

All tests in this report are executed according to the ISO 9001
 certified Quality management system of the BBRI

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TEST REPORT

Laboratory ROOF AND FAÇADES ELEMENTS – CAR	O/References	DE 651 XO 181 CAR 17136 Page 1/7
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Requested by	Aluminco Belgium Rijksweg 3 B- 2870 Puurs		
Date of the order	2017.06.28	Samples registration	S2017-35-003
		Date of reception of samples	2017.08.28
Date of the test	2017.08.29		
Date of issue of the report	2017.08.30		
Test carried out	Static tests on balustrade elements		
References	<i>Royal Decree on safety standards to be observed in football stadiums (July 6th, 2013 – publication July 15th, 2013)</i>		

This test report contains 7 pages with 1 appendix. This test report may only be reproduced in its entirety. Each page of the original report has been stamped (in red) by the laboratory and initialled by the head of laboratory. The results and findings are only valid for the tested samples.

- No sample
- Sample(s) subjected to destructive test
- Sample(s) to be removed from our laboratories 30 calendar days after sending of the report, except in the case of a written request



Ing. I. Knoops
Responsible of the tests



Ir. V. Detremmerie
Head of laboratory

1 INTRODUCTION

At request of the company Aluminco Belgium, represented by Mr. Ramout Rudy, the laboratory CAR of the BBRI has carried out static linear horizontal loads on balustrade elements. The results of these tests are given in the report with reference "CAR 17136".

2 DESCRIPTION OF THE TEST PIECES

The test pieces were received at the research centre of the BBRI in Limelette on the 28th of August 2017 and were registered in the receipts register of test pieces under the number S2017-35-003 by the laboratory "Roof and Façade elements". It concerns balustrade elements for which the composition and dimensions are stated below.

2.1 SCHEMATIC REPRESENTATION OF THE TEST PIECES

The schematic representation of the test pieces is shown on *Figure 1*.

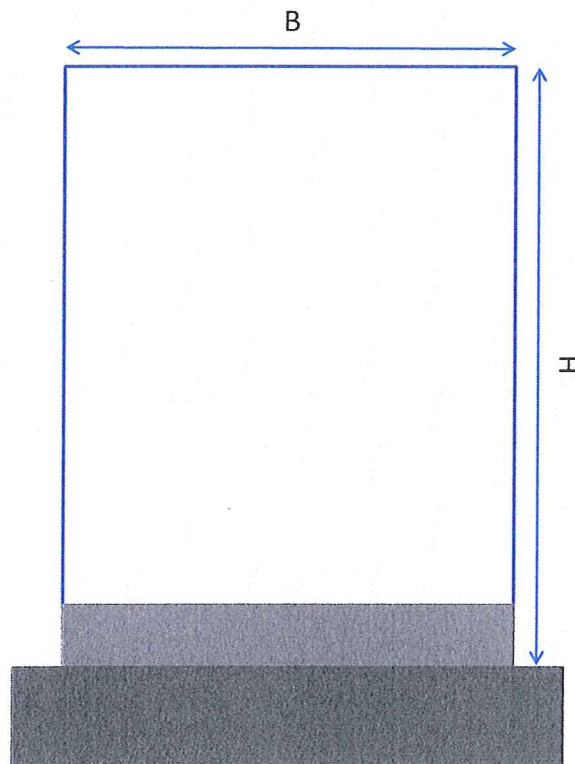


Figure 1: Schematic representation of the test piece (top mount)



2.2 DIMENSIONS OF THE TEST PIECES

The dimensions of the test pieces are given in Table 1.

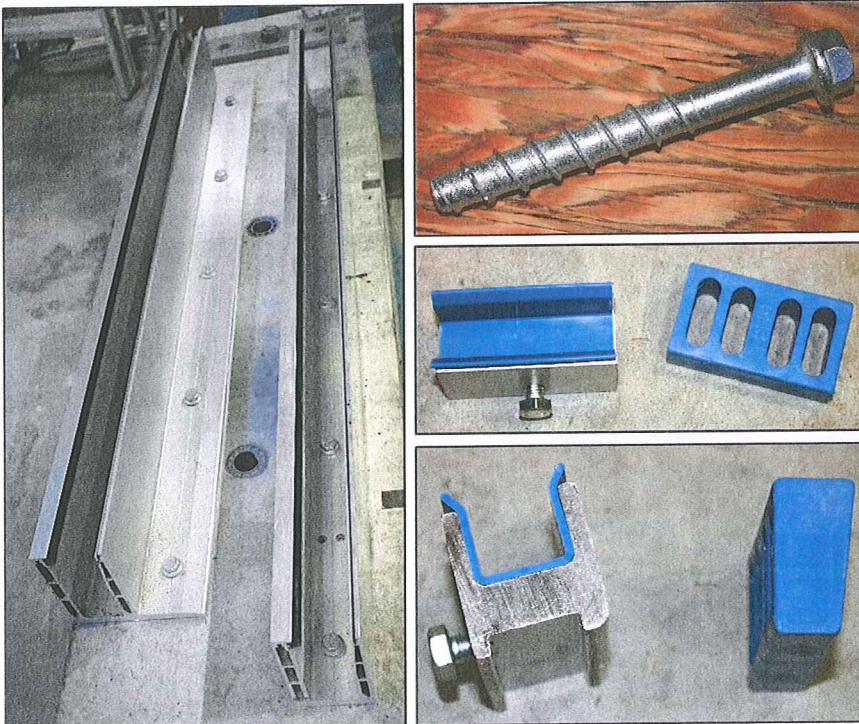
Type of glass	Dimensions of the glass (mm)	
	Height (mm)	width (mm)
1010.4 DG 41 tempered	1200	1000
1212.4 DG 41 tempered	1200	1000

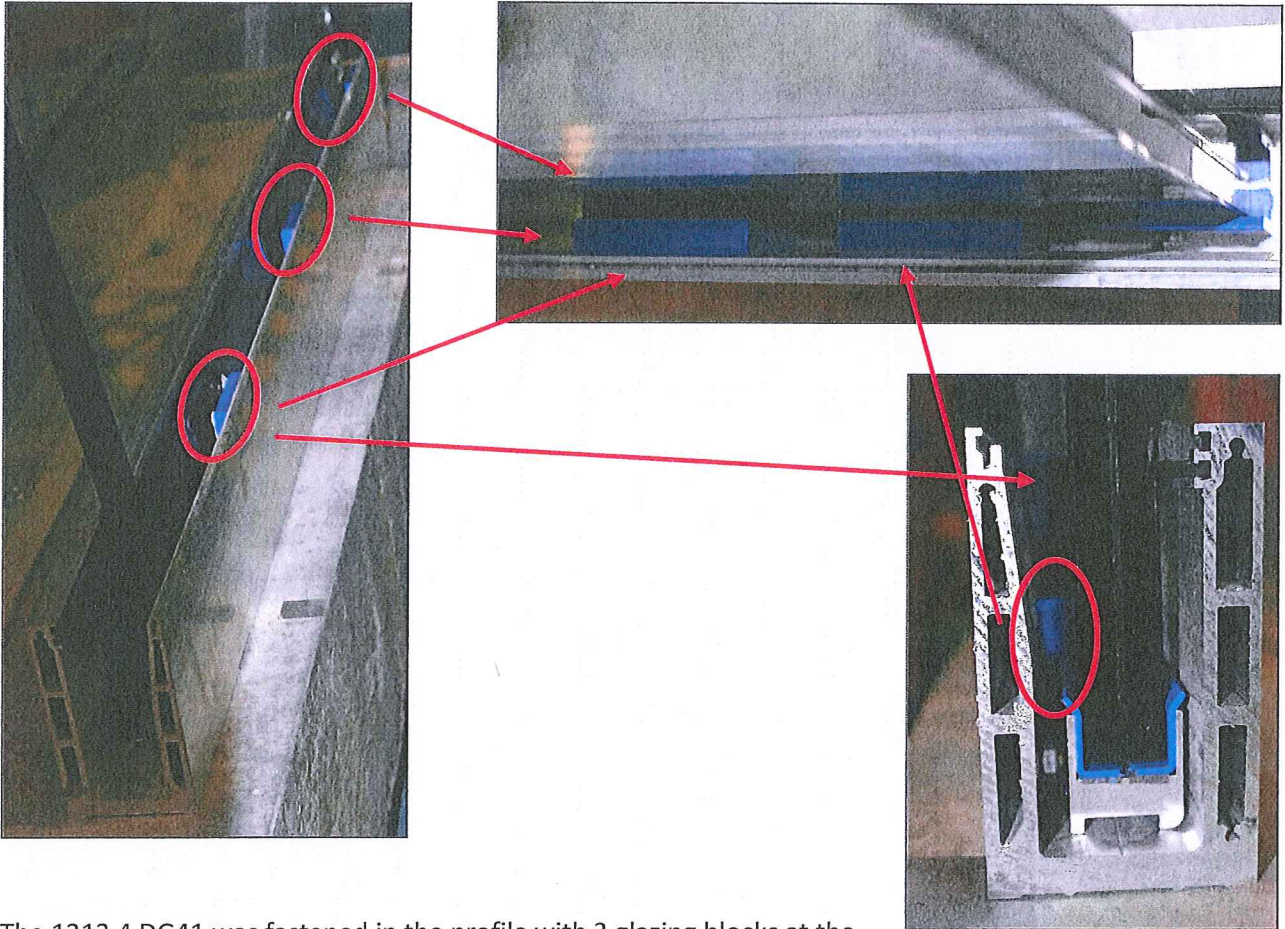
Table 1: Dimensions of the used test pieces

2.3 DESCRIPTION OF THE TEST PIECES

The characteristics of the elements constituting the test pieces are given by the applicant and are described here below:

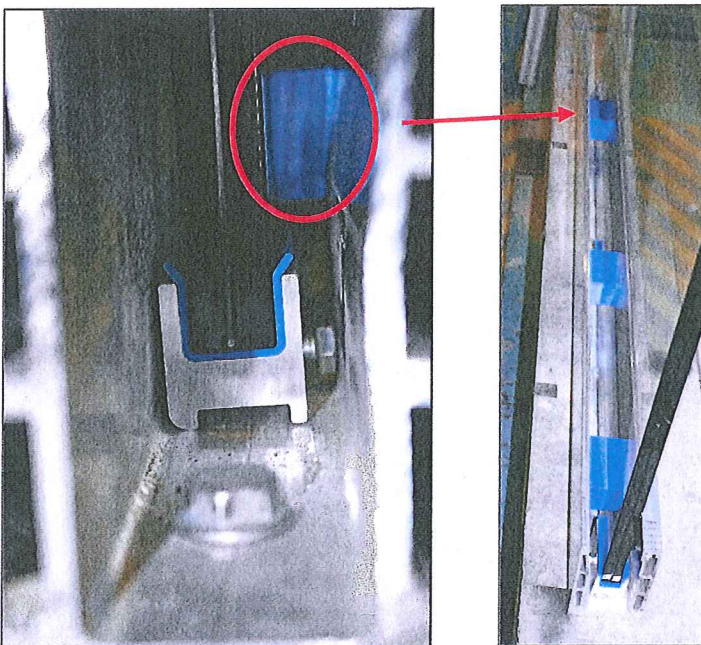
- Mechanical anchoring to the concrete beam via an aluminium profile (top – F85-1B63 or F85-1B62 – length = 1,15m) with 5 concrete screws of the marque Fischer (FBS II 12x110 50/35/10 US)
- Drawings: the cross-sections of the aluminium profile are given in the appendix





The 1212.4 DG41 was fastened in the profile with 3 glazing blocks at the top and 3 glazing blocks at the bottom.

The 1010.4 DG41 was fastened with just 3 glazing blocks at the top.



3 DESCRIPTION OF THE TESTS

The object of the test is to verify the behaviour of the balustrade under the load described in the Royal Decree on safety standards to be observed in football stadiums (July 6th, 2013 – publication July 15th, 2013): balustrade elements can resist, at the highest point, a load of 3kN/running meter. The tests are executed with a load of 20% on top of the theoretical required load.

The static horizontal outwardly directed linearly distributed load of 3,6kN/running meter was applied at 5cm from the top of the balustrade, during 10 minutes.

4 RESULTS OF THE TESTS

The following combinations comply with the Royal Decree:

- profile F85-1B63 with a tempered glass 1212.4 DG41
- profile F85-1B63 with a tempered glass 1010.4 DG41
- profile F85-1B62 with a tempered glass 1212.4 DG41
- profile F85-1B62 with a tempered glass 1010.4 DG41

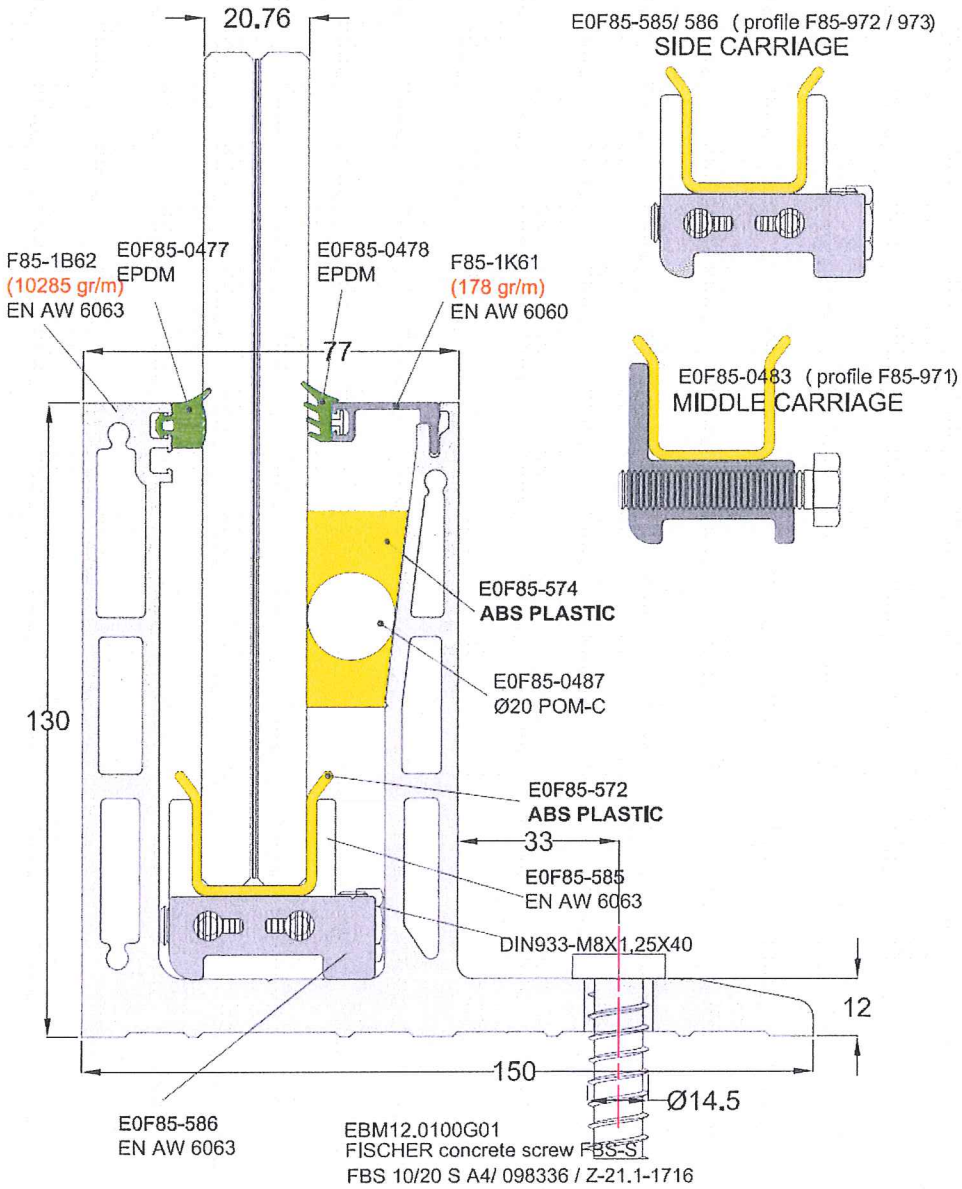
The combination of the profile F85-1B63 with a tempered glass 1010.4 DG41 did not break at a load of 5,8kN/m.

No further remarks were stated.



5 APPENDIX

CRYSTALLINE L-LINE TOP MOUNTED GLASS 10-DG41-10MM



CRYSTALLINE L-LINE TOP MOUNTED GLASS 10-4PVB-10MM

