

#### PROFIL MANA CURENTA MODEL ROTUND

- Material: aluminiu
- Finisaj: aluminiu mat



CUI: RO 4976720, J23/6322/2021, Tel. 021.345.36.81 E-mail: <u>office@transparentdesign.ro</u> Web site: <u>www.transparentdesign.ro</u>



## **TEST REPORT No. 388589**

Customer **ABRA BNG RETAIL S.r.I.** \$oseaua Oltenitei, 181 - 077160 POPE\$TI-LEORDENI - Romania

ltem\*

railing named "M500-05"

Activity

resistance to horizontal linear static load according to D.M. Infrastructure and Transport 17 January 2018 and standard UNI 10806:1999 and resistance to dynamic load according to standard UNI 10807:1999

Results

Activity	Normative reference	Requirement	Result
horizontal linear static load	D.M. Infrastructure and Transport 17 January 2018	1,0 kN/m	compliant
dynamic load	UNI 10807:1999	300 mm	compliant

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

Bellaria-Igea Marina - Italy, 9 November 2021

**Chief Executive Officer** 

**Order:** 89592

Item origin: sampled and supplied by the customer

Identification of item received: 2021/2591/B dated 13 October 2021

Activity date: 3 November 2021

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

Contents	Page
Description of item*	2
Normative references	3
Apparatus	3
Method	4
Environmental conditions	4
Results	5
Findings	6

This document is made up of 6 pages and shall not be reproduced except in full without extrapolating parts of interest at the discretion of the customer, with the risk of favoring an incorrect interpretation of the results, except as defined at contractual level.

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

This document extends the validity of all numerical and descriptive data contained in the reference test report.

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

Chief Test Technician: Dott. Andrea Bruschi Head of Security and Safety Laboratory: Dott. Andrea Bruschi

Compiler: Dott. Marina Bonito Reviewer: Dott. Andrea Bruschi

Page 1 of 6



## **Description of item**\*

The item under examination consists of laminated tempered glass railing with aluminum structure, having the characteristics shown in the following table.

Overall width	1000 mm	
Overall height from floor	1075 mm	
Glass type	laminated glass 88.3 (tempered + PVB + tempered)	
Glass nominal thickness 17,14 mm		
Aluminum profile nominal section	60 mm × 110 mm	

Further details of item specifications in annex "A".



Photograph of the item



Side view detail



## Normative references

Standard	Title
D.M. Infrastructure and	Aggiornamento delle «Norme tecniche per le costruzioni» (Update to the «Technical stan-
Transport 17 January 2018*	dards for construction»)
UNI 10806:1999	Ringhiere, balaustre o parapetti prefabbricati - Determinazione della resistenza mec- canica ai carichi statici distribuiti ( <i>Prefabricated railing systems - Determination of the mechanical</i> <i>strength under distributed static loads</i> )
UNI 10807:1999	Ringhiere, balaustre o parapetti prefabbricati - Determinazione della resistenza mec- canica ai carichi dinamici ( <i>Prefabricated railing systems - Determination of the mechanical strength</i> <i>under dynamic load</i> )

(\*) D.M. = Ministerial Decree.

## Apparatus

Description	In-house identification code
steel frame simulating actual installation of the item on the floor	EDI048
pneumatic equipment for the simulation of the static load	//
3 Gefran digital displacement transducers "PZ-34-S150", range of measurement 0-150 mm	FT451/1, FT451/2 and FT451/3
AEP Transducers load cell "TS" with digital indicator "DFI", range of measurement 100-1000 N	EDI104
Borletti digital electronic gauge "CDEP15", range of measurement 0-150 mm and resolution 0,01 mm	ED1066
Mitutoyo Corporation digital meter "TD-S551D1 216-452", range of measurement 0-5,5 m	FT364
soft body consisting of spheroconical bag, diameter 0,40 m and height 0,60 m, filled with hardened glass beads, diameter 3 mm, until reaching a total mass of 50 kg	ED1062
Würth telescopic measuring rod "mEssfix", range of measurement 0-5000 mm and resolution 0,1 mm	EDI083



#### <u>Method</u>

Test was carried out using detailed internal procedure PP083 in its current revision at testing date. The bottom side of the item was floor fixed to the steel frame simulating the actual installation of the item.

#### Procedure

Normative reference Activity		Description/parameters		
table 3.1.II of standard D.M. Infrastructure and Transport 17 January 2018	load determination	//		
UNI 10806:1999	horizontal linear static load	<ul> <li>The three digital displacement transducers were positioned on the item in order to read the relative displacement of the upper edge of the glazing, two at the ends and one in the middle between them.</li> <li>In particular it has been carried out the following test sequence: <ul> <li>pre-load equal to 50 % of the load defined by the customer;</li> <li>removal of the preload and detection of the initial position of the edge of the plate;</li> <li>application of the load in a progressive manner with a time ≥5 s, with deformations under load recording after 15 min;</li> <li>load removal and registration of residual deformation after 5 min.</li> </ul> </li> </ul>		
UNI 10807:1999	dynamic load	All impacts were made by releasing the impactors so that they fall from a specified height with a pendulum movement and without initial velocity. The impactors were hung by an inextensible pendulum wire of negligi- ble mass so that when at rest they made contact with the point of intended impact. After each impact, the im- pactors were prevented from hitting the item again af- ter bouncing.		

## **Environmental conditions**

Temperature	(20 ± 2) °C	
Relative humidity	(55 ± 5) %	



# <u>Results</u>

## Resistance to horizontal linear static load

Applied load	Defle at t	Deflection whilst loaded at the measure point		Permanent deflection at the measure point			Result
	А	В	С	А	В	С	
[kN/m]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
1,0	160	220	190	70	69	68	no damage



Photograph of the item undergoing horizontal linear static load



#### Resistance to dynamic load

Standard	Impact area	Drop height	Nominal energy	Result
		[mm]	[J]	
UNI 10807:1999	center of glazing	300	150	no damage



Photograph of the item after impact to the center of the glazing

## **Findings**

Test	Normative reference	Requirement	Result <sup>*</sup>
horizontal linear static load	D.M. Infrastructure and Transport 17 January 2018	1,0 kN/m	compliant
dynamic load	UNI 10807:1999	300 mm	compliant

(\*) the compliance has been determined on the basis of values obtained by measurements during testing in line with clause 4.2.1 "Decision Rules" of ILAC-G8:09/2019 "Guidelines on Decision Rules and Statements of Conformity", having satisfied the requirements on measurements and equipment defined in the reference normative.

Chief Test Technician (Dott. Andrea Bruschi)

Anches Bruse

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

Anohed



# ANNEX "A" TO TEST REPORT No. 388589

Customer

ABRA BNG RETAIL S.r.l.

Şoseaua Oltenitei, 181 - 077160 POPEŞTI-LEORDENI - Romania

railing named "M500-05"

Contents

customer-supplied technical documentation

**Order:** 89592

Item origin: sampled and supplied by the customer

Identification of item received: 2021/2591/B dated 13 October 2021

Activity date: 3 November 2021

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

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

Bellaria-Igea Marina - Italy, 9 November 2021

This annex consists of 2 pages.

Page 1 of 2



