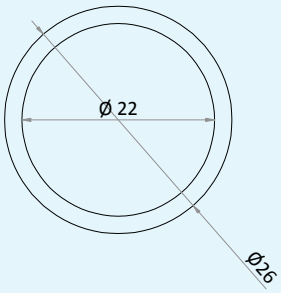
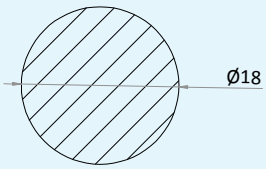
PROFILES









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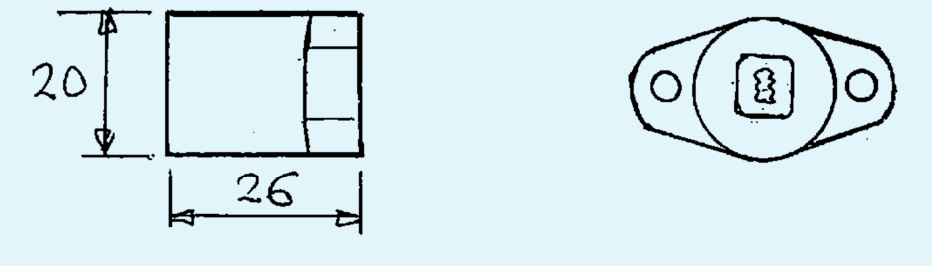
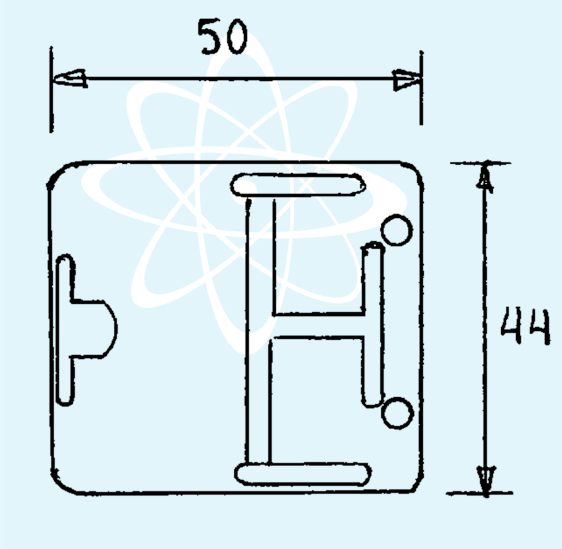
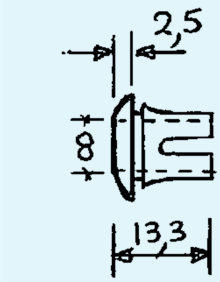
LOCK



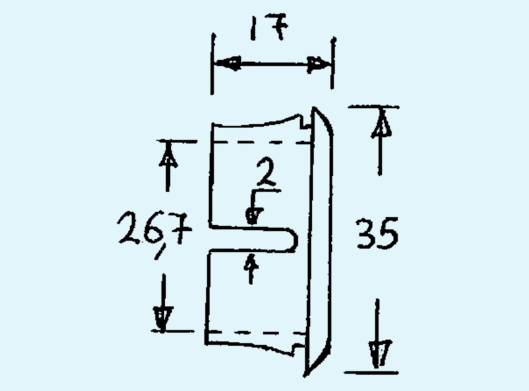
PLASTIC FRAME COVER



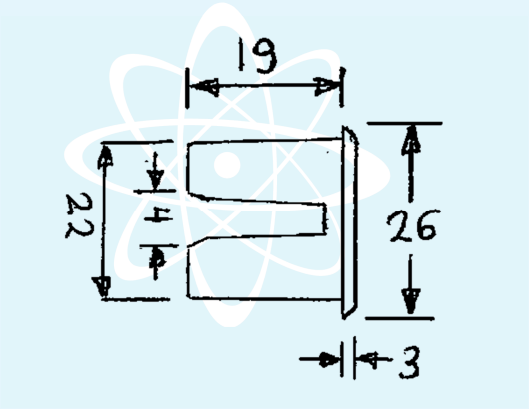
PLASTIC LOCK COVER



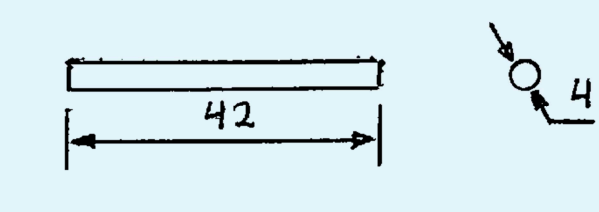
PLASTIC FRAME RING



PLASTIC ROD COVER



PIN



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LAB N° 0021

PLATE LOCK

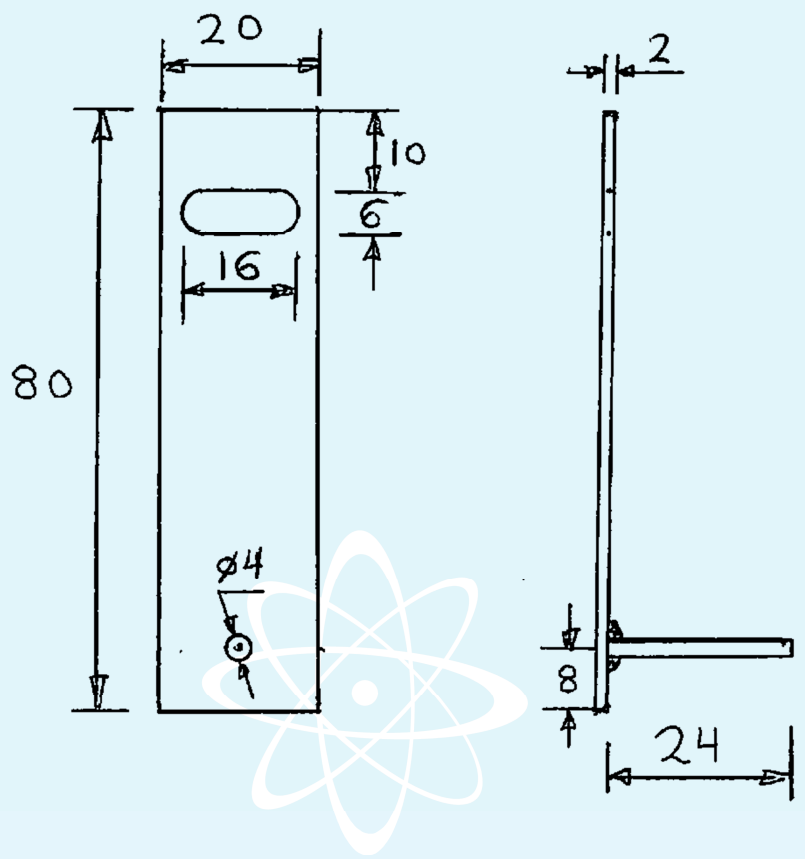
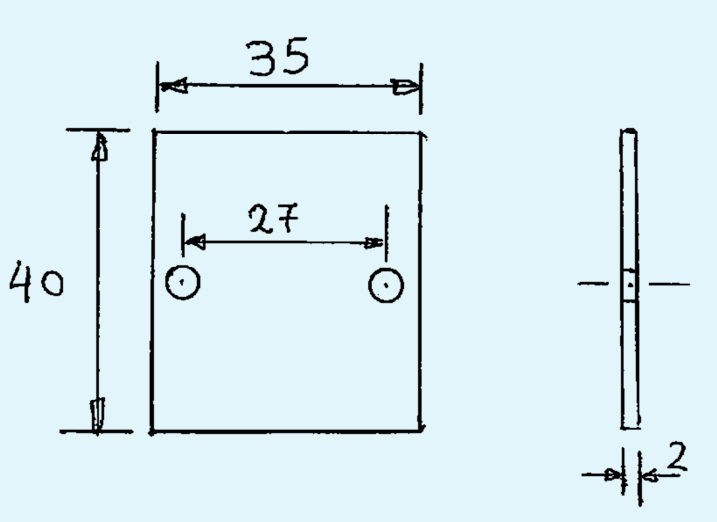


PLATE BASE LOCK



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LAB N° 0021

Normative references

The test was performed according to the requirements of the following standards:

- UNI EN 1627:2011 dated 16/06/2011 "Porte pedonali, finestre, facciate continue, inferriate e chiusure oscillanti - Resistenza all'effrazione - Requisiti e classificazione" (*Pedestrian doorsets, windows, curtain walling, grilles and shutters - Burglar resistance - Requirements and classification*);
- UNI EN 1628:2011 dated 16/06/2011 "Porte pedonali, finestre, facciate continue, inferriate e chiusure oscuranti - Resistenza all'effrazione - Metodo di prova per la determinazione della resistenza sotto carico statico" (*Pedestrian doorsets, windows, curtain walling, grilles and shutters - Burglar resistance - Test method for the determination of resistance under static loading)*;
- UNI EN 1629:2011 dated 16/06/2011 "Porte pedonali, finestre, facciate continue, inferriate e chiusure oscuranti - Resistenza all'effrazione - Metodo di prova per la determinazione della resistenza sotto carico dinamico" *(Pedestrian doorsets, windows, curtain walling, grilles and shutters - Burglar resistance - Test method for the determination of resistance under dynamic loading.*

Test method

The test was performed according to the requirements of the standards mentioned under the heading "Normative References" using detailed internal procedure PP009 review 12 dated 16/11/2011 "Porte, porte pedonali, finestre, facciate continue, inferriate e chiusure oscillanti - Resistenza all'effrazione: Metodi di prova e classificazione" *(Doors, pedestrian doorsets, windows, curtain walling, grilles and shutters - Burglar resistance: Test methods and classification*).

Check and comparison of documentation provided and sample to be tested

In accordance with the requirements of standards UNI EN 1627:2011, UNI EN 1628:2011, UNI EN 1629:2011 was checked the following documentation:

- description of the sample (type of product, characteristics of profiles, materials used and the thickness of the infill or glazing);
- mechanical properties of the materials;
- date of manufacture of the sample;
- declaration about classification of glazing;
- declaration about classification of the hardware;

- side of attack;
- drawings including tolerances and part list;
- installation instructions.

Static load in accordance with standard UNI EN 1628:2011

The test sample was subjected to a series of static loads for the resistance class 1.

The loads were applied through a pressing device, connected to a pneumatic piston, diameter 250 mm, controlled by motorized reducing valve able to apply the load with a predetermined gradient. The loads were detected by the use of a load cell, scale 25 000 N.

The deformation have been verified through a series of pass/fail templates conforming to paragraph A.10 of standard UNI EN 1628:2011.

The equipment used complies with the requirements of clause 4.8 "Tollerances" of standard UNI EN 1628:2011, therefore compliance with the class is set without regard to the banks by the uncertainty on the value of deformation, in line with paragraph 2.6 help ILAC G8: 03/2009 "Guidelines on the Reporting of Compliance with Specification".

Dynamic load in accordance with standard UNI EN 1629:2011

The test sample was subjected to a series of impacts to the resistance class 1 with element of impact of mass 50 kg according to the figure A.29 — Movable grilles: Impact points of standard UNI EN 1629:2011.

Test apparatus

The tests were carried out using the following equipment:

- burglar resistance test rig (in-house identification code: EDI048) with a loading device (internal equipment identification code: FT481) connected to a load cell of 25 kN with calibration report issued by Istituto Giordano S.p.A.;
- series of load devices (in-house identification codes: EDI074a, EDI074b, EDI074c, EDI074d, EDI074e, EDI074f and EDI074g);
- series of calibrated templates (in-house identification codes: EDI075a, EDI075b, EDI075c and EDI075d);
- series of calibrated templates (in-house identification codes: EDI079a, EDI079b and EDI079c);

- mechanical device for the application of dynamic loads consisting of a special lifting system for adjusting the height completely electromechanical and mechanical system of the position of lateral translation and by impact element (in-house identification code: EDI012);
- metric bar (in-house identification code: FT364);
- digital caliper (in-house identification code: EDI066);
- stopwatch (in-house identification code: FT462);
- tools for manual attack test (in-house identification code: FT341), defined on the basis of expected class and shown in the table in the following sheets.

Quantity [n.]	**Description**	**Tool no.**
1	Multiple slip joint gripping pliers, maximum length 250 ± 10 mm	1.1
1	Screwdriver, total length 260 ± 20 mm, shaft diameter of 8 ± 2 mm and blade width 10 ± 1) mm	1.2
1	Set of small screwdrivers with different blade forms, shaft diameter maximum 6 ± 2 mm and total maximum length 250 mm	1.3
//	Hexagonal allen keys, maximum length 120 mm	1.4
//	Spanners, maximum length 180 mm	1.5
1	Engineer pliers, maximum length 200 mm	1.6
1	Tweezer	1.7
1	Knife, maximum length of blade 120 mm, thickness of blade maximum 3 mm	1.8
1	Torch	1.9
	Hooks	1.10
//	Steel wire	1.11
//	Adhesive tape	1.12
//	String	1.13
1	Rubber hammer, shore hardness 90 ± 10 shore, head weight 100 ± 20g, total weight 145 ± 20 g and length 260 ± 20 mm	1.14
1	Universal lock key	1.15

Environmental conditions during test

Atmospheric pressure	1013-1015 mbar
Ambient temperature	(25 ± 3) °C
Relative humidity	(45 ± 15) %

Test results

Checking of the documentation supplied and of the test sample

The results of the verifications of the documentation and sample, closed and locked in the closed condition, is shown in the following table.

Document to provide	reference provided	Result
Sample description	document named "DESCRIPTION OF THE SAMPLE T80.doc"	compliant
Material properties	document named "DESCRIPTION OF THE SAMPLE T80.doc" and "ADDITIONAL INFORMATION OF MECHANICAL PARTS OF THE SAMPLE T80.doc"	compliant
Date of production	provided	compliant
Glazing class	not supplied	not suitable
Hardware classification	for the cylinder (EN 1303): MANUFATURE'S DECLARATION FOR THE LOCK OF SAMPLE T80.pdf	compliant
	for cylinder protection (EN 1906):	not suitable
Side of the attack	shown on the sample and in the technical documentation	compliant
Construction drawings with dimensional tolerances	Drawings named "DETAILED PLANS LISTED T80.pdf"	compliant
Installation instructions	Documents named "THE MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION T80.doc"	compliant

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LAB N° 0021

Static load in accordance with standard UNI EN 1628:2011.

RC 1 product classifiable in group 4				
Loading point	**Load device**	**Load** [kN]	**Used template**	**Result**
F1.1	5	3	D	compliant
F2A	2	1,5	D	compliant
F3A	2	3	D	compliant
F3B				compliant
F3C				compliant
F3D				compliant

Photograph of the sample during the test

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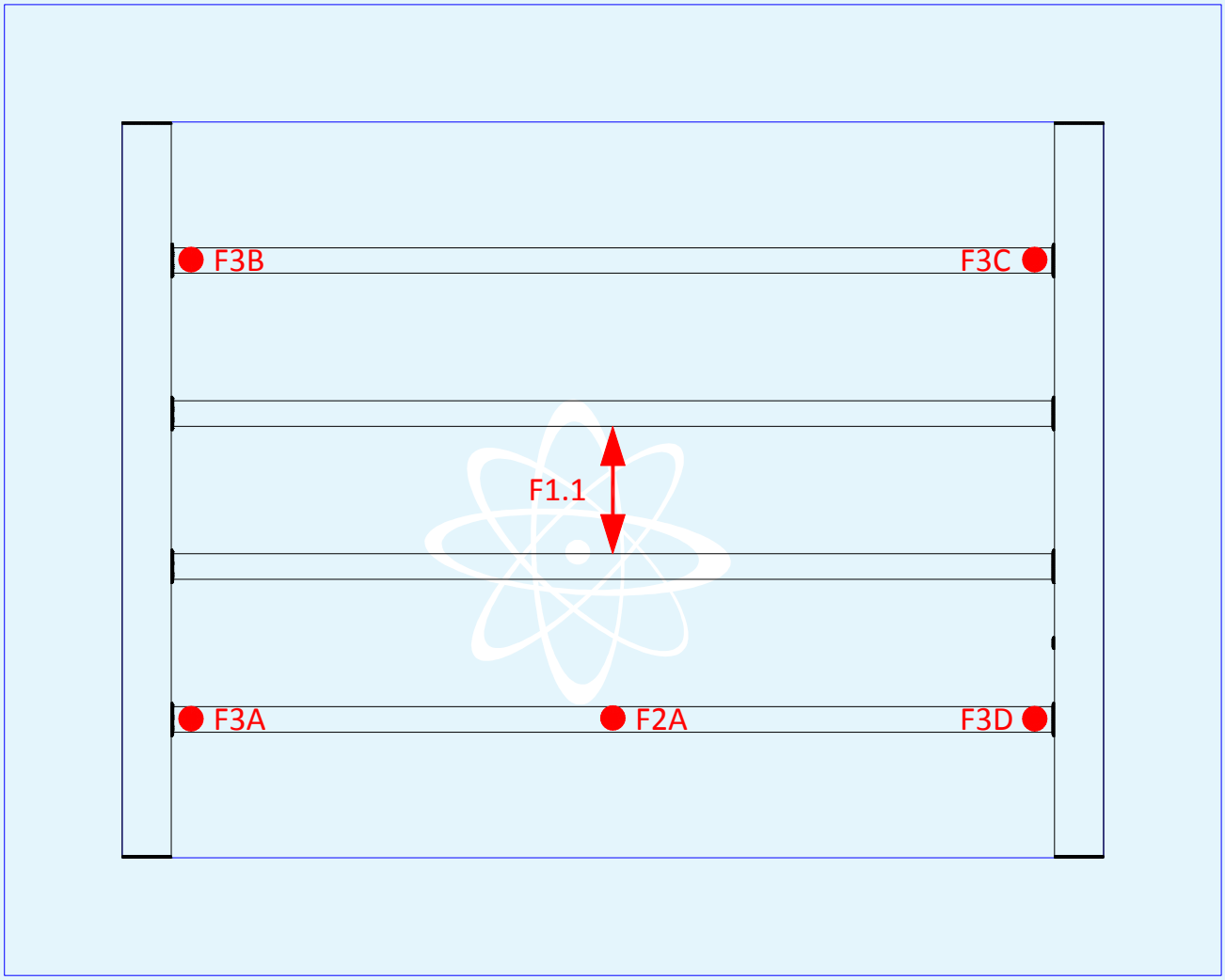
LAYOUT OF LOADING POINTS DURING STATIC LOAD TEST



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Dynamic loading in accordance with standard UNI EN 1629:2011

RC	
Result of test	No damage

Classification.

On the basis of the test performed, the results obtained and the provisions of standards UNI EN 1627:2011, UNI EN 1628:2011, UNI EN 1629:2011, the test sample, comprising a removable grill, called "T 80" and submitted by the company VIOMETALOUMIN BOUTSINIS J. - BAFALOUKAS J. G.P. - Thesi Patima Aspropyrgos - 19300 ATHENS - Greece, has passed the tests prescribed therein. Therefore, in accordance with standard UNI EN 1627:2011, the sample belong to

RC 1*

The results given refer exclusively to the test sample itself and are only valid under the same conditions in which testing was carried out.

This test report alone shall not be considered a certificate of conformity.

(*) The classification was determined based on the measured values obtained experimentally, in line with paragraph 2.6 of the guide ILAC G8: 03/2009 "Guidelines on the reporting of compliance with specification".

Test Technician
(Geom. Roberto Porta)

Head of Security and Safety Laboratory
(Dott. Andrea Bruschi)

Chief Executive Officer
(Dott. Arch. Sara Lorenza Giordano)

Firmato digitalmente da GIORDANO SARA LORENZA