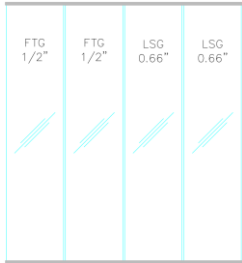


Test report

Resistance to shock impact according to

DIN 4103-1

Client	C.R. Laurence Co., Inc.	Address	2503 E. Veron Aveue Los Angeles, CA 90058-1826	
Designation	Glass partition	Identification	CRL FALL BROOK	
Graphic		Dimensions	Width	29 17/32"
			Height	133 55/64"
		Frame material	Aluminium	
		Construction depth	Frame	1 3/16"
		Glass structure	0,66" laminated safety glass with 0,03" PVB interlayer 0,5" fully tempered glass	
Grading test element	Internal non loadbearing partitions		DIN 4103-1	
	Soft impact - Verification procedure C		LSG 0,66"	drop height 16"
	Hard impact		FTG 1/2"	drop height 24"
		LSG 0,66"	fulfilled	
		FTG 1/2"	fulfilled	



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Testing laboratory	gbd Lab GmbH	Address	Steinebach 13a 6850 Dornbirn Austria
Sample number	P18/607 P18/608	Sample receipt	11.10.2018
Testing location	gbd Lab, Dornbirn	Testing period	11.10.2018
Test facility	Asset no. 2.041	Next calibration	---
Deviation from the standards	none		

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1 Task

The client, named on page 1, commissioned the company gbd Lab GmbH with the testing of resistance to shock impact on the provided element. No additional tests were required.

2 Instructions for use

This test report is intended to demonstrate the above characteristics for this element. This test report does not cover all the performance characteristics mentioned in the classification standard.

According to the manufacturer, the test element originates from the company's own production and was selected by the customer as a representative component.

This test does not allow any statement to be made about further performance and quality determining properties of the present construction, in particular weathering and ageing phenomena were not taken into account.

3 Other applicable standards

3.1 Test standards

DIN 4103-1:2015-06	Internal non loadbearing partitions Part 1: Requirements and verification
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3.2 Classification standards

DIN 4103-1:2015-06	Internal non loadbearing partitions Part 1: Requirements and verification
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4 Test item

Following documents have been provided by the client:

- Sectional drawings
- Views
- Specimen description

The sampling report can be taken from the customer's documentation. There has not been a complete verification of objective correctness.

5 Implementation

5.1 Installation in the test facility

The test specimen is assembled in the test facility by the client.

The test specimen was air-conditioned at $68 \pm 9^{\circ}\text{F}$ and $50 \pm 25\%$ relative humidity for at least 4 hours.

5.2 Test sequence

- 6.1 Soft impact - Verification procedure C
- 6.2 Hard impact
- 6.3 Dismantling and control

5.3 Persons present during the test

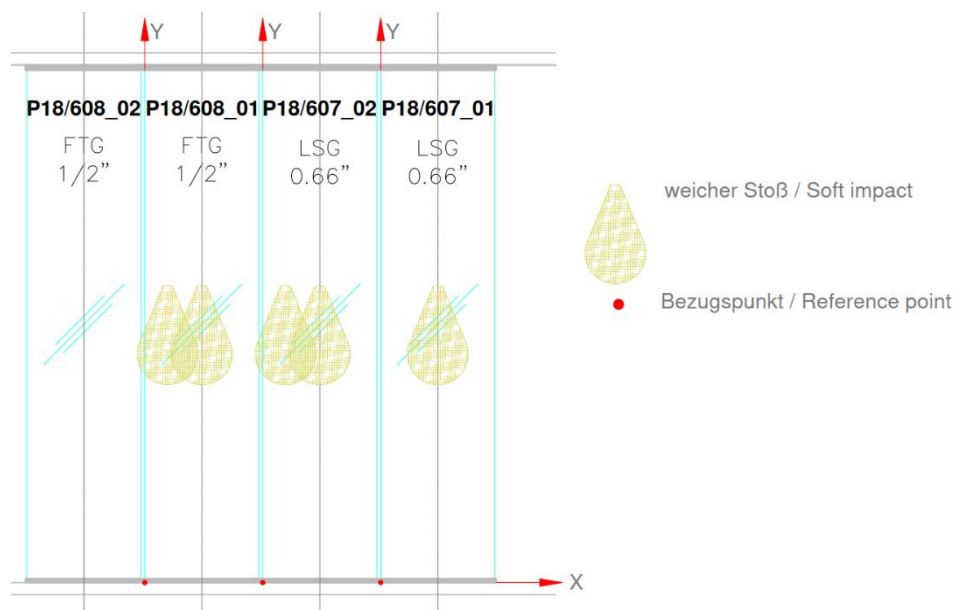
Examiner	Michael König	gbd Lab
Client	JH	CRL

6 Test procedure and testing results

6.1 Soft impact

The soft impact test was carried out with the verification procedure C, structural damage corresponding to ETAG 003 with a 110 lb 4 oz leather bag filled with glass beads in accordance with ISO 7892.

The points of impact were chosen on a horizontal line 59" above the floor according to the sketch below.



0,66" laminated safety glass with 0,03" PVB interlayer

Sample number	Drop height	Point of impact	Judgement
[---]	["]	["]	[---]
P18/607_01	24	X: 15 Y: 59	Glass breakage Glass slid from retaining profile
P18/607_02	7 7/8	X: 15 Y: 59	No damage
P18/607_02	7 7/8	X: 6 Y: 59	No damage
P18/607_02	16	X: 15 Y: 59	No damage
P18/607_02	16	X: 6 Y: 59	No damage

The glass structure 0,66" laminated safety glass with 0,03" PVB interlayer in combination with the frame construction fulfils the criteria of DIN 4103-1 for the soft impact with a maximum pendulum drop height of 16".

0,5" fully tempered glass / Glass recess on top 0,59"

Sample number	Drop height	Point of impact	Judgement
[---]	["]	["]	[---]
P18/608_01	7 7/8	X: 15 Y: 59	No damage
P18/608_01	16	X: 15 Y: 59	No damage
P18/608_01	24	X: 15 Y: 59	Glass slid from retaining profile

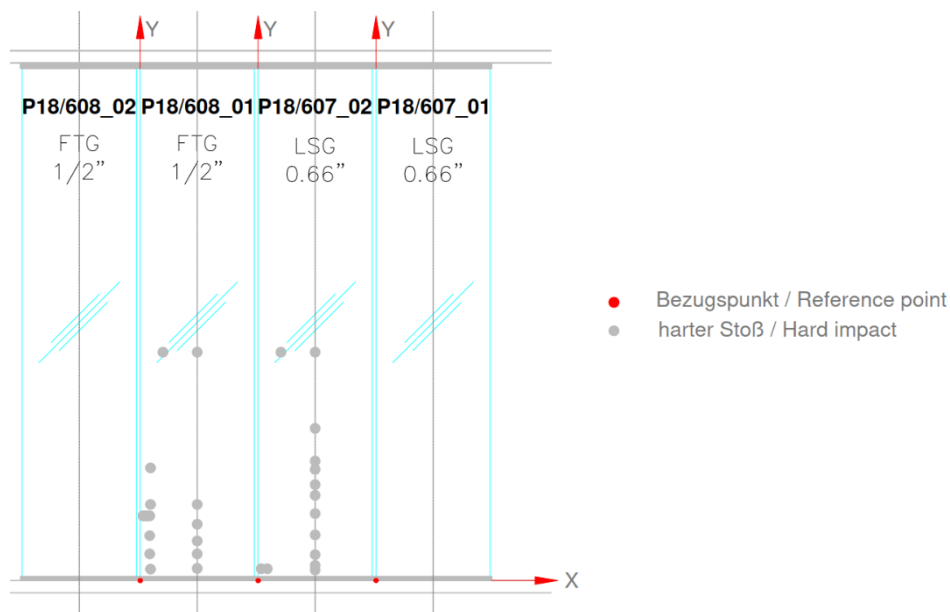
0,5" fully tempered glass / Glass recess on top 0,79"

Sample number	Drop height	Point of impact	Judgement
[---]	["]	["]	[---]
P18/608_01	24	X: 15 Y: 59	No damage
P18/608_01	24	X: 15 Y: 59	Keine Beschädigungen No damage

The glass structure 0,5" fully tempered glass in conjunction with the frame construction and 0,79" recess in the upper frame profile meets the criteria of DIN 4103-1 for the soft impact with a maximum pendulum drop height of 24".

6.2 Hard impact

The hard impact test was performed with a 2 lb 3 oz steel ball with a diameter of 2 1/2". The points of impact were chosen according to the sketch below.



0,66" laminated safety glass with 0,03" PVB interlayer

Sample number	Drop height	Point of impact	Judgement
[---]	["]	["]	[---]
P18/607_02	39	X: 15 Y: 59	No damage
P18/607_02	39	X: 6 Y: 59	No damage
P18/607_02	39	X: 15 Y: 4	No damage
P18/607_02	39	X: 2,5 Y: 3	No damage
P18/607_02	39	X: 0,8 Y: 3	No damage
P18/607_02	39	X: 15 Y: 2,8	No damage
P18/607_02	39	X: 15 Y: 6,7	No damage
P18/607_02	39	X: 15 Y: 12	No damage
P18/607_02	39	X: 15 Y: 17	No damage
P18/607_02	39	X: 15 Y: 22	Glass breakage
P18/607_02	39	X: 15 Y: 25	Glass breakage
P18/607_02	39	X: 15 Y: 29	Glass breakage
P18/607_02	39	X: 15 Y: 31	Glass breakage
P18/607_02	39	X: 15 Y: 35	Glass breakage
P18/607_02	39	X: 15 Y: 59	No further damage

The glass structure 0,66" laminated safety glass with 0,03" PVB interlayer in connection with the frame construction fulfils the criteria of DIN 4103-1 for the soft impact.

0,5" fully tempered glass

Sample number	Drop height	Point of impact	Judgement
[---]	["]	["]	[---]
P18/608_01	39	X: 15 Y: 59	No damage
P18/608_01	39	X: 15 Y: 3	No damage
P18/608_01	39	X: 15 Y: 6,9	No damage
P18/608_01	39	X: 15 Y: 10	No damage
P18/608_01	39	X: 15 Y: 15	No damage
P18/608_01	39	X: 15 Y: 20	No damage
P18/608_01	39	X: 2,8 Y: 3	No damage
P18/608_01	39	X: 2,6 Y: 6,9	No damage
P18/608_01	39	X: 2,6 Y: 12	No damage
P18/608_01	39	X: 2,6 Y: 17	No damage
P18/608_01	39	X: 1,8 Y: 17	No damage
P18/608_01	39	X: 1,2 Y: 17	No damage
P18/608_01	39	X: 0,79 Y: 17	No damage
P18/608_01	39	X: 3 Y: 20	No damage
P18/608_01	39	X: 3 Y: 29	No damage

The glass structure 0,5" fully tempered glass in connection with the frame construction fulfils the criteria of DIN 4103-1 for the soft impact.

6.3 Dismantling and control

The implementation of the construction corresponded to the default of the system description and the presented drawings. There has not been a complete verification of objective correctness.

7 Summary

The glass structures in connection with the frame construction meet the criteria of DIN 4103-1 for shock impacts.

The soft impact test was carried out in accordance with the verification procedure C. The glass structures can be graded for the soft impact with the following drop heights:

0,66" laminated safety glass with 0,03" PVB inner layer	Drop height 16"
0,5" fully tempered glass	Drop height 24"



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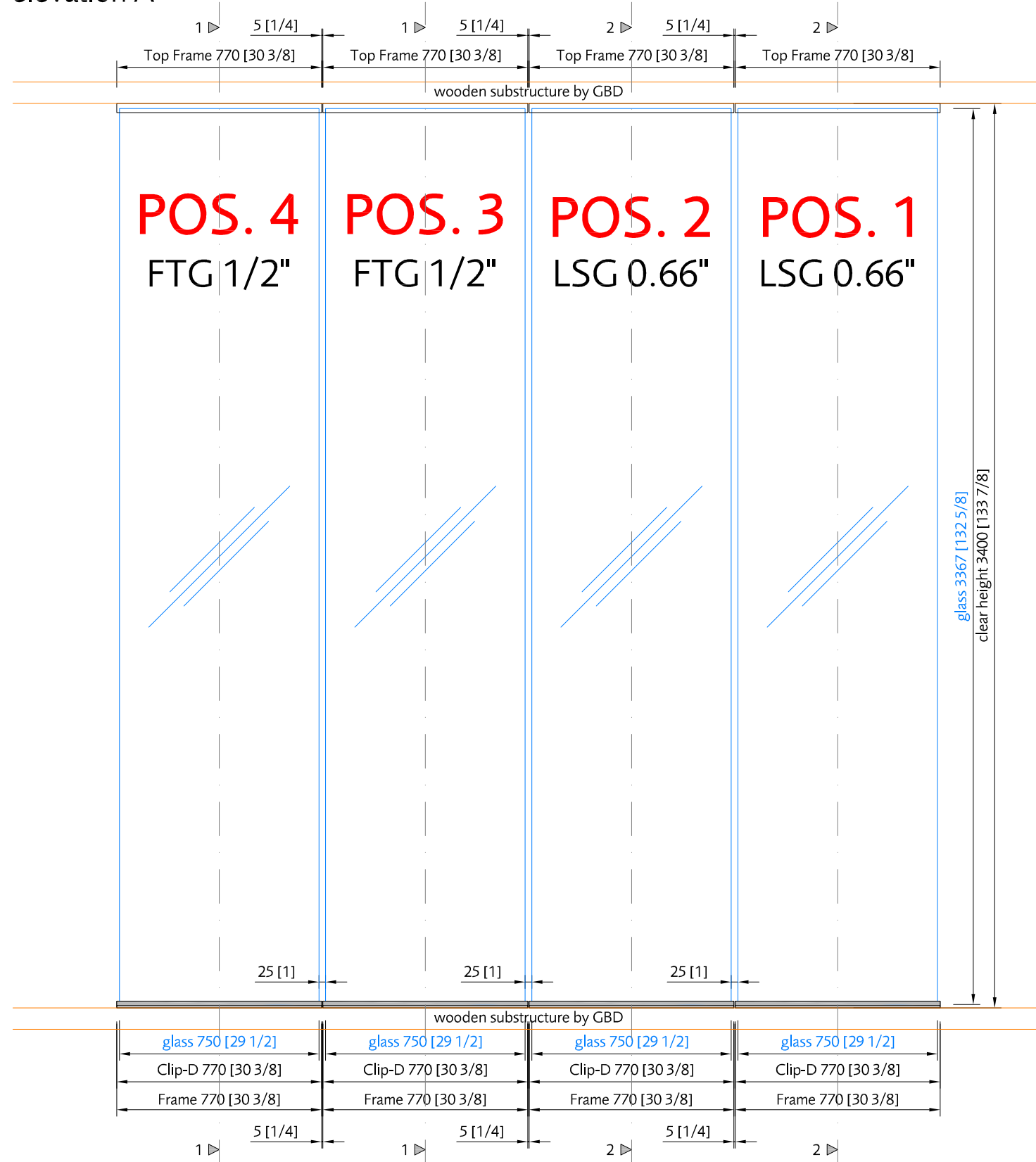
Prüfer / Examiner

Anlagen / Appendices:

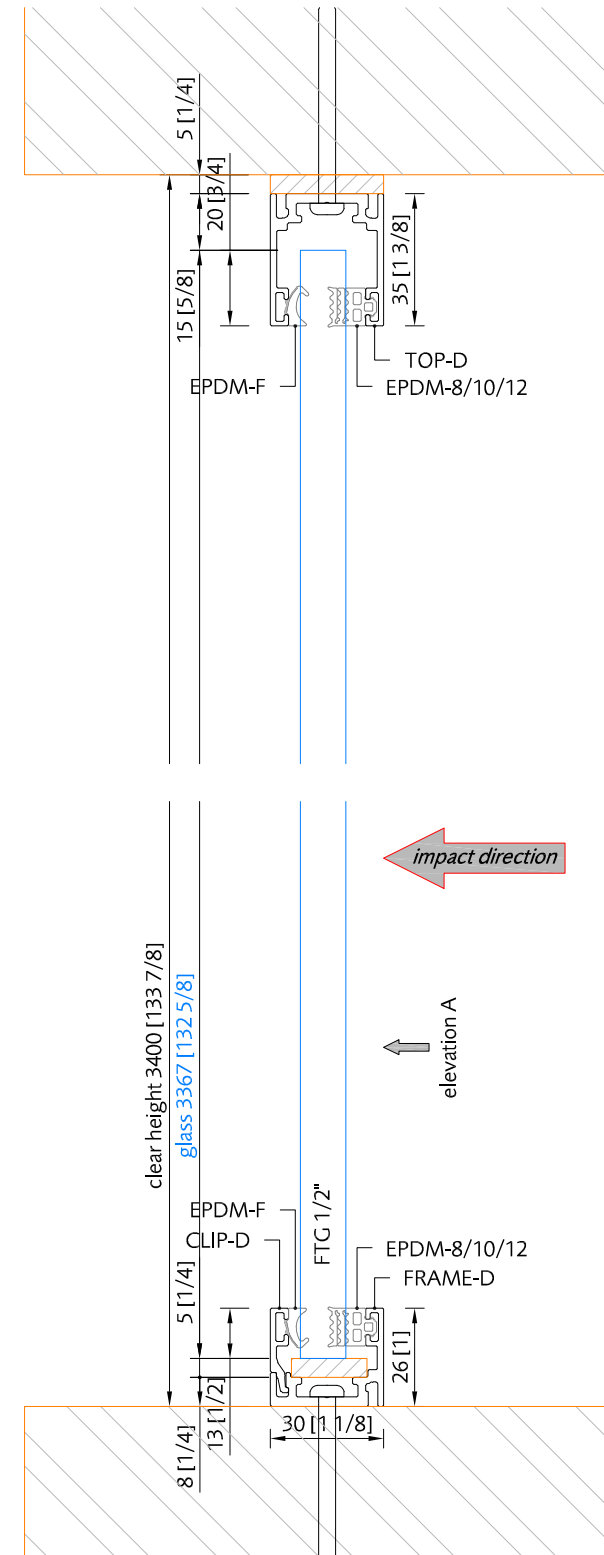
Kundenunterlagen / Client documents

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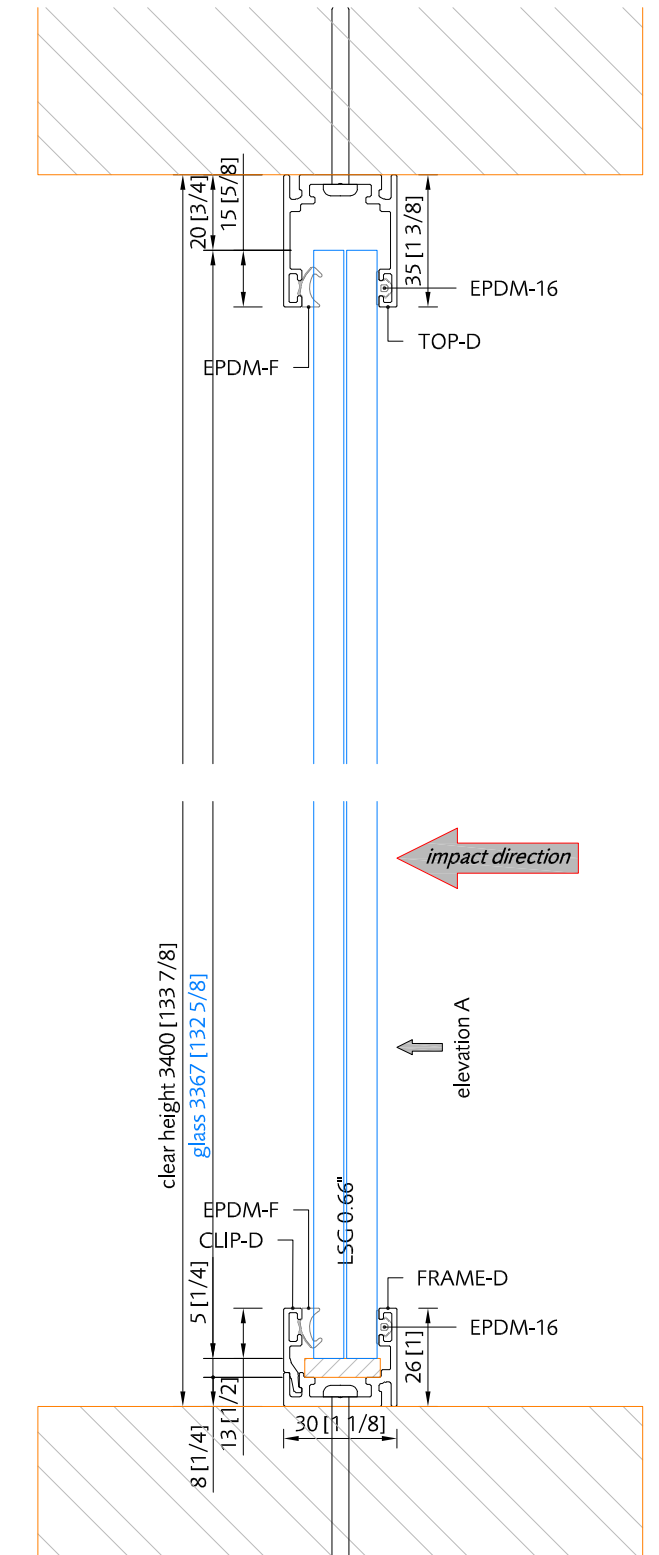
elevation A



section 1-1 | FTG 1/2"



section 2-2 | LSG 0.66"



gbu
L19_1101_01.1
Kundenunterlagen



Project	CRL FALLBROOK			
Client				
Title	Resistance to shock impact according to DIN 4103-1			
Drawn	Scale	Drawing number	Sheet	Rev
Edited	1:2	007	T01	CRL
Approved	1:20			

Specimen description

Test element	
Manufacturer name + address	C.R. Laurence Co., Inc. 2503 E. Vernon Avenue CA 90058 - 1826
Sample for determining the following characteristics (description)	Resistance of the partition walls against a shock effect in accordance with DIN 4103-1
Profile system	CRL FALL BROOK
Frame material	Aluminium EN AW-6060 T66
Number of elements	4
Fixed profile	
Main profiles	Frame-D (floor profile) Top-Frame-D (ceiling profile)
Additional profiles	Clip-D
Filling	
Construction	Pos. 1/2 - 0,66" laminated safety glass with 0,03" PVB inner layer Pos. 2/3 - 0,5" fully tempered glass
Outside dimension (wxh)	Overall test setup 121 27/32" x 133 55/64" Single glass pane 29 17/32" x 132 9/16"
Glass overlap fixed profile	Floor Profile Frame 0,5" Ceiling Profile Top Frame LSG 0,6" FTG 0,8"
Whole thickness	Floor/Ceiling Profile 1,2" LSG 0,66" FTG 0,5"
Edges	All edges polished
Element weight	LSG single pane 222 11/16 lb FTG single pane 167 1/64 lb
Installation of the filling	
Glazing gasket	Material: TPE-Coex, 60+/-5° Shore A + PP
Glass retaining strip	
Shipping Name / Model / Item No.	Clip-D
corner connection	blunt
Attachment	snapped
Responsible agent	JH

