

TECHNICAL REPORT No. 319110

Place and date of issue: Bellaria-Igea Marina - Italia, 30/09/2014

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

Date of request: 11/07/2014

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

Date of assessment: 01/09/2014

Purpose: evaluation of the burglar resistance and classification of a family of folding grills according to standard UNI EN 1627:2011

Name of sample*

The family of folding grills under evaluation is named "T 120".

Description of sample*

The sample under evaluation consists of a family of folding grills, whose characteristics are reported in the following tables.

| Type | Width range [mm] | Column per leaf [no.] | Height range [mm] | Locking points [no.] | Crossbar rows [no.] |
|-------------|---------------------|--------------------------|----------------------|-------------------------|------------------------|
| single leaf | 323-2500 | 1-18 | 800-3000 | 1-5 | 1-4 |
| double leaf | 543-4934 | 1-18 | 800-3000 | 1-5 | 1-4 |

(*) according to that stated by the Customer

Comp. MB
Revis. RP

This technical report consists of 4 sheets and 1 annex.

Sheet
1 of 4

Width chart and column ratio.

| Columns per leaf [no.] | Single leaf width range [mm] | Double leaf width range [mm] |
|----------------------------------|--|--|
| 1 | 323-444 | 543-786 |
| 2 | 445-566 | 787-1030 |
| 3 | 567-688 | 1031-1274 |
| 4 | 689-810 | 1275-1518 |
| 5 | 811-932 | 1519-1762 |
| 6 | 933-1054 | 1763-2006 |
| 7 | 1055-1176 | 2007-2250 |
| 8 | 1177-1298 | 2251-2494 |
| 9 | 1299-1420 | 2495-2738 |
| 10 | 1421-1542 | 2739-2982 |
| 11 | 1543-1664 | 2983-3226 |
| 12 | 1665-1786 | 3227-3470 |
| 13 | 1787-1908 | 3471-3714 |
| 14 | 1909-2030 | 3715-3958 |
| 15 | 2031-2152 | 3959-4202 |
| 16 | 2153-2274 | 4203-4446 |
| 17 | 2275-2396 | 4447-4690 |
| 18 | 2397-2500 | 4691-4934 |

Height chart and locking points ratio.

| Height range [mm] | Locking point [no.] | Crossbar rows [no.] |
|-----------------------------|-------------------------------|-------------------------------|
| 800-1300 | 2 | 2 |
| 1301-1500 | 3 | 2 |
| 1501-1670 | 3 | 3 |
| 1671-2300 | 4 | 3 |
| 2301-3000 | 5 | 4 |

Further details of sample specifications can be seen in the Customer-supplied documentation set out in annex "A" to this technical report.

Normative references

The assessment was carried out according to the requirements of standard 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"*).

Method

The folding grill family was subjected to assessment by laboratory experts for extension of results by examination of Customer-supplied technical documentation according to annex D of standard UNI EN 1627:2011.

Results

From 05/08/2014 to 06/08/2014 a single leaf movable grill, named "T 120 - 1350×2350" was tested for burglary resistance according to standards UNI EN 1627:2011, UNI EN 1628:2011, UNI EN 1629:2011 and UNI EN 1630:2011, see test report No. 319105 dated 30/09/2014 issued by Istituto Giordano S.p.A. with classification in resistance class 2.

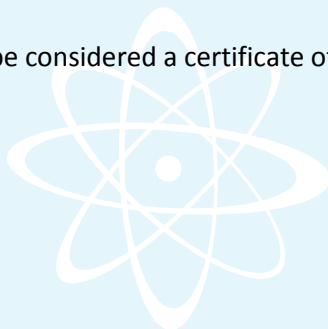
The laboratory experts appraise that the movable grills, single leaf or double leaf with dimensions and features as reported in document "4. THE LIST OF ALL POSSIBLE MEASURES-FORECAST T120", offer an equivalent resistance.

Classification

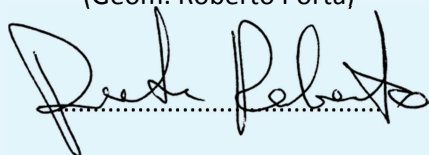
Based on standard UNI EN 1627:2011, based on evaluation carried out by laboratory expert and based on test report No. 319105 dated 30/09/2014 issued by Istituto Giordano S.p.A., the sample, comprising a family of movable grills, called "T 120" and submitted by the company VIOMETALOUMIN BOUTSINIS J. - BAFA-LOUKAS J. G.P. - Thesi Patima Aspropyrgos - 19300 ATHENS - Greece, results to be classifiable with the class of resistance

Class 2

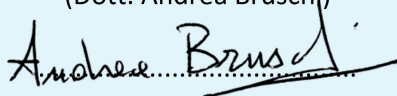
This technical report alone shall not be considered a certificate of conformity.



Technician
(Geom. Roberto Porta)



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



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



ANNEX "A"
TO TECHNICAL REPORT No. 319110

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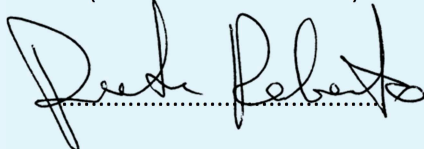
Customer: VIOMETALOU MIN BOUTSINIS J. - BAFALOUKAS J. G.P. - Thesi Patima Aspropyrgos -
19300 ATHENS - Greece

Subject: technical documentation of the sample

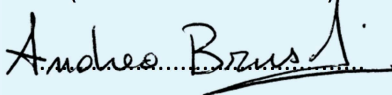
The following sheets show Customer-supplied technical documentation.



Technician
(Geom. Roberto Porta)



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



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



LIST OF ALL POSSIBLE MEASURES / FORECAST T120

The product T120 may be designed in the following dimensions for single leaf door :

In width dimension can be from 323 mm until 2500 mm.

Depending on the width we put columns per 122 mm :

Width : 323 mm – 444 mm (1 column)

Width : 445 mm – 566 mm (2 columns)

Width : 567 mm – 688 mm (3 columns)

Width : 689 mm – 810 mm (4 columns)

Width : 811 mm – 932 mm (5 columns)

Width : 933 mm – 1054 mm (6 columns)

Width : 1055 mm – 1176 mm (7 columns)

Width : 1177 mm – 1298 mm (8 columns)

Width : 1299 mm – 1420 mm (9 columns)

Width : 1421 mm – 1542 mm (10 columns)

Width : 1543 mm – 1664 mm (11 columns)

Width : 1665 mm – 1786 mm (12 columns)

Width : 1787 mm – 1908 mm (13 columns)

Width : 1909 mm – 2030 mm (14 columns)

Width : 2031 mm – 2152 mm (15 columns)

Width : 2153 mm – 2274 mm (16 columns)

Width : 2275 mm – 2396 mm (17 columns)

Width : 2397 mm – 2500 mm (18 columns)

In height dimension can be from 800 mm until 3000 mm.

Depending on the height we place rows of scissors and locking points :

Height : 800 mm – 1300 mm (2 rows of scissors and 2 locking points)

Height : 1301 mm – 1500 mm (2 rows of scissors and 3 locking points)

Height : 1501 mm – 1670 mm (3 rows of scissors and 3 locking points)

Height : 1671 mm – 2300 mm (3 rows of scissors and 4 locking points)

Height : 2301 mm – 3000 mm (4 rows of scissors and 5 locking points)

Combination depending on the height and width of the equations the following quantities parts :

| PARTS LIST T120 FOR SINGLE LEAF DOOR / DIMENSION | | | |
|--|-------------|----------------------------|--------------------------------------|
| A/A | PART NUMBER | DRAWING REFERENCE | QUANTITY |
| 1 | 17.22 | APOSTATE | Width : (700mm - 1500mm / 1 piece) |
| | | | Width : (1501mm - 2000mm / 2 pieces) |
| | | | Width : (2001mm - 2500mm / 3 pieces) |
| 2 | 17.23 | LOCKING BLADE | 2 |
| 3 | 17.24 | FOLDING SHEAR | (2*Columns*rows)+(2*rows) |
| 4 | 17.25 | SUPPORT PLATE | 2 |
| 5 | 17.26 | CLAMP RESTRAINT | 1 |
| 6 | 17.27 | PLASTIC TO CENTRE THE LOCK | 1 |
| 7 | 17.28 | PLASTIC ROTARY JOINT | 2 |
| 8 | 17.29 | HINGE A PROFILE | 1 |
| 9 | 17.30 | HINGE B PROFILE | 1 |

| | | | |
|----|-------|------------------------------------|---|
| 10 | 17.31 | REINFORCED BEAM PROFILE | Columns |
| 11 | 17.32 | REINFORCED BEAM HING PROFILE | 1 |
| 12 | 17.33 | FRAME HINGE PROFILE | 1 |
| 13 | 17.34 | REINFORCED BEAM LOCK PROFILE | 1 |
| 14 | 17.35 | COVER FRAME PROFILE | 2 |
| 15 | 17.36 | FRAME LOCK PROFILE | 1 |
| 16 | 17.37 | GUIDE PROFILE | 3 |
| 17 | 17.40 | RECEPTOR DISTANCE SPACER GUIDE | 0 |
| 18 | 17.43 | RECEPTOR STOP GUIDE (DOUBLE D.) | 1 double door |
| 19 | 17.44 | PIN GUIDE / STOP GUIDE (DOUBLE D.) | 2 double door |
| 20 | 17.45 | SPACER RING | 0 |
| 21 | 17.49 | DISTANCE SPACER GUIDE | 0 |
| 22 | 17.50 | STOP GUIDE (DOWN) - (DOUBLE D.) | 1 double door |
| 23 | 17.53 | REGULATOR HINGE | 1 |
| 24 | 17.54 | PIN REGULATOR HINGE | 1 |
| 25 | 17.55 | METAL PLUG HINGE (DOWN) | 1 |
| 26 | 17.56 | METAL PLUG HINGE (UP) | 1 |
| 27 | 17.71 | PIN LOCK | Height: 800 mm–1300 mm (2 pieces) Height: 1301 mm–1670 mm (3 pieces) Height: 1671 mm–2300 mm (4 pieces) Height: 2301 mm–3000 mm (5 pieces) |
| 28 | 17.74 | PIN Φ 6X37 | (Columns*rows)+(2*rows)+(1*bearing) |
| 29 | 17.75 | PIN Φ 6X23,8 | (Columns*rows)+(2*rows) |
| 30 | 17.76 | PIN Φ 6X9 | [(Columns+1)*rows] |
| 31 | 17.77 | PLASTIC PLUG LOCK (UNDER / DOWN) | 2 |
| 32 | 17.78 | SOCKET SCREW | (pins lock)+1 |
| 33 | 17.79 | PLASTIC GUIDE (PIN HINGE) | 2 |
| 34 | 17.80 | SHEET MET. FLUSH SCREW 5,3X32 + | 2 |
| 35 | 17.81 | SHEET MET. RAIS.-H SCREW 5,3X32 + | 2 |
| 36 | 17.82 | LOCK | 1 |
| 37 | 17.83 | INOX SPACER RING 6X9,5 | 1 |
| 38 | 17.84 | PLASTIC CLOSURE PLUG | (Columns*rows)+(2*rows) |
| 39 | 17.85 | PLASTIC GUIDE (FOLDING SHEAR) | 2 * Folding shears |
| 40 | 17.86 | PLASTIC PLUG (UNDER / DOWN) | 4 * Columns |
| 41 | 17.87 | PLASTIC PLUG HOLDER (GUIDE) | 2 |
| 42 | 17.88 | RIVET 4mm | 1 |
| 43 | 17.89 | SHEET METAL FLUSH SCREW 8X5/8 ■ | 10 |
| 44 | 17.90 | WOOD FLUSH SCREW 6X80 + | (1 piece / 300mm) |
| 45 | 17.91 | UPAT 8X80 | (1 piece / 300mm) |
| 46 | 17.92 | RIVET AL 5X16 | 3 |
| 47 | 17.93 | RIVET 5X8 | 2 |
| 48 | 17.94 | BEARING | Width : (500mm-1000mm / 2 pieces) (1001mm - 1500mm / 3 pieces) (1501mm - 2000mm / 4 pieces) (2001mm - 2500mm / 5 pieces) |
| 49 | 17.95 | WASHER ALUMINIUM | 3 |
| 50 | 17.96 | METAL SCREW 5,3 X 20 + | (1 piece / 300mm) |

The product T120 may be designed in the following dimensions for double leaf doors:

In width dimension can be from 543 mm until 4934 mm.

Depending on the width we put columns per 244 mm :

Width : 543 mm – 786 mm (1-1 columns)

Width : 787 mm – 1030 mm (2-2 columns)

Width : 1031 mm – 1274 mm (3-3 columns)

Width : 1275 mm – 1518 mm (4-4 columns)

Width : 1519 mm – 1762 mm (5-5 columns)

Width : 1763 mm – 2006 mm (6-6 columns)

Width : 2007 mm – 2250 mm (7-7 columns)

Width : 2251 mm – 2494 mm (8-8 columns)

Width : 2495 mm – 2738 mm (9-9 columns)

Width : 2739 mm – 2982 mm (10-10 columns)

Width : 2983 mm – 3226 mm (11-11 columns)

Width : 3227 mm – 3470 mm (12-12 columns)

Width : 3471 mm – 3714 mm (13-13 columns)

Width : 3715 mm – 3958 mm (14-14 columns)

Width : 3959 mm – 4202 mm (15-15 columns)

Width : 4203 mm – 4446 mm (16-16 columns)

Width : 4447 mm – 4690 mm (17-17 columns)

Width : 4691 mm – 4934 mm (18-18 columns)

In height dimension can be from 800 mm until 3000 mm.

Depending on the height we place rows of scissors and locking points :

Height : 800 mm – 1300 mm (2 rows of scissors and 2 locking points)

Height : 1301 mm – 1500 mm (2 rows of scissors and 3 locking points)

Height : 1501 mm – 1670 mm (3 rows of scissors and 3 locking points)

Height : 1671 mm – 2300 mm (3 rows of scissors and 4 locking points)

Height : 2301 mm – 3000 mm (4 rows of scissors and 5 locking points)

Combination depending on the height and width of the equations the following quantities parts :

| PARTS LIST T120 FOR DOUBLE LEAF DOORS / DIMENSION | | | |
|---|-------------|----------------------------|--------------------------------------|
| A/A | PART NUMBER | DRAWING REFERENCE | QUANTITY |
| 1 | 17.22 | APOSTATE | Width : (1400mm - 3000mm / 2 pieces) |
| | | | Width : (3001mm - 4000mm / 4 pieces) |
| | | | Width : (4001mm - 4934mm / 6 pieces) |
| 2 | 17.23 | LOCKING BLADE | 2 |
| 3 | 17.24 | FOLDING SHEAR | (2*Columns*rows)+(4*rows) |
| 4 | 17.25 | SUPPORT PLATE | 4 |
| 5 | 17.26 | CLAMP RESTRAINT | 2 |
| 6 | 17.27 | PLASTIC TO CENTRE THE LOCK | 0 |
| 7 | 17.28 | PLASTIC ROTARY JOINT | 3 |
| 8 | 17.29 | HINGE A PROFILE | 2 |
| 9 | 17.30 | HINGE B PROFILE | 2 |
| 10 | 17.31 | REINFORCED BEAM PROFILE | Columns |

| | | | |
|----|-------|------------------------------------|---|
| 11 | 17.32 | REINFORCED BEAM HING PROFILE | 2 |
| 12 | 17.33 | FRAME HINGE PROFILE | 2 |
| 13 | 17.34 | REINFORCED BEAM LOCK PROFILE | 1 |
| 14 | 17.35 | COVER FRAME PROFILE | 3 |
| 15 | 17.36 | FRAME LOCK PROFILE | 1 |
| 16 | 17.37 | GUIDE PROFILE | 5 |
| 17 | 17.40 | RECEPTOR DISTANCE SPACER GUIDE | 0 |
| 18 | 17.43 | RECEPTOR STOP GUIDE (DOUBLE D.) | 1 |
| 19 | 17.44 | PIN GUIDE / STOP GUIDE (DOUBLE D.) | 2 |
| 20 | 17.45 | SPACER RING | 0 |
| 21 | 17.49 | DISTANCE SPACER GUIDE | 0 |
| 22 | 17.50 | STOP GUIDE (DOWN) - (DOUBLE D.) | 1 |
| 23 | 17.53 | REGULATOR HINGE | 1 |
| 24 | 17.54 | PIN REGULATOR HINGE | 1 |
| 25 | 17.55 | METAL PLUG HINGE (DOWN) | 2 |
| 26 | 17.56 | METAL PLUG HINGE (UP) | 2 |
| 27 | 17.71 | PIN LOCK | Height: 800 mm–1300 mm (2 pieces) Height: 1301 mm–1670 mm (3 pieces) Height: 1671 mm–2300 mm (4 pieces) Height: 2301 mm–3000 mm (5 pieces) |
| 28 | 17.74 | PIN Φ 6X37 | (Columns*rows)+(4*rows)+(1*bearing) |
| 29 | 17.75 | PIN Φ 6X23,8 | (Columns*rows)+(4*rows) |
| 30 | 17.76 | PIN Φ 6X9 | [(Columns+2)*rows] |
| 31 | 17.77 | PLASTIC PLUG LOCK (UNDER / DOWN) | 2 |
| 32 | 17.78 | SOCKET SCREW | (pins lock)+2 |
| 33 | 17.79 | PLASTIC GUIDE (PIN HINGE) | 4 |
| 34 | 17.80 | SHEET MET. FLUSH SCREW 5,3X32 + | 4 |
| 35 | 17.81 | SHEET MET. RAIS.-H SCREW 5,3X32 + | 4 |
| 36 | 17.82 | LOCK | 1 |
| 37 | 17.83 | INOX SPACER RING 6X9,5 | 2 |
| 38 | 17.84 | PLASTIC CLOSURE PLUG | (Columns*rows)+(4*rows) |
| 39 | 17.85 | PLASTIC GUIDE (FOLDING SHEAR) | 2 * Folding shears |
| 40 | 17.86 | PLASTIC PLUG (UNDER / DOWN) | 4 * (Columns+1) |
| 41 | 17.87 | PLASTIC PLUG HOLDER (GUIDE) | 4 |
| 42 | 17.88 | RIVET 4mm | 2 |
| 43 | 17.89 | SHEET METAL FLUSH SCREW 8X5/8 ■ | 2 * (Pins lock) |
| 44 | 17.90 | WOOD FLUSH SCREW 6X80 + | (1 piece / 300mm) |
| 45 | 17.91 | UPAT 8X80 | (1 piece / 300mm) |
| 46 | 17.92 | RIVET AL 5X16 | 6 |
| 47 | 17.93 | RIVET 5X8 | 4 |
| 48 | 17.94 | BEARING | Width : (543mm - 2000mm / 4 pieces) (2001mm - 3000mm / 6 pieces) (3001mm - 4000mm / 8 pieces) (4001mm - 4934mm / 10 pieces) |
| 49 | 17.95 | WASHER ALUMINIUM | 6 |
| 50 | 17.96 | METAL SCREW 5,3 X 20 + | (1 piece / 300mm) |