

Test
TS EN ISO/IEC 17025
AB-0531-T

AB-0531-T

140.623.2 / 2016

09 / 2016

Merkez / Head Office

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DENEY SERTİFİKASI / Test Certificate

Müşterinin Adı ve Adresi / Customer's Name & Address: EKSEN METAL İNŞ. TUR. SAN. ve DIŞ TİC. LTD.
ŞTİ. / Dudullu OSGB Esenkent Mah. Muhterem Sok. No:59-1-2 Umraniye-İstanbul Türkiye

Numunenin Adı ve Tanımı / Sample's Name & Description: GS50 Glass Railing (AKPA ALUMINYUM SAN.
VE TİC. A.Ş.)

Numune Kabul Tarihi: 21.07.2016

Referans No: 2016.635

Acceptance Date of Item

Reference No

Uygulanan Normlar / Norms Applied: ASTM E 935 standard Test Methods for Performance of
Permanent Metal Railing Systems and Rails for Buildings

Sonuçlar / Results: ASTM E 935 : Success

For details, please see the report which is numbered 140.623.1 / 2016

Test Tarihi / Date of Test

22.07.2016

Sayfa Sayısı / Number of Pages

1/8

Deney laboratuvarı olarak faaliyet gösteren FTI Fasad Teknoloji Merkezi, TÜRKAK 'tan AB-0531-T numarası ile TS EN ISO/IEC 17025 standardına göre akredite edilmiştir.

FTI Façade Testing Institute accredited by TURKAK under registration number AB-0531-T for TS EN ISO/IEC 17025 as test laboratory.

Türk Akreditasyon Kurumu (TÜRKAK) deney laboratuvarlarının tanınırlığı konusunda Avrupa Akreditasyon Birliği (EU) ile Çok Taraflı Anlaşma ve Uluslararası Laboratuvar Akreditasyon Birliği (ILAC) ile karşılıklı tanıma anlaşması imzalamıştır.

Turkish Accreditation Agency (TURKAK) is a signatory to the European co-operation for Accreditation (EA) Multilateral Agreement (MLA) and to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) for the recognition of test reports.

Deney ve/veya ölçüm sonuçları, genişletilmiş ölçüm belirsizlikleri (olması halinde) ve deney metotları bu sertifikanın tamamlayıcı kısmı olan takip eden sayfalarda verilmiştir. Bu sertifika yalnız test edilen numuneye ait sonuçları içerir ve ekte sunulan ilgili test raporu ile birlikte geçerlidir.

The test and/or measurement results, the uncertainties (if applicable) with confidence probability and test methods are given on the following pages. This certificate includes the test results of the specimen which is identified above and its valid with the related test report.

140.623.1 / 2016 is revised as 140.623.2 / 2016 according to customer name and drawing



Mühür / Seal

Tarih / Date

09.09.2016

Test Faaliyetleri Yöneticisi

Testing Manager

Serhat ÇALAK

Laboratuvar Müdürü

Laboratory Manager

Ömer ARSLAN

F.15.22 İZEN NO: E-AGUSTOS 2016

TEST REPORT

Report Number : 140.623.2 / 2016

Report Date : 09.09.2016

Testing Reference : ASTM E 935 Standard Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings

Product : GS50 Glass Railing

Client : EKSEN METAL İNŞ. TUR. SAN. ve DIŞ TİC. LTD. STİ.

1. PREFACE

This report comprises of test and result, which was performed by FTI Façade Testing Institute at the address; Çakıl Mahallesi, Şehit Teğmen Tamer Aydın Sokak, No:76 34540 Çatalca - İstanbul/ TURKIYE.

Test sample comprises of a part of glass railing system which name is GS50 Glass Railing has been constructed by EKSEN METAL İNŞ. TUR. SAN. ve DIŞ TİC. LTD. STI and designed by AKPA ALUMINYUM SAN. VE TIC. A.S.

Test was carried out on 22 / 07 / 2016 for the determination of the glass railing system performance.

Test sample has been sent to FTI Façade Testing Institute's testing laboratories on 21 / 07 / 2016.

2. CLIENT

EKSEN METAL İNŞ. TUR. SAN. ve DIŞ TİC. LTD. STI.

Dudullu OSGB Esenkent Mah. Muhterem Sok. No:59-1-2 Umraniye-İstanbul Türkiye

3. TEST METHODS

The above mentioned test has been carried out as per the test method provided and classified on the standard indicated below. Test has been reported as the number of 140.623.2 / 2016 by Miss Nilay BULUT.

ASTM E 935 *Standard Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings

4. TEST DATE AND PARTICIPANTS

Tests were performed on 22 / 07 / 2016 with the following participants:

Mr. Öner ARSLAN	FTI	Laboratory Manager
Mr. Serhat ÇOLAK	FTI	Testing Manager
Mr. Sinan BAYRAKTAR	FTI	Testing Engineer

And partially by:

M. Ali UZUN	AKPA ALUMINYUM SAN. VE TIC. A.S.
Gülhan YUMURTACI	AKPA ALUMINYUM SAN. VE TIC. A.S.

5. DESCRIPTION OF TEST SAMPLE

Type of sample	Glass Railing System
System name	GS50 Railing
Dimensions of sample (LxH)	1200 mm x 1100 mm
Glass Type	10 mm Tempered + 1,52 PVB + 10 mm Tempered Glass

6. CONDITIONS

Date	:	22/07/2016
Local Temperature (°C)	:	26
Atmospheric Pressure (Mbar)	:	1016
Ambient Humidity (%)	:	54
Test Stand	:	Railing

7. TEST PERFORMANCE

7.1. Test Process

The test sample was fixed on test unit at 1200 mm x 1100 mm dimensions. The test load was applied on glass railing system unit separately. Applied forces to specific loading points are mentioned below.

7.1.1 Top Points of Glass

a) The required load of 1 kN per meter was applied to top points of glass for two points. (1kN equals approximately 100 kg.) As test method, Procedure of Quarter Point Rule which is specified in ASTM E 935-13 was used. Test loads were applied horizontally. This loading is maintained constantly for a 3 min. period. Loading points are shown in Figure 1 and relevant deflection measurements are shown in Table 1.

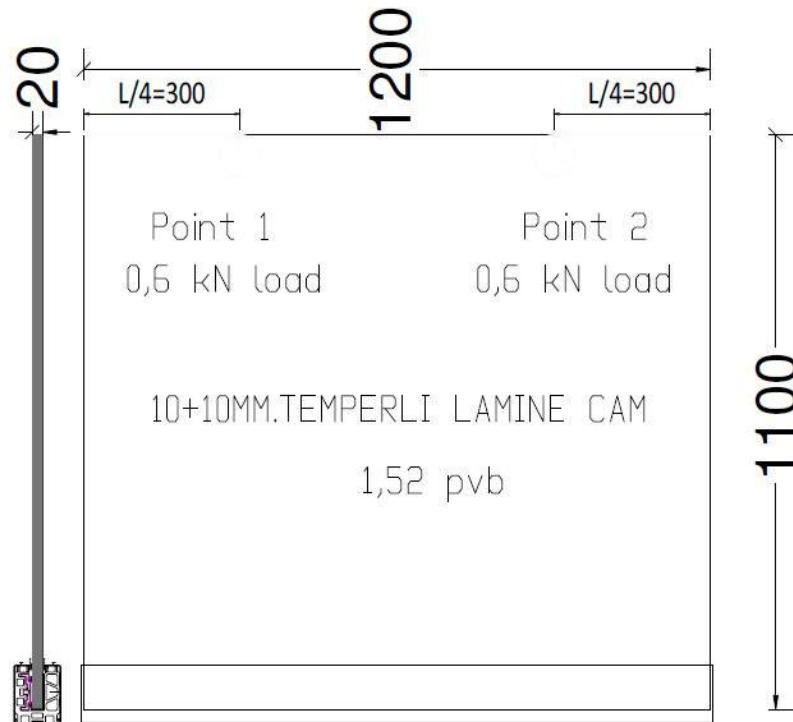


Figure 1. The figure for loading points (**Test No:** 2016.635.01)

Test No: 2016.635.01 (Uniform load)			
Total force (kN)	Duration (min.)	Point 1 deflection (mm)	Point 2 deflection (mm)
1,2	3	47	50
Residual Deformation		10	14

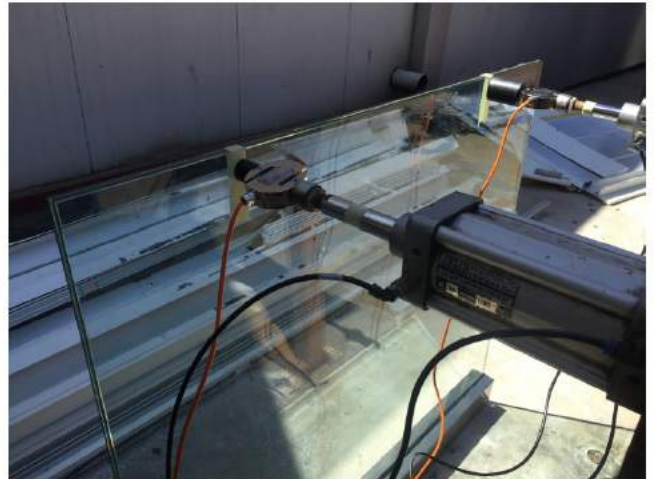
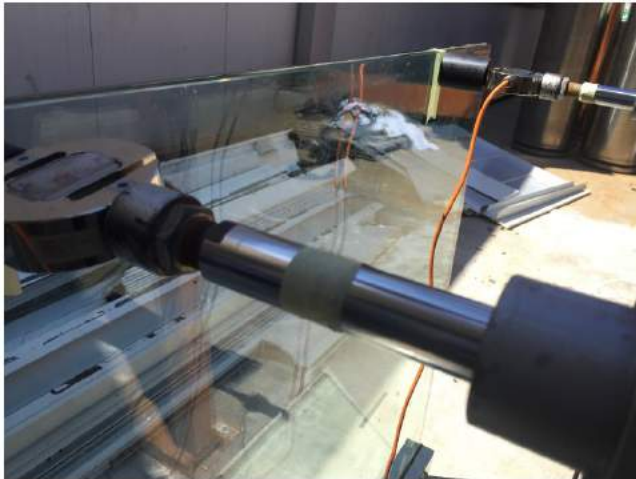
Table 1. Deflection measurements

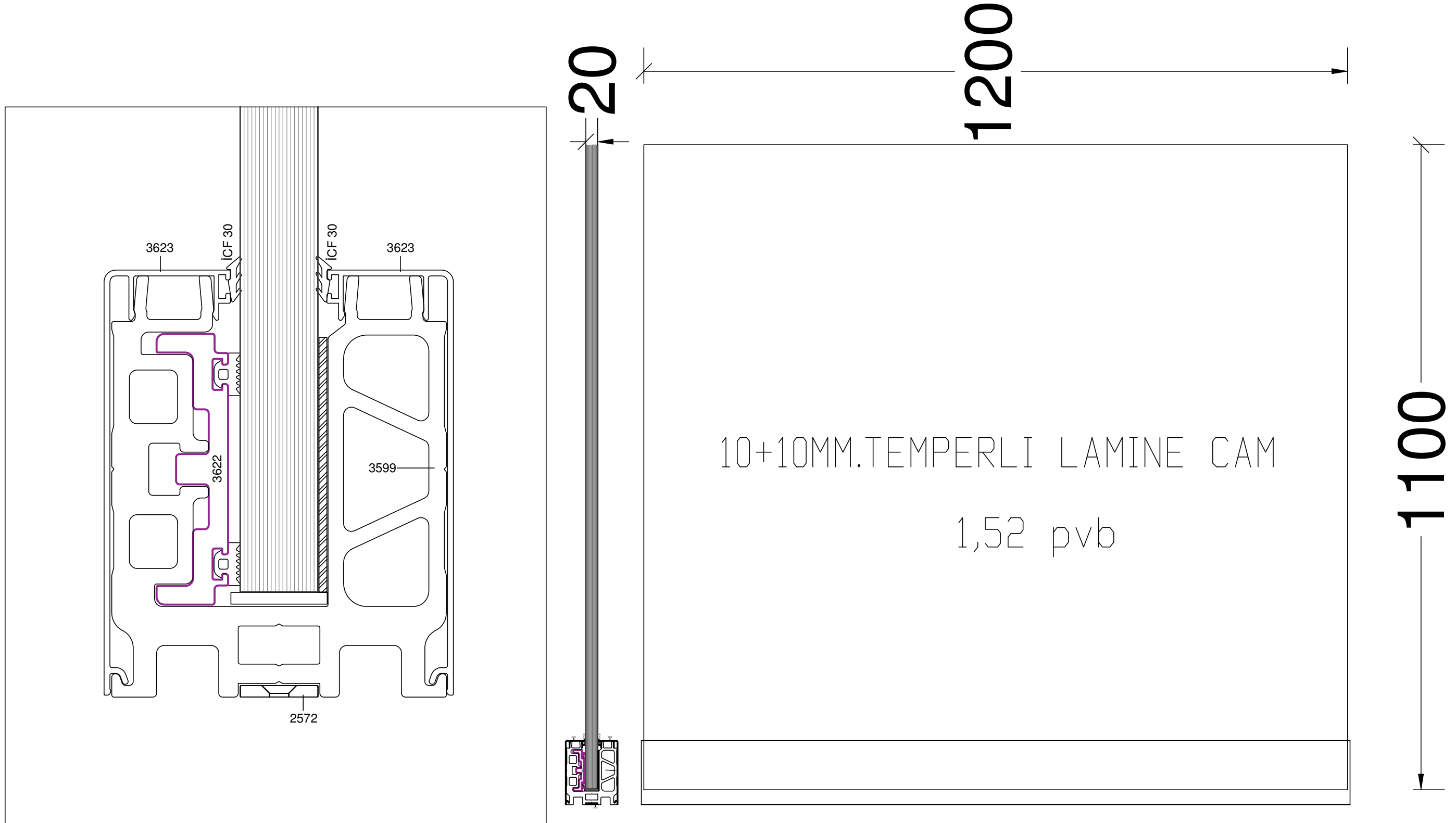
8. RESULT

Test	Force (kN)	Loading Points	Observation	Result
Horizontal Load	0,6	1	There was no failure criteria observed	SUCCESS
	0,6	2		

9. PHOTOS







NOTIFIED BODY NO	NB-2547	PROJECT	GS50 GLASS RAILING		
ACCREDITATION NO	AB-0531-T		GENERAL PROFILE DETAILS OF THE SYSTEM		
REPORT NO	140.623.1 / 2016	SAMPLE NO	2016.635	DATE	09.09.2016
PREPARED BY	N. BULUT	CLIENT	AKPA ALUMINYUM SAN. VE TIC. A.S.	REV.NO	A
CONTROL BY	S.ÇOLAK	EXPLANATION	RAILING PERFORMANCE		

