

TEST REPORT No. 350589

Customer


PINTO S.r.l.

Contrada Sant'Antuono - Zona Industriale - 84035 POLLA (SA) - Italy

Name of sample*

"SICURTAPP"

Purpose of test



burglar resistance and classification (resistance under static loading, resistance under dynamic loading and resistance to manual burglary) of a roller shutter in accordance with standards UNI EN 1627:2011, UNI EN 1628:2016, UNI EN1629:2016 and UNI EN 1630:2016

Classification

RC 2

(*) according to that stated by the customer.

Bellaria-Igea Marina - Italy, 30 March 2018

Chief Executive Officer

Date test requested:

24 January 2018

Order:

75525 dated 25 January 2018

Sample origin:

sampled and supplied by the customer

Identification of sample received:

2018/0581 dated 15 March 2018

Test date:

15 March 2018

Test site:

Istituto Giordano S.p.A. - Strada Erbosa Uno, 72 - 47043 Gatteo (FC) - Italy

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The results relate only to the sample examined, as received, and are valid only in the conditions in which the activity was carried out.

This document is the English translation of the test report No. 350589 issued in Italian; in case of dispute the only valid version is the Italian one.

Date of translation: 29 July 2021.

The original of this document consists of an electronic document digitally signed pursuant to the applicable Italian Legislation.

Chief Test Technician:

Geom. Roberto Porta

Head of Security and Safety Laboratory:

Dott. Andrea Bruschi

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Reviewer: Dott. Andrea Bruschi

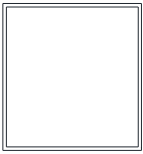
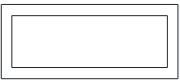





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Description of sample*







The test sample is a power-operated roller shutter, manufactured on 07/02/2018, built using aluminium sections, fitted with DBTA automatic anti-lift locking device and having the dimensions given in the following table.

Nominal overall width	1200 mm
Nominal overall height	2100 mm
Measured net width	1170 mm
Measured net height	2100 mm

The sample is formed by the profiled sections and hardware detailed in the following tables:

Profiled sections				
Symbol	Section	Description	Material	Quantity [No.]
T1		hood, nominal size 120 mm × 120 mm × 5 mm	steel	//
T2		side frame, nominal size 20 mm × 50 mm	steel	//
T3		curtain, nominal size 30 mm × 40 mm × 3 mm	steel	//
1		open section	aluminium	41
2		connector	aluminium	40
3		sliding section	aluminium	41
4		guide rail, nominal size 25 mm × 50 mm, with connector slots	aluminium	2

(*) according to the technical documentation supplied by the Customer and on the basis of checks carried out by staff from this Institute, apart from characteristics specifically stated to be measurements.

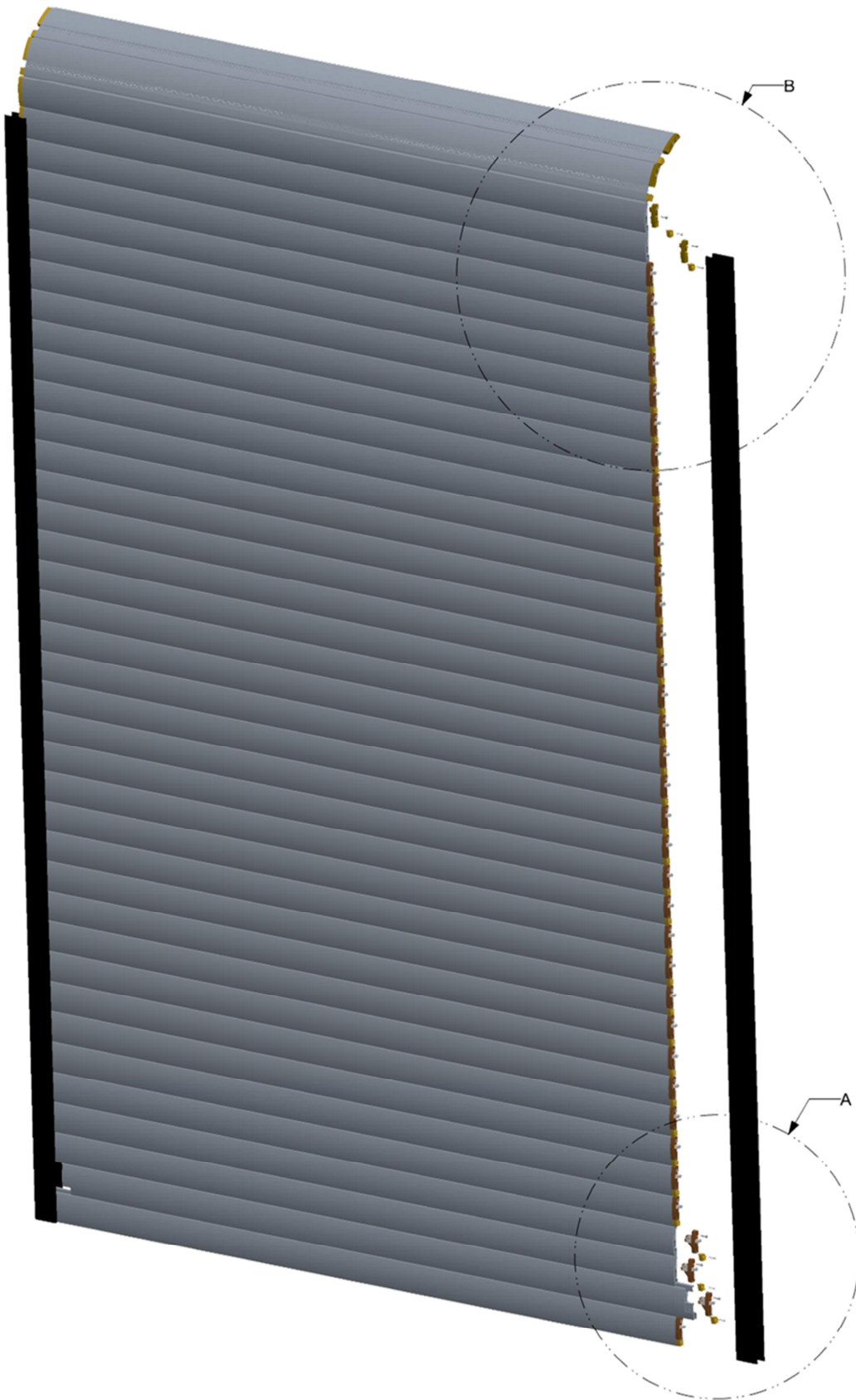
Hardware				
Symbol	Image	Description	Material	Quantity [n.]
A1		DBTA anti-lift locking device	steel zamak	60*
A2		open-profiled-section end plugs	plastic	22*
A3		sliding-profiled-section end plugs	plastic	82*
A4		screw, nominal diameter 3,9 mm and nominal length 30 mm	steel	104
A5		screw, nominal diameter 2,9 mm and nominal length 30 mm	steel	82
A6		rod, nominal diameter 5 mm	steel	15

(*) half right and half left.

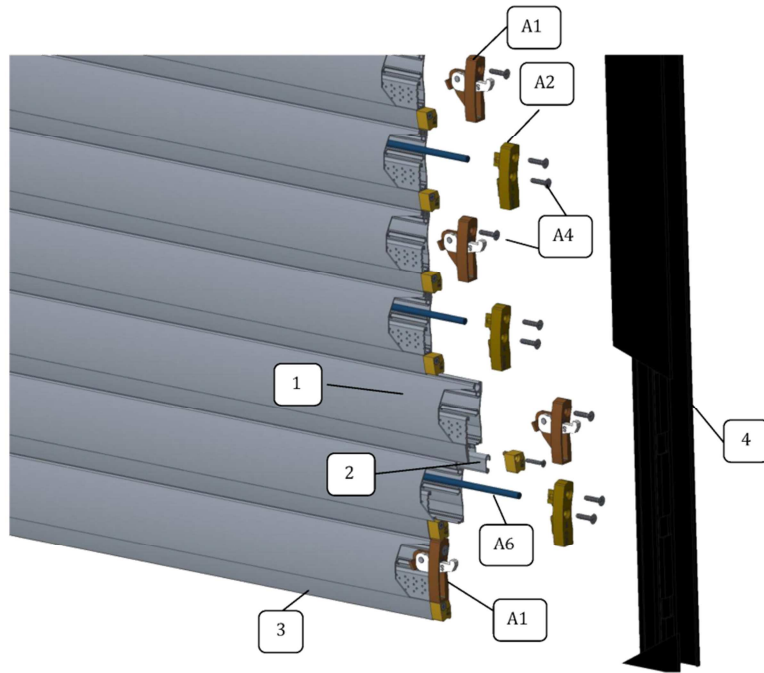
For further details of sample specifications, please refer to the following Customer-supplied schematic drawings. Finally, the sample has a surrounding steel frame used to hold the test installation securely in place.



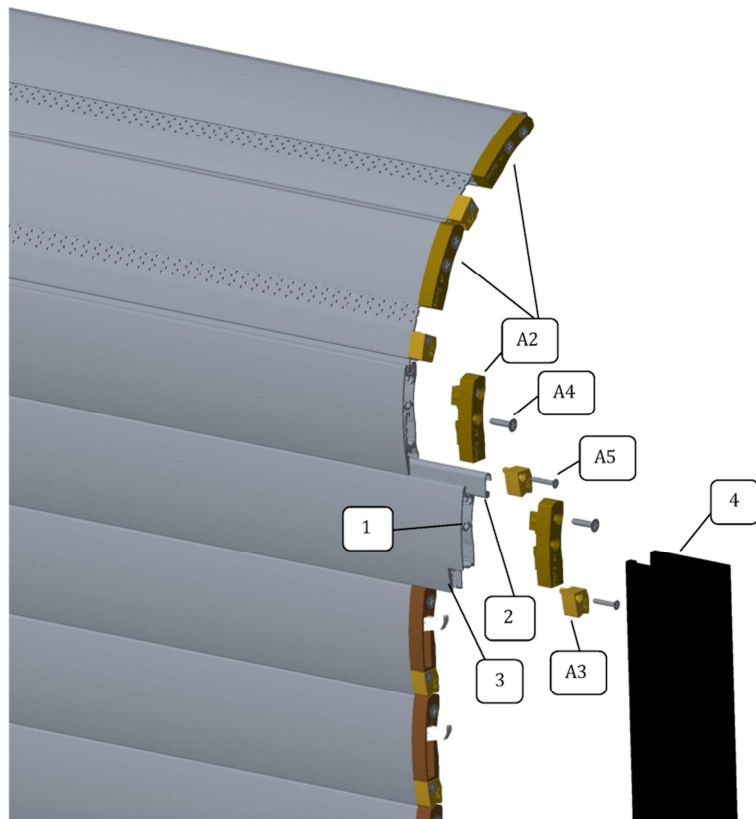
Sample external view and respective vertical section



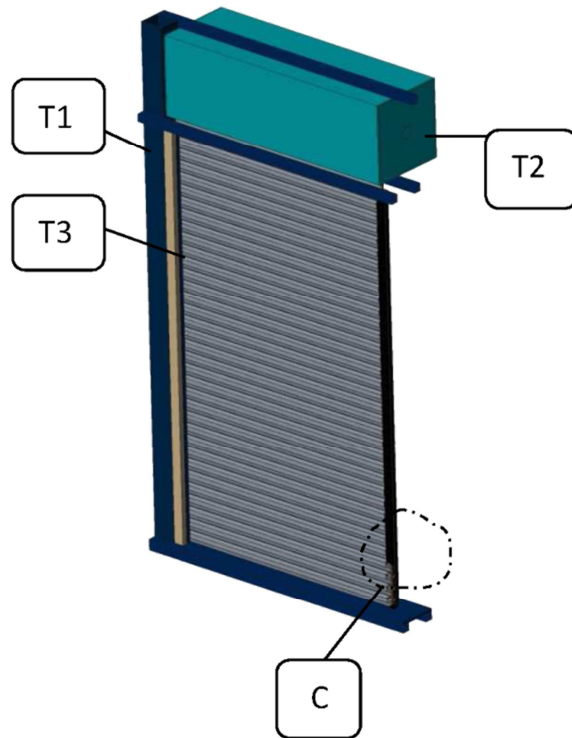
Exploded view of sample vertical edge



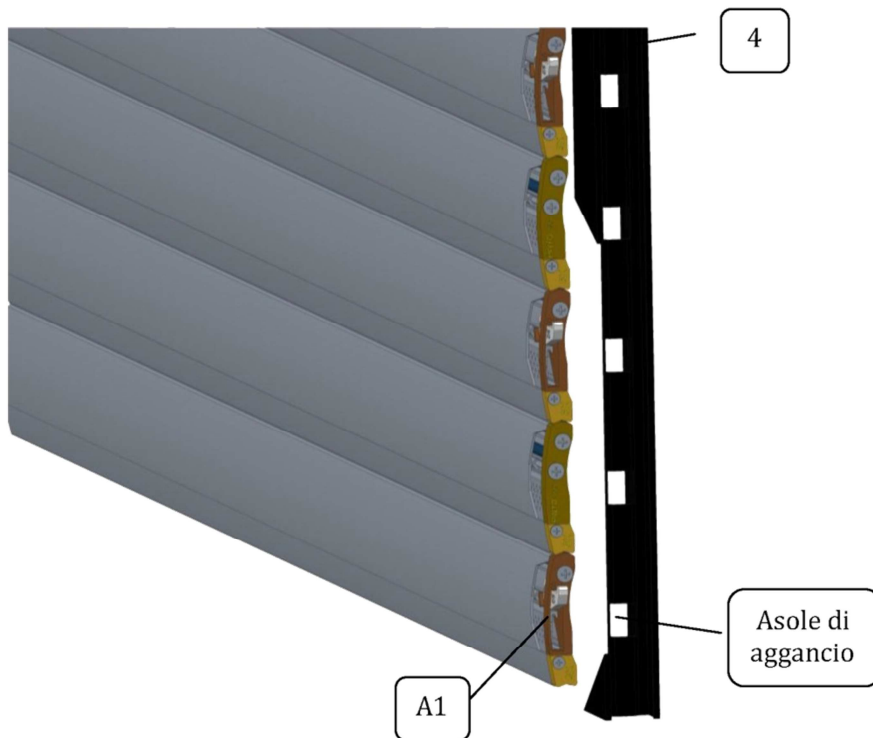
Close-up "A"



Close-up "B"



Vertical section of sample external view showing frame sections



Close-up "C"

Normative references

The test is carried out in accordance with the requirements of the following standards:

- UNI EN 1627:2011 dated 16/06/2011 "Pedestrian doorsets, windows, curtain walling, grilles and shutters - Burglar resistance - Requirements and classification";

- UNI EN 1628:2016 dated 04/02/2016 “Pedestrian doorsets, windows, curtain walling, grilles and shutters - Burglar resistance - Test method for the determination of resistance under static loading”;
- UNI EN 1629:2016 dated 04/02/2016 “Pedestrian doorsets, windows, curtain walling, grilles and shutters - Burglar resistance - Test method for the determination of resistance under dynamic loading”;
- UNI EN 1630:2016 dated 04/02/2016 “Pedestrian doorsets, windows, curtain walling, grilles and shutters - Burglar resistance - Test method for the determination of resistance to manual burglary attempts”.

Test apparatus

The following equipment was used to carry out the test:

- burglar resistance test rig (apparatus in-house identification code EDI048) fitted with load device (apparatus in-house identification code FT481) and 25 kN load cell and meter complete with calibration report issued by Istituto Giordano S.p.A.;
- set of load devices (apparatus in-house identification codes EDI074a, EDI074b, EDI074c, EDI074d, EDI074e, EDI074f and EDI074g);
- set of calibrated gap gauges (apparatus in-house identification codes EDI075a, EDI075b, EDI075c and EDI075d);
- set of calibrated test blocks to verify access (apparatus in-house identification codes EDI079a, EDI079b and EDI079c);
- mechanical device to apply dynamic loads consisting of a fully electromechanical lifting and height adjustment system, mechanical lateral positioning system and impactor (apparatus in-house identification code EDI012);
- Mitutoyo Corporation TD-S551D1 216-452 digital tape measure, measuring range 0-5,5 m and resolution 0,1 mm, to measure dimensions and soft body drop height (apparatus in-house identification code FT364);
- Borletti CDEP15 digital calliper gauge, range 0-150 mm and resolution 0,01 mm (apparatus in-house identification code EDI066);
- RS 440 9574 digital stopwatch to measure resistance time (apparatus in-house identification code EDI099);
- Delta Ohm HD8501H digital thermo-hygrometer for measuring environmental conditions (apparatus in-house identification code FT231);
- video camera to record testing;
- attack tool set for the determination of resistance to manual burglary attempts test (apparatus in-house identification code FT341), chosen according to test class and listed in the following table.

Quantity [No.]	Description	Tool code
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, maximum shaft diameter (6 ± 2) mm and 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 max. 3 mm	1.8
1	Torch	1.9
//	Hooks	1.10
//	Steel wire	1.11
//	Adhesive tape	1.12
//	String	1.13

Quantity [No.]	Description	Tool code
1	Rubber hammer; hardness (90 ± 10) Shore; head weight (100 ± 20) g, total weight (145 ± 20) g, length (260 ± 20) mm	1.14
1	Universal lock key	1.15
1	Screwdriver; total length (365 ± 25) mm, blade width (16 ± 2) mm	2.1
1	Pipe wrench; length (240 ± 20) mm	2.2
2	Plastic wedges; length (200 ± 25) mm, width (80 ± 10) mm, height (40 ± 5) mm	2.3
2	Wood wedges; length (200 ± 25) mm, width (80 ± 10) mm, height (40 ± 5) mm	2.4
1	Compass saw; with two bimetal or HSS blades, total length (310 ± 25) mm	2.5
1	Pad saw; 2 blades (bimetal or HSS metal cutting), dimensions (300 mm × 13 mm × 0,65 mm)	2.6
1	Hacksaw; 2 blades (bimetal or HSS metal cutting), length (330 ± 25) mm	2.7
1	Steel extension tube; length 500 mm, outer diameter 30 mm, maximum wall thickness 3 mm	2.8

Test method

The test was performed in accordance with the requirements of the standards mentioned under the heading “Normative References” using detailed internal procedure PP009 in the revision applicable at time of testing.

Checking the documentation supplied and test sample

In accordance with the provisions of standards UNI EN 1627:2011, UNI EN 1628:2016, UNI EN 1629:2016 and UNI EN 1630:2016, the presence of the following documentation was verified:

- sample description (product type, profile specifications, materials utilised and thickness of infill or glazing);
- mechanical properties of constituent materials;
- sample date of manufacture;
- declared classification of glazing;
- declared classification of hardware;
- attack side;
- dimensioned drawings including tolerances and parts list;
- installation instructions.

Determination of resistance under static loading in accordance with standard UNI EN 1628:2016

A series of static loads were applied to the sample in order to verify compliance with resistance class 2.

The loads were applied using a pressure pad connected to a pneumatic ram, diameter 250 mm, actuated by a motor-operated reduction valve capable of applying the load with a preset gradient.

Loads were measured using a load cell, capacity 25 kN.

Deformation was evaluated using a set of gap gauges meeting the requirements of clause A.10 “Gap gauges” of standard UNI EN 1628:2016.

The equipment utilised meets the accuracy requirements specified by 4.8 “Tolerances” of standard UNI EN 1628:2016, therefore compliance with the class is awarded without considering the effect of the uncertainty range on the deformation value, in line with clause 2.6 of ILAC-G8:03/2009 “Guidelines on the Reporting of Compliance with Specification”.

Determination of resistance under dynamic loading in accordance with standard UNI EN 1629:2016

In accordance with figure A.27 “Roller Shutters: Impact points” of standard UNI EN 1629:2016, the sample received a set of impacts with an impactor of mass 50 kg in order to verify compliance with resistance class 3.

Determination of resistance to manual burglary attempts in accordance with standard UNI EN 1630:2016

The sample underwent a series of tests in the following areas in order to verify compliance with resistance class 2:
 contact point between underside of bottom rail and sill;
 shutter slat area.

Tests were carried out using tool sets "A1" and "A2".

Test team

The team who carried out the final test was composed of the persons listed in the following table.

Function	Name
Team Leader	Geom. Roberto Porta
Timekeeper	Geom. Roberto Porta
Operator	Mr Ulisse Mari

Environmental conditions during test

Atmospheric pressure	(1012 ± 10) mbar
Ambient temperature	(19 ± 3) °C
Relative humidity	(45 ± 5) %

Test results

Checking the documentation supplied and test sample

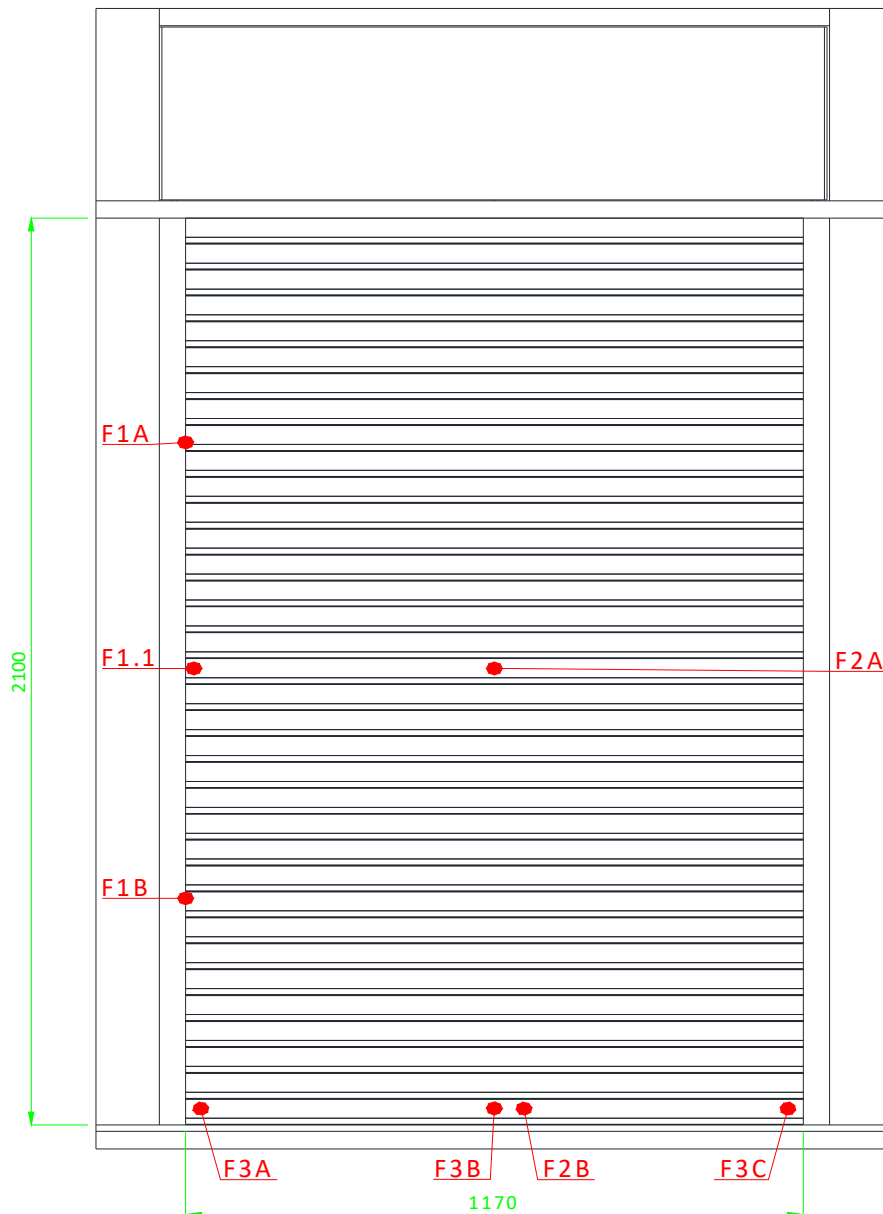
The result of the checks carried out on the documentation and the sample after it has been closed and locked is given in the following table.

Requested documentation	Reference supplied	Result
Sample description	File "0021-IG-distinta base tapparella SicurTapp-18-03-18 - ULTIMO PER CLASSE 2.pdf"	Compliant
Material specifications	File "0021-IG-distinta base tapparella SicurTapp-18-03-18 - ULTIMO PER CLASSE 2.pdf"	Compliant
Date of manufacture	07/02/2018	Compliant
Glazing class	Not provided	Not applicable
Hardware class	Not provided	Compliant*
Attack side	Shown on sample	Compliant
Dimensioned drawings with tolerances	Drawings "0021-IG Tapparella sicurtapp.dwg"	Compliant
Installation instructions	File "0021-IG-distinta base tapparella SicurTapp-18-03-18 - ULTIMO PER CLASSE 2.pdf"	Compliant

(*) the locking device is not accessible from the attack side.

Determination of resistance under static loading in accordance with standard UNI EN 1628:2016

RC 2 product classifiable in group 3				
Loading point	Pressure pad	Applied load	Type of gap gauge/acceptable displacement	Result of check
		[kN]		
F1A	3	1,5	10 mm	Pass
F1B				Pass
F1.1	4	3	30°	Not applicable (recessed guide rail)
F2A	1	1,5	10 mm	Pass
F2B				Pass
F3A	1	3	C	Pass
F3B				Pass
F3C				Pass



Layout showing loading points during static load test

Determination of resistance under dynamic loading in accordance with standard UNI EN 1629:2016

RC 2	
Test result	No damage

Determination of resistance to manual burglary attempts (attack from outside) in accordance with standard UNI EN 1630:2016

RC 2			
Attack area	Resistance time [min:s]	Tools used	Description of attack operations
contact point between underside of bottom rail and sill	3:00	2.4, 2.1 and 1.2	Attempt at raising shutter curtain using screwdrivers and wedges, but the slat fastening system prevents such action. Test ends with the sample still closed, although damaged and no longer functioning.
shutter slat area	3:00	1.2, 1.8, 2.7, 2.5 and 2.1	Attempt at tearing and cutting the slats using screwdriver and compass saw. The type of material used for the slats and the short allocated resistance time mean that it is not possible to create an opening that permits passage of the gap gauge through the sample.

Classification

On the basis of the test performed, the results obtained and the provisions of standards UNI EN 1627:2011, UNI EN 1628:2016, UNI EN 1629:2016 and UNI EN 1630:2016, the test sample, a roller shutter called "SICURTAPP" submitted by the company PINTO S.r.l. - Contrada Sant'Antuono - Zona Industriale - 84035 POLLA (SA) - Italy, has passed the tests specified therein.

Therefore, as regards standard UNI EN 1627:2011, the sample can be assigned

RC 2*

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.

(*) Classification has been determined in accordance with the provisions of clause 2.6 of ILAC-G8:03/2009 guidelines. Please see the section "Test method" for further details.