Test Report

Number	20-001532-PR01 (PB-A01-05-en-01)
Owner (Client)	ETEM COMMERCIAL AND INDUSTRIAL LIGHT METALS S.A. 1, Iroon Polytechniou Str., 190 18 Magoula Greece
Product	**Railing**
Designation	**System: EB 48** **Shipping name: JULIET BALCONY**
Details	Overall dimensions (W x H) 1501 x 1180 ; Glass configuration HSG 8 / PVB 1.52 / HSG 8; Thickness 17.52 mm; Surface weight 78 kg/m²
Special features	
Order	Testing of impact resistance
Contents	The test report contains a total of 5 pages and annexes (26 pages).
Note	The test report shall only be published in its unabbreviated form. The “Guidance Sheet for the Use of ift Test Documents” applies.

ift Rosenheim GmbH
Theodor-Gietl-Str. 7-9
D-83026 Rosenheim

Contact
Phone: +49 8031 261-0
Fax: +49 8031 261-290
www.ift-rosenheim.de

2 Detailed results

Soft and heavy body impact in order to EN 13049:2003-04

Project-No.	20-001532-PR01
Basis	EN 13049:2003-04 Windows - Soft and heavy body impact - Test method - Safety requirements and classification
Test equipment	PMEx/026678 - Impactor 50
Test specimen	Railing
Test specimen No.	50951-001
Date of test	01.07.2020
Test engineer in charge	Dimitrios Moustakidis
Test engineer	Dimitrios Moustakidis

Implementation of tests

Deviations: There have been the following deviations from the test method specified in the standard/basis:
The test method was applied to Railings.
The number of impact points and the number of impacts were adapted.

Ambient conditions: Temperature 24.0 °C Air humidity 39 %
The ambient conditions are in accordance with the standard/basis requirements.

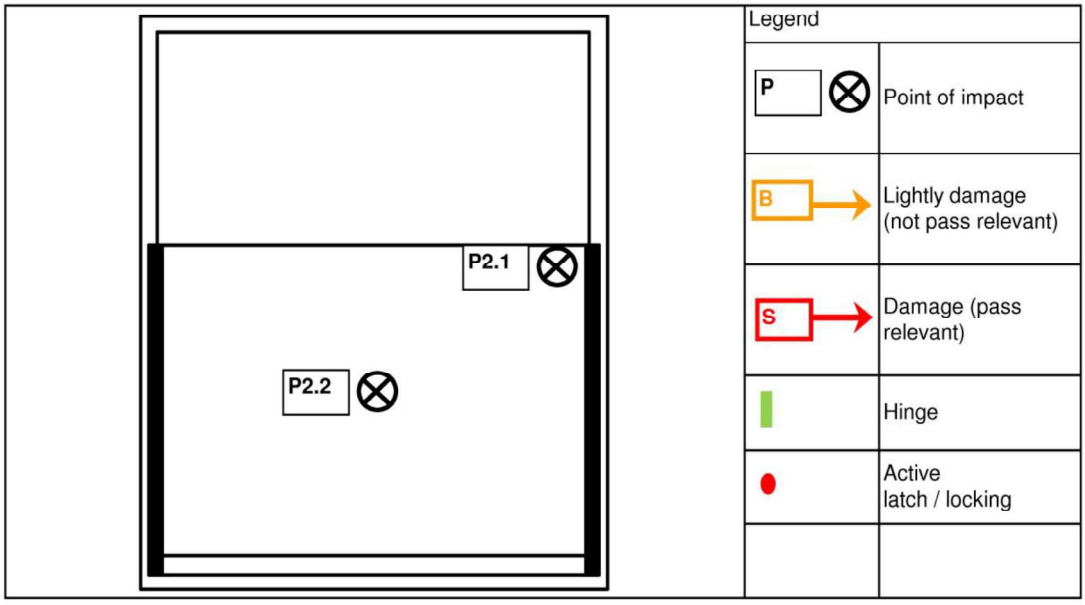

Fig.: Positions of the impact points (closing face sight) (impact in opening direction)

Measurement data/Results

Table 1: Test results

No. Impact load	Drop height in mm				
	200	300	450	700	950
Impact in opening direction					
P 2.1		K	K	K	K
P 2.2		K	K	K	K
P 2.3					
P 2.4					
P 2.5					
P 2.6					
P 2.7					
P 2.8					
P 2.9					

Table 2: Legend for Table 1

Label	Meaning
	not carried out
K	without perceivable damage development
B	not pass relant damage (free numeration e.g. "B 01")
S	pass relevant damage (free numeration e.g. "S 01")

Table 3: Description of the occured damages

Damage No.	Description of the damage
B 01	
B 02	
B 03	
S 01	
S 02	
S 03	

To qualify for a certain class the following requirements of EN 13049 shall be met:
- any opening shall not allow the ellipsoid, as specified by EN 1630, to pass
- the impact shall not detach or dislodge any casement or sash of the test specimen nor disconnect any hardware or glazing beads, nor shall any of its composite parts become dislodged or shattered in a dangerous manner
- the mass of any dislodged part shall not exceed 50 g.

Table 4: Load classes / Drop heights according EN 13049

Class	1	2	3	4	5
Drop height in mm	200	300	450	700	950

3 Summary

3.1 Result

The test results are shown in the measuring data sheet, see item "Detailed results".

3.2 Instructions for use

This test/evaluation does not allow any statement to be made on further characteristics of the present structure regarding performance and quality, in particular the effects of weathering and ageing.

The test was performed according to standard and the details for identification of the test specimen are complete; on the basis of this Test Report an "ift-Nachweis" (Evidence) can be issued.

ift Rosenheim
27.07.2020

Thomas Stefan, Dipl.-Ing. (FH)
Head of Testing Department
Building Component Testing

Dimitrios Moustakidis, MSc, Dipl.-Ing.
Operating Testing Officer
Building Component Testing