

TEST REPORT No. 378569

Customer

PCA S+A - PAPADOPOULOS OVEE
 Industrial Area of Thessaloniki, Block 38 - 57022 SINDOS - Greece

Item*

railing named "M19 1212.4 PVB"

Activity

**determination of the mechanical strength
 under distributed static load
 in accordance with standard UNI 10806:1999**



Results

Test	Normative references	Requirement	Result
mechanical strength under distributed static load	UNI 10806:1999	3,0 kN/m	compliant

(*) according to that stated by the customer.

Bellaria-Igea Marina - Italy, 22 December 2020

Chief Executive Officer

 Order:
86421

 Item origin:
sampled and supplied by the customer

 Identification of item received:
2020/2836/B dated 17 December 2020

 Activity date:
21 December 2020

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

Contents	Page
Description of item*	2
Normative references	2
Equipment	2
Method	3
Environmental conditions	3
Results	3
Findings	4

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

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Chief Test Technician:

Dott. Andrea Bruschi

Head of Security and Safety Laboratory:

Dott. Andrea Bruschi

Compiler: Paolo Bonito

Reviewer: Dott. Andrea Bruschi

Page 1 of 4

Description of item*

The item consists of a glass/aluminum railing without handrail with the following characteristics:

Measured overall width	1100 mm
Measured effective height	1200 mm

The glass type is laminated glass, overall nominal thickness 25,52 mm, made of:

- tempered glass, nominal thickness 12 mm;
- PVB, , nominal thickness 1,52 mm;
- tempered glass, nominal thickness 12 mm.

Further details of item specifications in annex "A".



Photograph of the item

Normative references

Standard	Title
UNI 10806:1999	Ringhiere, balaustre o parapetti prefabbricati - Determinazione della resistenza meccanica ai carichi statici distribuiti (<i>Prefabricated railing systems - Determination of the mechanical strength under distributed static loads</i>)

Equipment

Description	In-house identification code
test rig simulating actual mounting of the item on the floor slab with pneumatic equipment for the simulation of the static load with 5 load actuators	EDI048

(*) according to that stated by the customer, apart from characteristics specifically stated to be measurements; Istituto Giordano declines all responsibility for the information and data provided by the customer that may influence the results.

Description	In-house identification code
AEP Transducers "TS" load cell, measuring range 0-1 kN	EDI107
No. 3 Gefran "PZ-34-S150" linear displacement transducers, measuring range 0-150 mm	FT451/1, FT451/2 and FT451/3
La Crosse Technology "WS8009" digital thermo-hygrometer	EDI111
Borletti "CDEP15" digital calliper gauge, measuring range 0-150 mm and resolution 0,01 mm	EDI066
Mitutoyo Corporation "TD-S551D1 216-452" digital tape measure, measuring range 0-5,5 m	FT364

Method

The test was carried out using the method specified in standard UNI 10806:1999 but with increased load.

The underside was fixed to the test rig in order to reproduce actual installation conditions.

Test procedure

Normative references	Activity	Description
clause 7 "Procedimento" ("Method") of UNI 10806:1999 standard	mechanical strength under distributed static load	Three linear displacement transducers were positioned in order to measure the relative displacement of the panel top edge (two at the ends and one at the midpoint between them) and the following test sequence was performed: <ul style="list-style-type: none"> - preload, representing 30 % of the maximum working load, for 5 min; - preload of 1,5 kN for 5 min; - preload removal and gauge reset; - uniformly-distributed horizontal linear static load of 3,0 kN/m was gradually applied (in at least 5 s) to the top edge of the sheet and kept for 15 min upon reaching the test load; - recording of deformation after 15 min; - load gradually released back to zero; - recording of permanent deformation after 5 min.

Environmental conditions

Atmospheric pressure	(1010 ± 50) mbar
Temperature	(16 ± 2) °C
Relative humidity	(55 ± 5) %

Results

Load step	Load [kN/m]	Duration [min]	Deflection at the measuring points			Effect
			A [mm]	B [mm]	C [mm]	
preload	1,5	5	//	//	//	no damage
working load	3,0	15	152	150	150	no damage
load removal	0,0	5	25	25	26	//



Photograph of item during the test

Findings

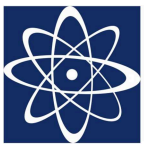
Test	Normative references	Requirement	Result
mechanical strength under distributed static load	UNI 10806:1999	3,0 kN/m	compliant

Chief Test Technician
Dott. Andrea Bruschi)

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

Andrea Bruschi

Andrea Bruschi



ANNEX "A"
TO TEST REPORT No. 378569

Customer

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**schematic drawings relating to the item
provided by the customer**

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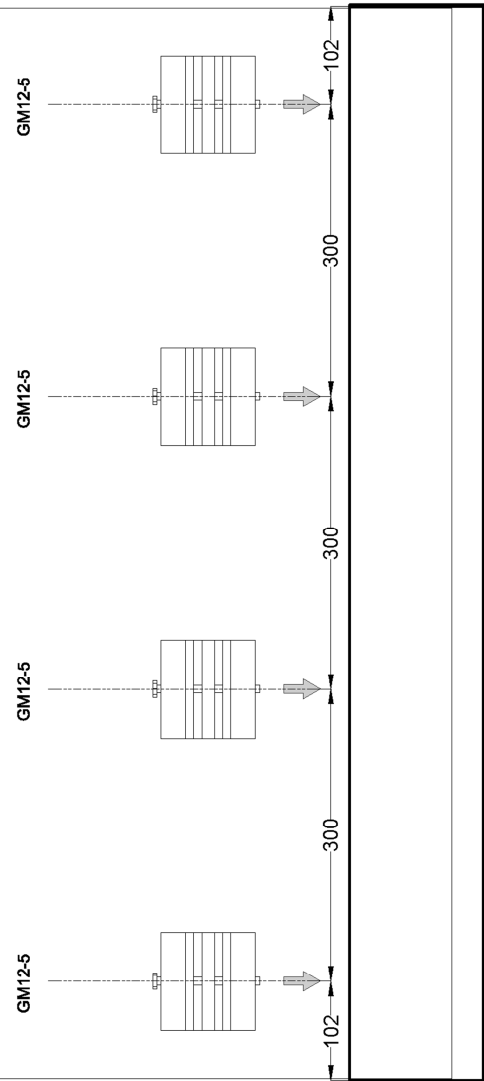
This annex consists of 4 pages.

Page 1 of 4

M19 SYSTEM

GM13

12.12.4 TEMPERED



M19 RAILING SYSTEM



12+12 GLASS

