

## TEST REPORT No. 341113

**Place and date of issue:** Bellaria-Igea Marina - Italy, 31/03/2017

**Customer:** MASINARA S.p.A. - Via Albert Einstein, 8 - 40050 MONTEVEGLIO (BO) - Italy

**Date test requested:** 13/05/2016

**Order number and date:** 69965, 17/05/2016

**Test date:** from 25/05/2016 to 13/01/2017

**Purpose of test:** verification of mechanical durability of an electrically-operated shutter in accordance with standard UNI EN 12604:2002

**Test site:** Masinara S.p.A. - Via Albert Einstein, 8 - 40050 Monteveglio (BO) - Italy

**Specimen origin:** sampled and supplied by the Customer

### Specimen name\*

The test specimen is called "SERRANDA INDUSTRIALE REALIZZATA CON MENSOLE SCORREVOLI E SISTEMA ANTIVENTO "ROLLING"" ("INDUSTRIAL SHUTTER FEATURING SLIDING BRACKETS AND ROLLING WIND LOCK SYSTEM").

(\*) according to that stated by the Customer.

Comp. AV  
Revis. AB

This test report consists of 6 sheets.  
This document is the English translation of the test report No. 341113 dated 31/03/2017 issued in Italian; in case of dispute the only valid version is the Italian one. Date of translation: 26/04/2017.

Sheet  
1 of 6

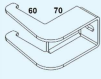

### Description of specimen\*

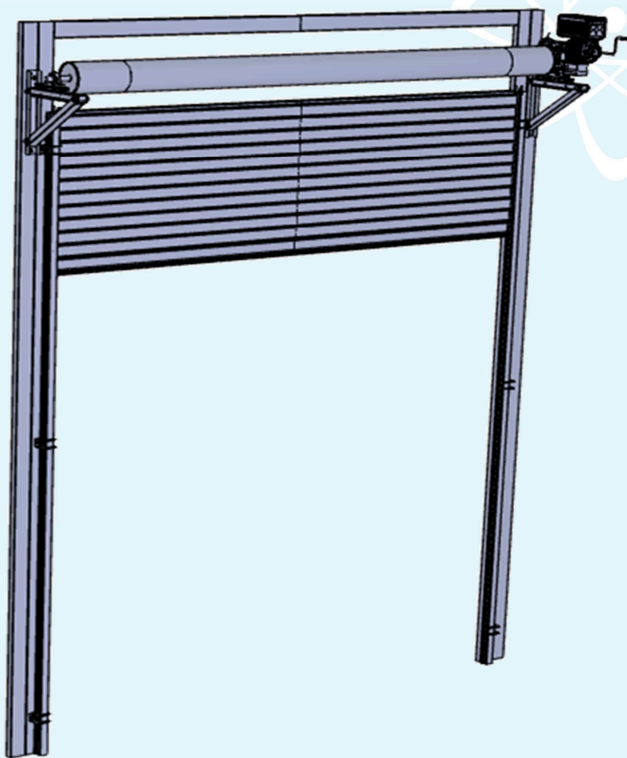
The test specimen is an electrically-operated roller shutter having the physical characteristics specified in the following table:

|                       |         |
|-----------------------|---------|
| <b>Overall width</b>  | 4000 mm |
| <b>Overall height</b> | 4000 mm |
| <b>Weight</b>         | 100 kg  |

The specimen's main components are listed in the following table:

| <b>Drawing</b>  | <b>Item</b> | <b>Description</b>  | <b>Quantity</b> |
|---|-------------|---|-----------------|
|    | 006ME00001  | complete pair of MS75 sliding brackets for side motor                             | 1               |
|   | 015SS00001  | Rolling wind-resistant steel bracket, nominal thickness 5 mm, with nylon rollers  | 18              |
|  | 014FSXXF21  | pair, one left and one right, of F21 DP77 nylon slat clips for Rolling bracket    | 60              |
|  | 008IN00001  | internal nylon connector for DP wind lock guide (15 mm)                           | 4               |
|  | 008IN00002  | nylon universal entry guide with screw holes                                      | 2               |
|  | 003AN00011  | white flexible belt protecting curtain, nominal length 50 mm                      | 3               |
|  | 037PL00060  | nylon frame for twin-wall panel   | 19              |
|  | 037PL00061  | clear polycarbonate panel, nominal size 100 mm × 50 mm, for twin-wall slat        | 16              |
|  | 037PL00062  | clear polycarbonate grille, nominal size 100 mm × 50 mm, for twin-wall slat       | 3               |
|  | 031EL00601  | DP wind-lock guide, nominal size 60 mm × 70 mm × 60 mm and nominal thickness 2 mm | 2               |

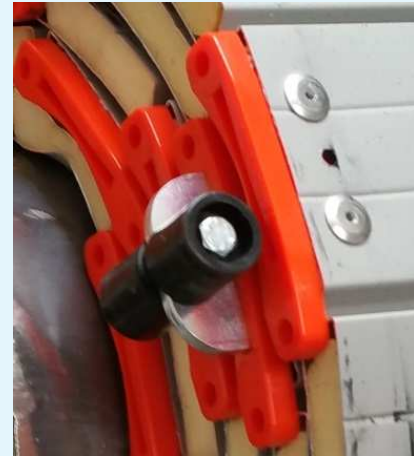
| Drawing   | Item       | Description  | Quantity |
|---|------------|--|----------|
|  | 009ST00006 | DP guide fixing bracket, nominal size 60 mm × 70 mm, with recess - 110 x 98 and nominal thickness 4 mm | 6        |
|  | 034GG00017 | twin-channel wind-lock guide internal gasket (15 mm)   | 16 m     |
| //  | //         | straight tube, nominal diameter 193,7 mm and nominal thickness 5 mm                                    | 4 m      |
| //  | //         | tube coupling  | 8        |
| //  | //         | P77 prepainted, insulated, aluminium connecting rod, nominal thickness 0,5 mm                          | 60       |
| //  | //         | GFA SI 55.10 - d.40 - 380 V motor with accessories and control unit                                    | 1        |



Specimen schematic drawing



Specimen photo



Close-up photos of specimen



Photos of cycle counter seals and cycle counter at end of test

### **Normative References**

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

- UNI EN 12604:2002 dated 01/07/2002 “Industrial, commercial and garage doors and gates - Mechanical aspects - Requirements”;
- UNI EN 12605:2001 dated 30/11/2001 “Industrial, commercial and garage doors and gates - Mechanical aspects - Test methods”.

### **Test apparatus**

The following equipment was used to carry out the test:

- specimen cyclic movement control system comprising microprocessor and special electromechanical control interface;
- sealed cycle counter and timer to count the number of cycles carried out by the specimen;
- calibrated laser gauge to measure barrel deflection at end of test.

### **Test method**

The specimen underwent the mechanical durability test in accordance with clause 5 of standard UNI EN 12604:2002, using the test procedure and methods provided for by clause 5.2 “Test procedure - Durability test” of standard UNI EN 12605:2001.

Operational conditioning, carried out at a rate of 435 cycles per day, one every 3 min and 15 s (totalling **53586 cycles**), was performed at the premises of the Customer who also carried out intermediate functional checks, routine maintenance, resets and all visual inspections.

### **Environmental conditions during test**

|                            |                  |
|----------------------------|------------------|
| <b>Ambient temperature</b> | (15 ÷ 28 ± 1) °C |
| <b>Relative humidity</b>   | (40 ÷ 70 ± 5) %  |

**Test results**

| <b>Cycles conducted</b><br>[No.] | <b>Date</b> | <b>Operation performed</b>   |
|----------------------------------|-------------|--|
| 1                                | 25/05/2016  | test begins in the presence of the Istituto Giordano S.p.A. operative  |
| 851                              | 27/05/2016  | //   |
| 3427                             | 09/06/2016  | //   |
| 10316                            | 07/07/2016  | visual inspection passed   |
| 14113                            | 05/08/2016  | //   |
| 22375                            | 19/09/2016  | //   |
| 26306                            | 06/10/2016  | visual inspection passed   |
| 35625                            | 04/11/2016  | //   |
| 42194                            | 29/11/2016  | //   |
| 49798                            | 16/12/2016  | visual inspection passed   |
| 52558                            | 22/12/2016  | //   |
| <b>53586</b>                     | 13/01/2017  | test ends in the presence of the Istituto Giordano S.p.A. operative with passing of visual inspection and functionality test |

After the Customer halted the test, the specimen was still in a fully-operational and failure-free condition.

Test Technician:  
Dott. Andrea Bruschi

Head of Security and Safety Laboratory:  
Dott. Andrea Bruschi

Chief Executive Officer

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