TEST REPORT No. 429710

Customer

UMAKOV GROUP A.S.

Galvaniho, 7/d - 82104 BRATISLAVA - Slovakia

Item#

glass canopy named "AL/PR7"

Activity

resistance to vertical static loading according to customer's specifictions

Results

maximum vertical load 2,5 kN/m²

(#) according to that stated by the customer.

Bellaria-Igea Marina - Italy, 13 June 2025

Chief Executive Officer

Order:
105485

Item origin:
sampled and supplied by the customer

Identification of item received:
2025/1417 dated 20 May 2025

Activity date:
29 May 2025

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

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

Compiler: Dott. Marina Bonito

Description of item[#]

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

Number of glass modules	2
Overall depth	1200 mm
Overall length	3000 mm
Glass type	laminated glass 88.2 ESG/VSG (tempered + 0,76 PVB + tempered)
Dimensions of glass	1500 mm × 1200 mm
Nominal thickness of glass	16,76 mm
Nominal section of aluminum profile	100 mm × 120mm
Loading area of ach glass module	1,65 m^2

Further details of item specifications in annex “A”.

Photograph of the item

Apparatus

Description	In-house identification code
supporting structure formed by HEA 200 steel beams	//

(#) 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
2 Gefran PZ-34-S150 displacement transducer, measure range 0-200 mm	FT451/1, FT451/2
personal computer fitted with PCI 20428 data acquisition board, linearity error ±0,024 % ±1 LSB and maximum gain accuracy 0,02 %, with Visual Designer oversampling acquisition software	FT345
iron loading bars, dimensions 500 mm × 100 mm, thickness 20 mm and mass 7,8 kg	//
cloth bags containing lead pellets, mass 5.0 kg each	FT385

Method

The test was performed according to the costumer's instructions, fixing the item to the test bench using the test frame and subjecting the glass panel to a uniformly distributed load by means of the load masses.
For each load step, the deformations were detected using the displacement transducers. The test was stopped as soon as one of the two glass modules broke.

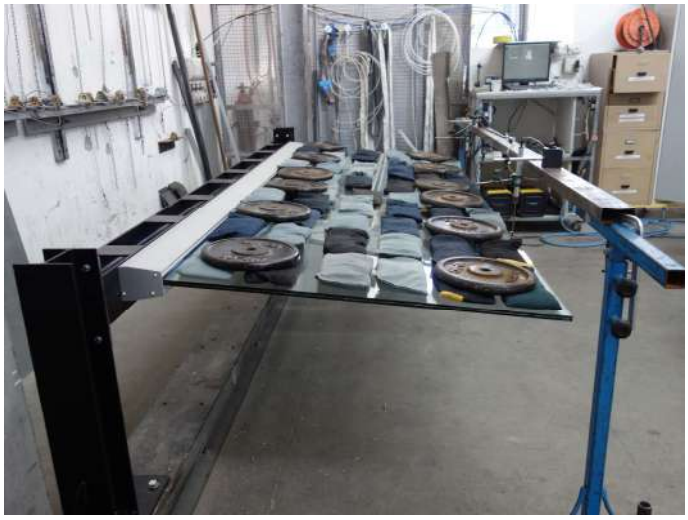
Measurement points scheme

Environmental conditions

Temperature	(23 ± 2) °C
Relative humidity	(60 ± 5) %

Results

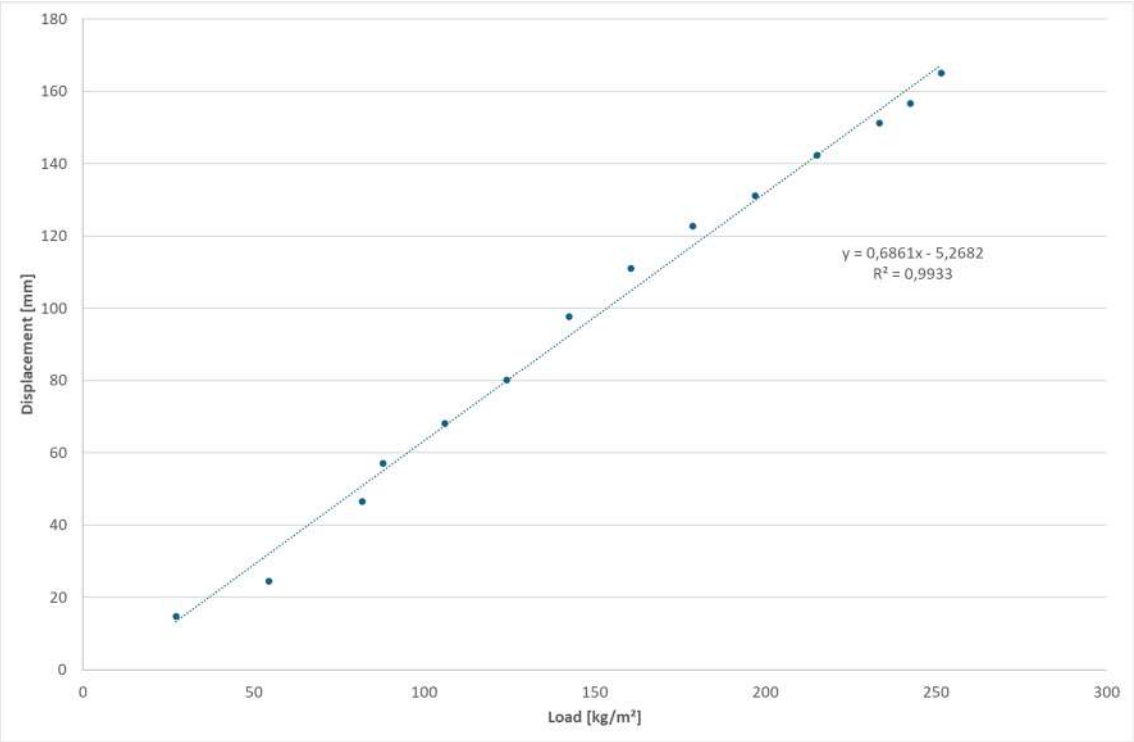
Applied load				Deformation at the measurement points	
				A	B
[kg]	[kN]	[kg/m^2]	[kN/m^2]	[mm]	[mm]
0	0,0	0,0	0,0	0,0	0,0
45	0,4	27,3	0,3	14,8	14,5
90	0,9	54,5	0,5	24,5	25,2
135	1,3	81,8	0,8	46,6	45,2
145	1,4	87,9	0,9	57,1	56,1
175	1,7	106,1	1,0	68,1	66,6
205	2,0	124,2	1,2	80,1	77,9
235	2,3	142,4	1,4	97,8	95,8
265	2,6	160,6	1,6	111	108,6
295	2,9	178,8	1,8	122,7	118,9
325	3,2	197,0	1,9	131,2	130,5
355	3,5	215,2	2,1	142,4	141,5
385	3,8	233,3	2,3	151,2	149,9
400	3,9	242,4	2,4	156,6	155,6
415	4,1	251,5	2,5	165,1	164,5
430	**4,2**	**260,6**	**2,6**	**sample breakage**	



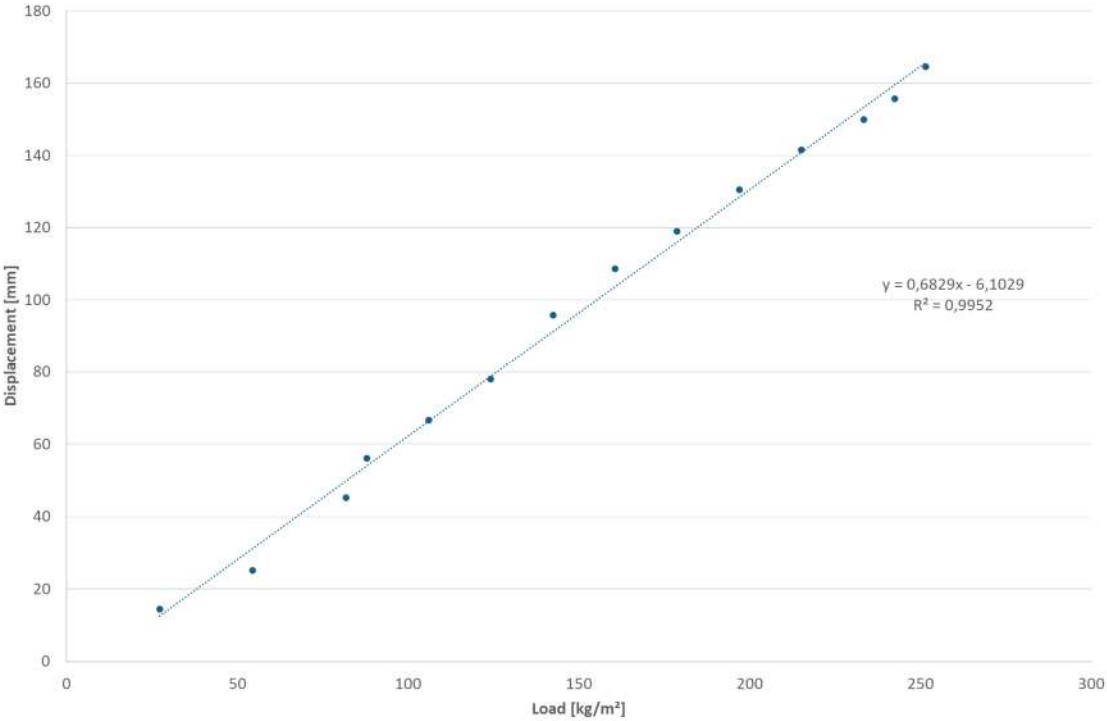
Photograph of the item during the test

Photograph of the item at the end of the test

DISPLACEMENT/LOAD DIAGRAMS



Trend at measurement point "A"



Trend at measurement point "B"

Findings

Maximum vertical load	2,5 kN/m^2

Chief Test Technician
(Dott. Andrea Bruschi)

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

ANNEX “A”
TO TEST REPORT No. 429710

Customer

UMAKOV GROUP A.S.

Galvaniho, 7/d - 82104 BRATISLAVA - Slovakia

Item#

glass canopy named “AL/PR7”

Contents

technical documentation of the item

(#) according to that stated by the customer.

Bellaria-Igea Marina - Italia, 13 June 2025

Order:
105485

Item origin:
sampled and supplied by the customer

Identification of item received:
2025/1417 dated 20 May 2025

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This annex consists of. 3 pages.

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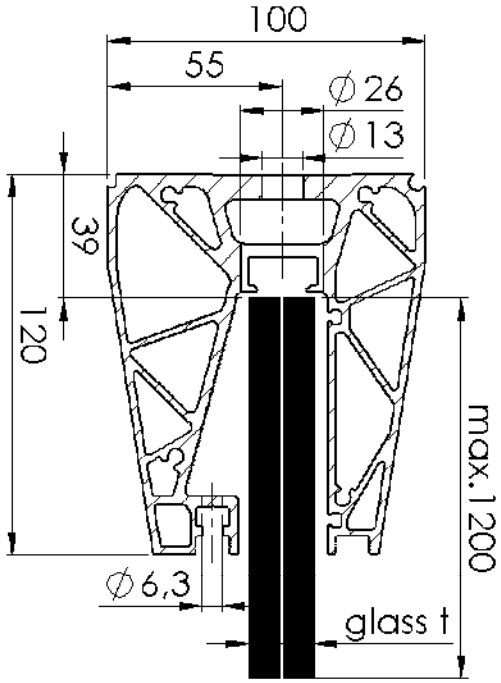
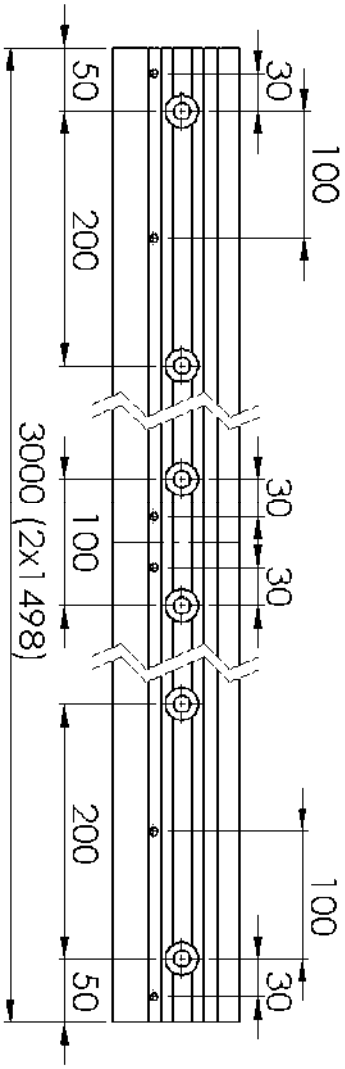
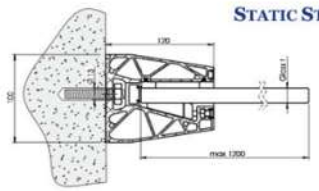
Cap. Soc. € 1.500.000 i.v. - R.E.A. c/o C.C.I.A.A. (RN): 156766 - Registro Imprese Romagna (Forlì-Cesena e Rimini) e CF/P. IVA: n. 00 549 540 409


100
55
∅26
∅13
39
120
max.1200
∅6,3
glass t


50
30
100
200
3000 (2x1498)
30
100
30
200
100
50
30

PROFILE SYSTEM **PR7** - SETS

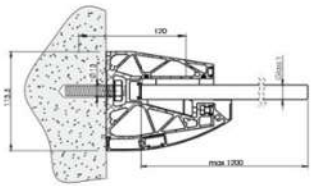
STATIC STUDIO



SET 1

new

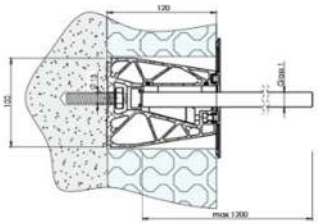
AL/PR7-1500-N-E-SET1	1,5 m	2x	7x	1x1,5 m	2x1,5 m	1x A19/PR/-3-013-03.0 A19/PR/-3-017-03.0 A19/PR/-3-021-03.0	2x	7x	7x	6x
AL/PR7-1500-R7016-SET1				1x1,5 m	2x1,5 m					
AL/PR7-3000-N-E-SET1	3 m	4x	14x	1x3 m	2x3 m	2x A19/PR/-3-013-03.0 A19/PR/-3-017-03.0 A19/PR/-3-021-03.0		14x	14x	12x
AL/PR7-3000-R7016-SET1				1x3 m	2x3 m					



SET 2

new

AL/PR7-1500-N-E-SET2	1,5 m	2x	7x	2x1,5 m	1x1,5 m	1x A19/PR/-3-013-03.0 A19/PR/-3-017-03.0 A19/PR/-3-021-03.0	1x1,5 m	2x	7x	7x	6x
AL/PR7-1500-R7016-SET2				2x1,5 m	1x1,5 m						
AL/PR7-3000-N-E-SET2	3 m	4x	14x	2x3 m	1x3 m	2x A19/PR/-3-013-03.0 A19/PR/-3-017-03.0 A19/PR/-3-021-03.0	1x3 m		14x	14x	12x
AL/PR7-3000-R7016-SET2				2x3 m	1x3 m						



SET 3

new

AL/PR7-1500-N-E-SET3	1,5 m	2x	7x	1x1,5 m	2x1,5 m	1x A19/PR/-3-013-03.0 A19/PR/-3-017-03.0 A19/PR/-3-021-03.0	4x	7x	7x	
AL/PR7-1500-R7016-SET3				1x1,5 m						
AL/PR7-3000-N-E-SET3	3 m	4x	14x	1x3 m	2x3 m	2x A19/PR/-3-013-03.0 A19/PR/-3-017-03.0 A19/PR/-3-021-03.0		14x	14x	
AL/PR7-3000-R7016-SET3				1x3 m						