

# PL-14 Level In

INSTALLATION INSTRUCTIONS



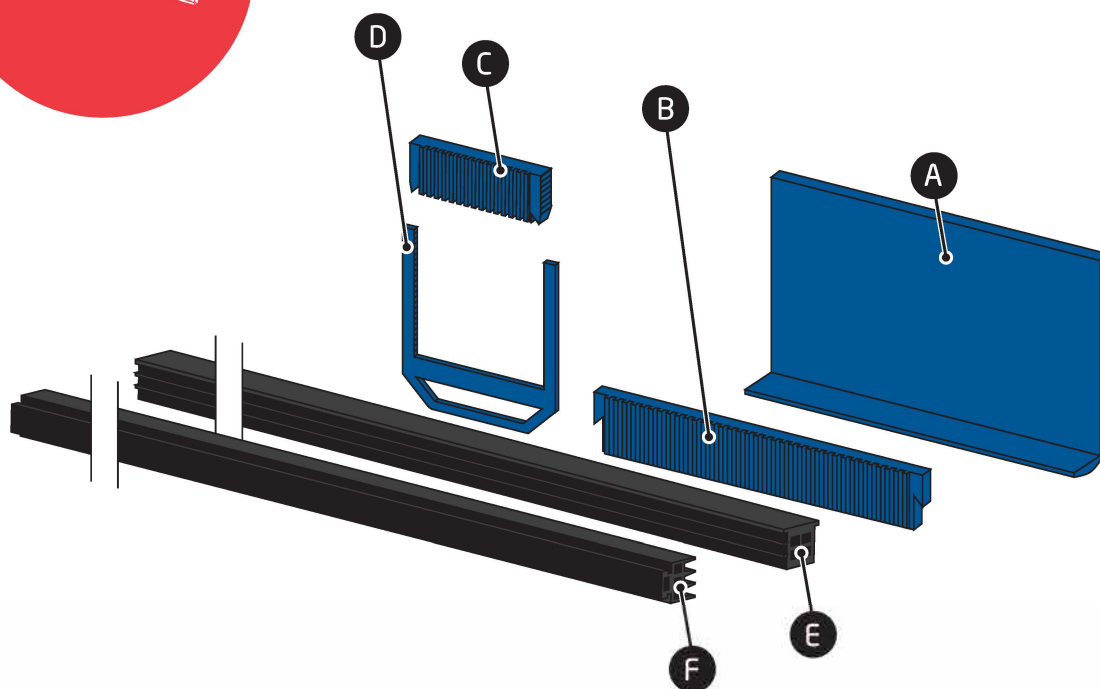
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Dele til produktet

N°	Elementer	LG	
A		--	10
B		--	10
C		--	10
D		--	10
E		2500	1
F		2500	1

**\*The PL-14 Level In Kit tillader kun glaspaneler med 2 eller 4 2 or 4 butyllag.**

### Nødvendige elementer ikke inkluderet

N°	Elementer	
1	BR-2041	
2	BR-2039	

### Advarsel

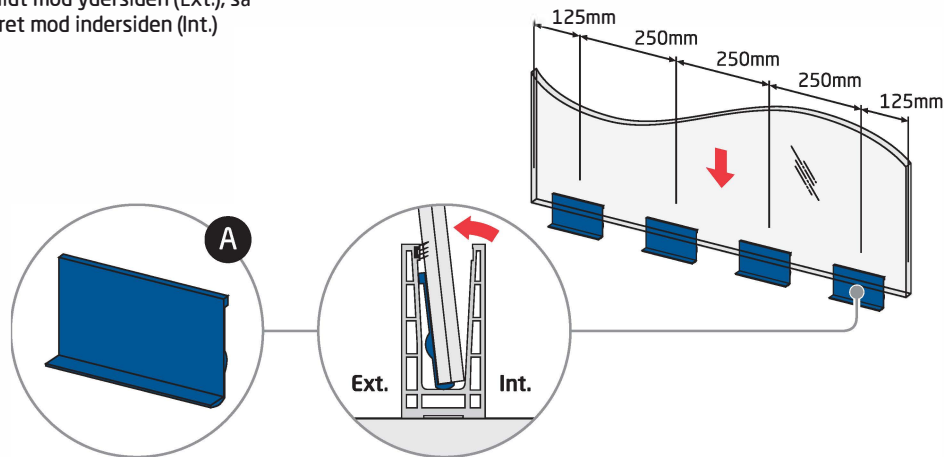


Brugeren er ansvarlig for at bestemme hvorvidt oplysningerne angivet egner sig til det specifikke formål, som produktet vil blive brugt til. På grund af den store mangfoldighed af materialer der findes på markedet samt de mange forskellige anvendelsesformer, der er uden for vores kontrol, anbefaler vi, at der i hvert tilfælde foretages praktiske tests og tilstrækkelige kontroller for at sikre produktets egnethed i hver enkelt applikation. Indholdet af dette dokument må ikke reproducere, helt eller delvist, uden skriftlig tilladelse fra COMENZA.

## Step 1 - Installering af kilerne **A**

Installer den L-formede kile (del "A" fra PL-14 Level In kittet) mod profilens yderside med en maksimal afstand på 250 mm mellem kilerne og 125 mm fra glaspanelets kanter (afstandene refererer til midterpunkterne i kilerne).

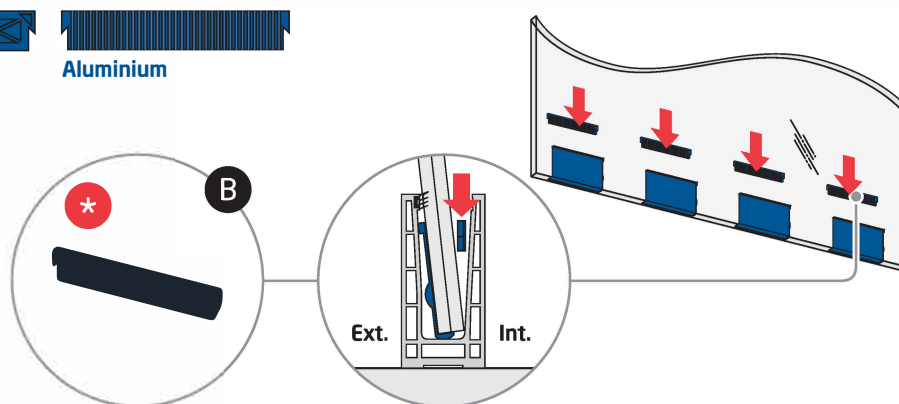
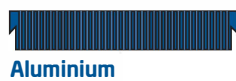
Glasset skal vippes lidt mod ydersiden (Ext.), så det kan justeres lodret mod indersiden (Int.) senere.



## Step 2 - Installering af "Bundkiler" **B**

Installer de nederste "Bundkiler" (del "B" fra PL-14 Level In kittet) direkte overfor (modsat) de tidligere installerede "A" kiler. Lad dem falde mellem glas og profil, uden at spænde dem.

### POSITION AF KILER:



\* Sørg for, at kilerne er installeret korrekt ved at følge "glasside" indikationen

Ext.: yderside  
Int.: inderside

**Step 3 - Installering af "Topkiler" C og del D**

Installer de øvre "Topkiler" (del "C" med sikkerhedsenheden "D" fra PL-14 Level In kittet), der er anbragt mellem de nederste "B" bundkiler.

**POSITION AF KILER:**



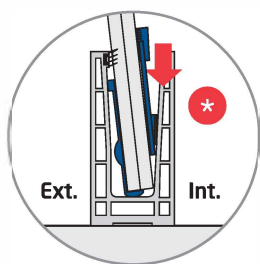
Glaz



Aluminium

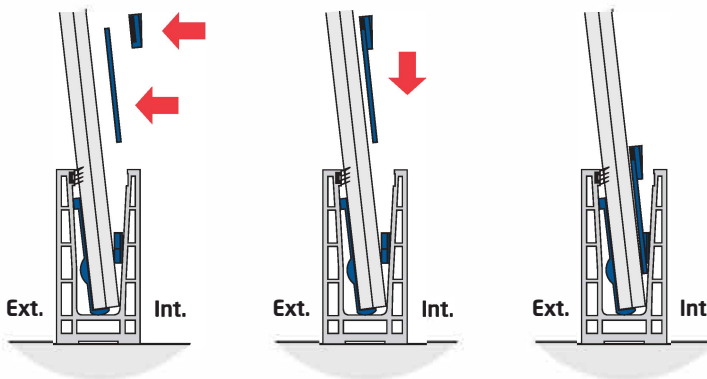


\*Disse kiler skal installeres i deres højeste position for at muliggøre vertikal justering (vipning) af glasset mod indersiden senere.

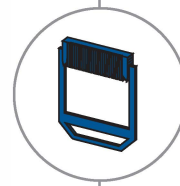
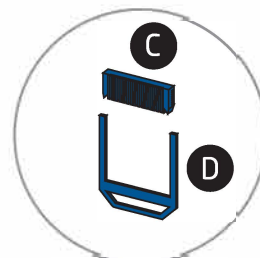


Ext.: yderside  
Int.: inderside

Hold glasset ved dets øverste del, træk det mod det indvendige så kilerne falder ned, men uden at gå ud over en lodret position. For at påbegynde den vertikale justering, start med at have glasset justeret/vippet lidt mod ydersiden.

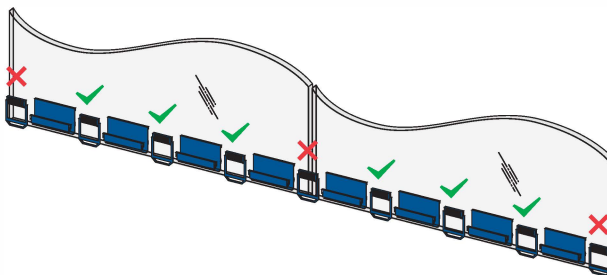


Det midterste område af de øvre "C" kiler eller "Topkiler" skal passe sammen med den højeste del af sikkerhedsanordningen "D" for at sikre, at sikkerhedsanordningen kan få fuld kontakt med profilens bund.



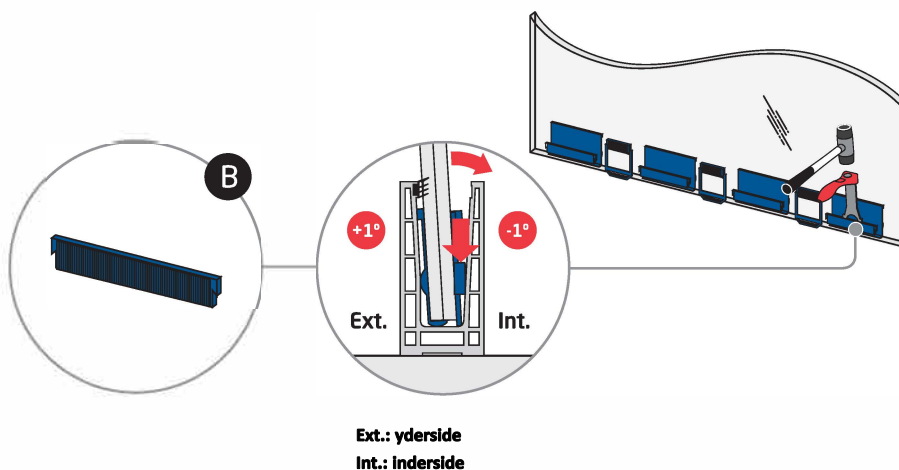
**Vigtigt:**

De øverste "Topkiler" skal placeres mellem "Bundkilerne", men aldrig ved siden af glaspanelernes kanter.



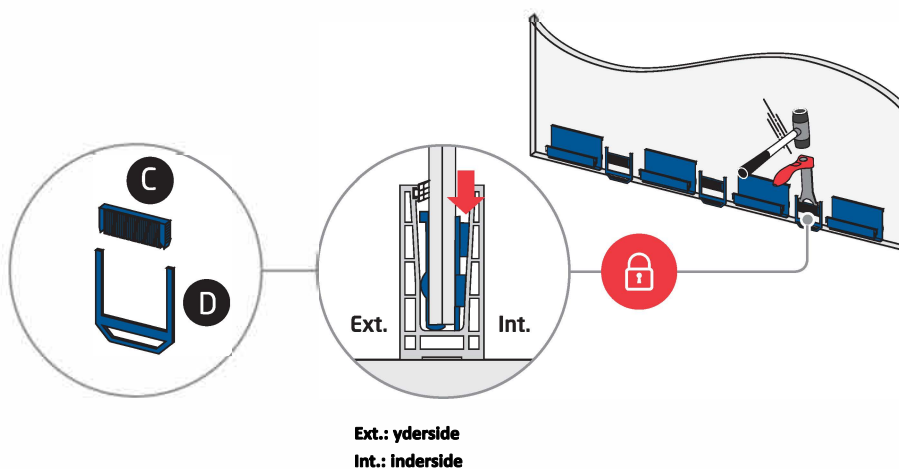
#### Step 4 - Lodret justering med "Bundkilen"

Lodret justering (vipning) af glasset udføres ved at banke de nederste "B" kiler eller "Bundkiler" nedad, da det får glasset til at vippe fra ydersiden mod indersiden. Bank "B" kilerne nedad indtil en lodret position er opnået.



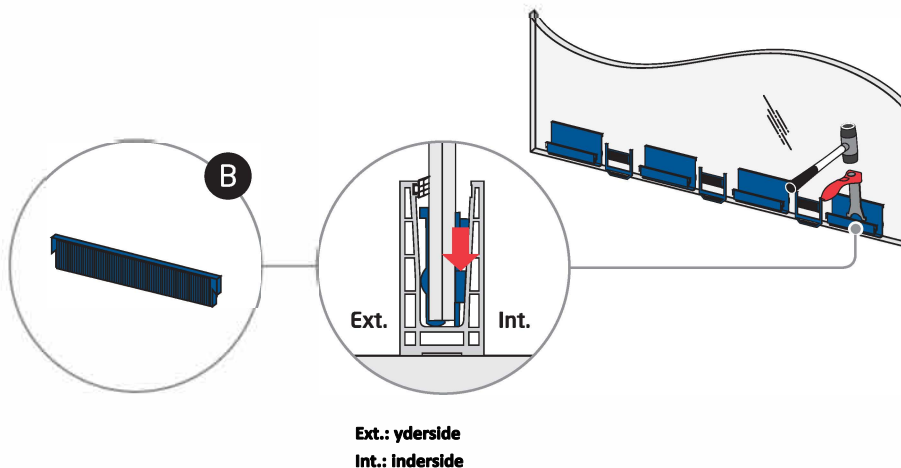
#### Step 5 - Lås positionen af "Topkilerne"

Når glasset er justeret lodret, skal du let ramme den øverste "C" kile eller "Topkile" for at låse den vertikale indstilling og forhindre glasset i at skifte eller vippe mod indersiden.



### Step 6 - Fastgørelse af glasset ved hjælp af "Bundkilerne"

Når glasset er blevet justeret til en lodret position, skal det fastgøres. Bank de nederste "B" kiler eller "Bundkiler" og de øvre "C" kiler eller "Topkiler" nedad, for så glasset kan tåle en tryklast. Hvis det bliver nødvendigt at rette en smule på positionen, kan du gøre det ved at slå på de øvre kiler.

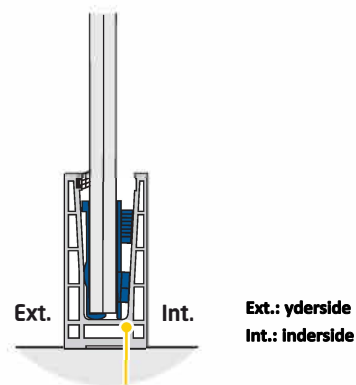
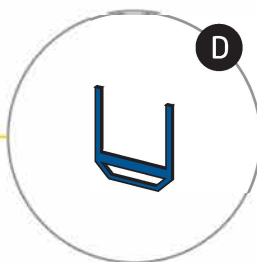


### Step 7 - Kontrol af sikkerhedsanordningen



**Vigtigt:**

Sikkerhedsanordningen for "Topkilen" (del "D") skal presses helt ned mod bunden af profilet. Tryk manuelt ned på de øvre faner af den U-formede sikkerhedsanordning (del "D" fra PL-14 Level In kittet), indtil den når en position, hvor den er helt presset mod bunden af profilet.





**Leverandør:**  
**Comenza. S.I.**  
Avda. Benigno Rivera 100,  
Pol. Ind. Ceao 27003 (Lugo), Spain  
T +34 982 207 227  
F +34 982 209 589

[www.comenza.com](http://www.comenza.com)  
[sales@comenza.com](mailto:sales@comenza.com)

**Distributør:**  
**Interglas ApS**  
Kornmarksvej 10  
2605 Brøndby, Denmark  
T +45 21216363

[www.interglas.dk](http://www.interglas.dk)  
[interglas@interglas.dk](mailto:interglas@interglas.dk)



# ***GlassFit SV-1401 TOP***

Test Report 18-015  
Denmark DS/EN 1991-1-1 DK NA:2013



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## 1. INTRODUCTION

On May 19<sup>th</sup> 2018 the balustrade system **GlassFit SV-1401 TOP** was tested according to the requirements of **DS/EN 1991-1-1 DK NA:2013 - National Annex to Eurocode 1: Actions on structures – Part 1-1: General actions – Densities, self-weight, imposed loads for buildings**. Country of application: Denmark.

The testing was carried out by Comenza Engineers at Comenza's test facilities at Pol. Ind. Ceao, 27003, Lugo, Spain.

This report summarises the test results obtained during the test programme and does not provide interpretation of those results.

## 2. TEST SAMPLES

The aluminium channel tested was designated as **GlassFit SV-1401 TOP**. The fixing system was designated as **PL-14**. The system is shown in Figure 1 and Figure 2.

The channel was installed by Comenza personnel.

## 3. TEST PROGRAMME

A horizontal line load was carried out on the aluminium channel with the following glass type installed:

- 17.52mm Laminated Tempered Glass with PVB foil 8/8/4 – size (w x h) 1000 mm x 975 mm

## 4. TEST METHOD

The channel was bolted to the top of a concrete block. The 1.0 m length of channel was bolted to the block at 250 mm centres using the appropriate fixings.

The appropriate thickness glass panel was fitted into the channel using the "Level In / PL-14" adjustable fixing system such that the plastic clip was to the inside face of the glass (see Figure 2).

A horizontal imposed line load was applied to the glass at a height of 1.000 mm above de datum level of the floor and the deflection measured at the top central point of the panel 1.000 mm above de datum level of the floor. The load was applied via a hydraulic ram and the deflection measured using a digital electronic displacement transducer (see Plate 1 and 2, and Figure 1).

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## 5. RESULTS

The test was carried out according with the guidance given in **DS/EN 1991-1-1 DK NA:2013 - National Annex to Eurocode 1: Actions on structures – Part 1-1 : General actions – Densities, self-weight, imposed loads for buildings.**

This standard categorises partition walls and parapets for areas of use depending on the loads they have achieved under testing.

The loads achieved by the Comenza Glassfit SV-1401 glazing system tested under horizontal imposed line load are given in Table 1.

All figures quoted in Table 1 contain no safety factors and are direct loads as achieved by the system under test conditions.

Table 2 summarises the suitability of the tested system in accordance with Table 6.12 of **DS/EN 1991-1-1 DK NA:2013 - National Annex to Eurocode 1: Actions on structures – Part 1-1 : General actions – Densities, self-weight, imposed loads for buildings.**

**NOTE: The results given in this report apply only to the samples that have been tested.**

**END OF REPORT**

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## TABLES

**Table 1** – Summary of Performance of Comenza Balustrade System Tested under Horizontal Imposed Line Load

Base	Glass	Height of Applied Load mm	Working Line Load for System (kN/m)	Deflection at Working Line Load for System (mm)
GlassFit SV-1401 Top Level In / PL-14	Laminated Tempered PVB Glass 17.52 mm	1000	0.5	11.08
GlassFit SV-1401 Top Level In / PL-14	Laminated Tempered PVB Glass 17.52 mm	1000	1	26.74

**Table 2** – Summary of Suitability of Comenza Balustrade System in Accordance with Table 6.12 of DS/EN 1991-1-1 DK NA:2013- Horizontal loads on partition walls and parapets

Loaded areas	Description	Horizontal uniformly Distributed Line Load qk [kN/m]	SV-1401 TOP Level In PL14 17.52mm LT PVB Glass
Category A	<b>A:</b> Areas for domestic and residential activities	0,5	✓
Category B and C1	<b>B:</b> Office areas	0,5	✓
	<b>C1:</b> Areas where people may congregate: Areas with tables	0,5	✓
Category C2 - C4 and D	<b>C2:</b> Areas where people may congregate: Areas with fixed seats <b>C3:</b> Areas where people may congregate: Areas without obstacles for moving people <b>C4:</b> Areas where people may congregate: Areas with possible physical activities <b>D1:</b> Shopping areas: Areas in general retail shops <b>D2:</b> Shopping areas: Areas in large shops and department stores	1,0	✓
Category C5	<b>C5:</b> Areas where people may congregate: Areas susceptible to large crowds	3,0	-

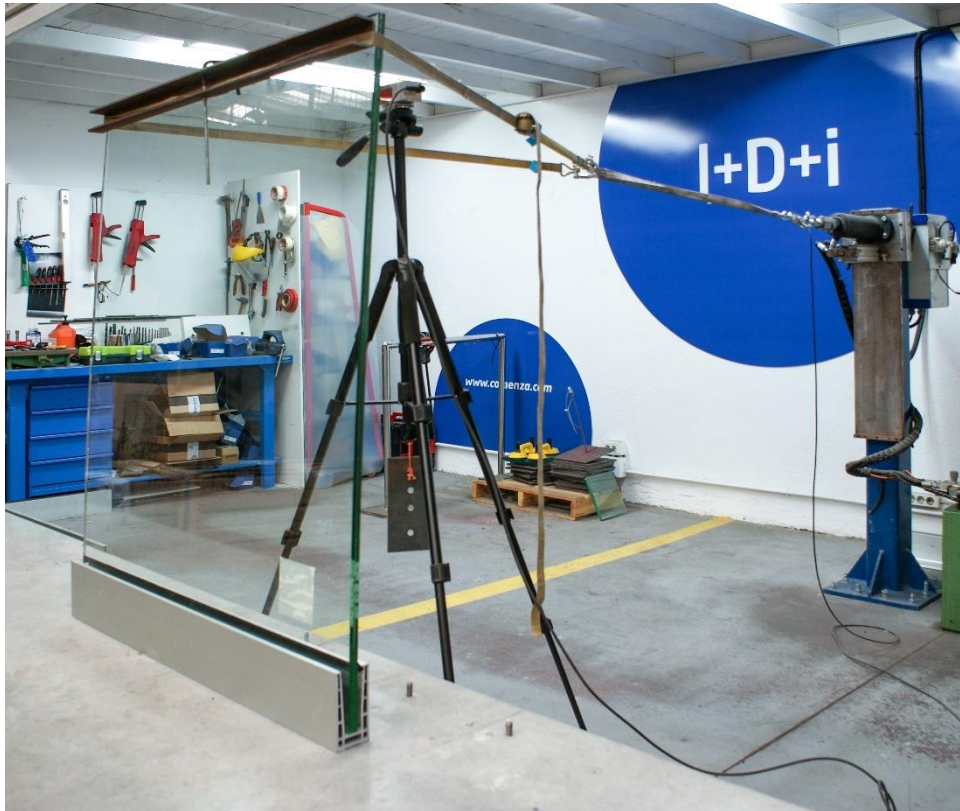
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## PLATES



**Plate 1** – Generic Test Arrangement

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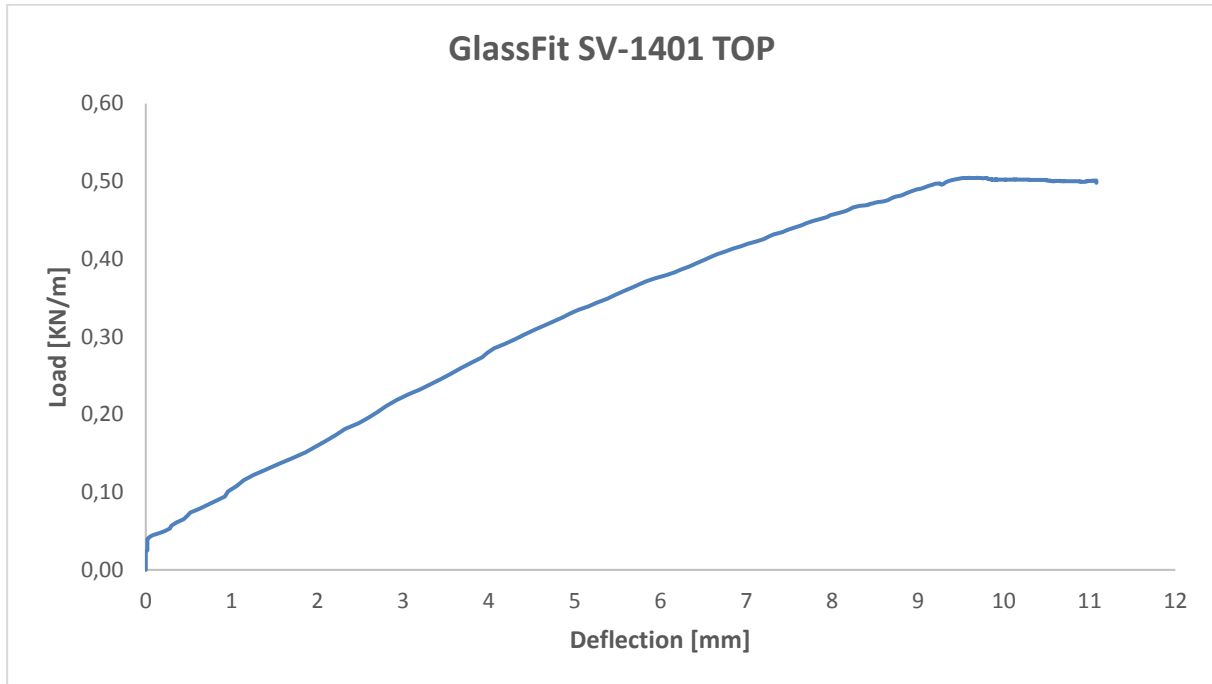


**Plate 2 – Generic Test Arrangement**

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## CHARTS

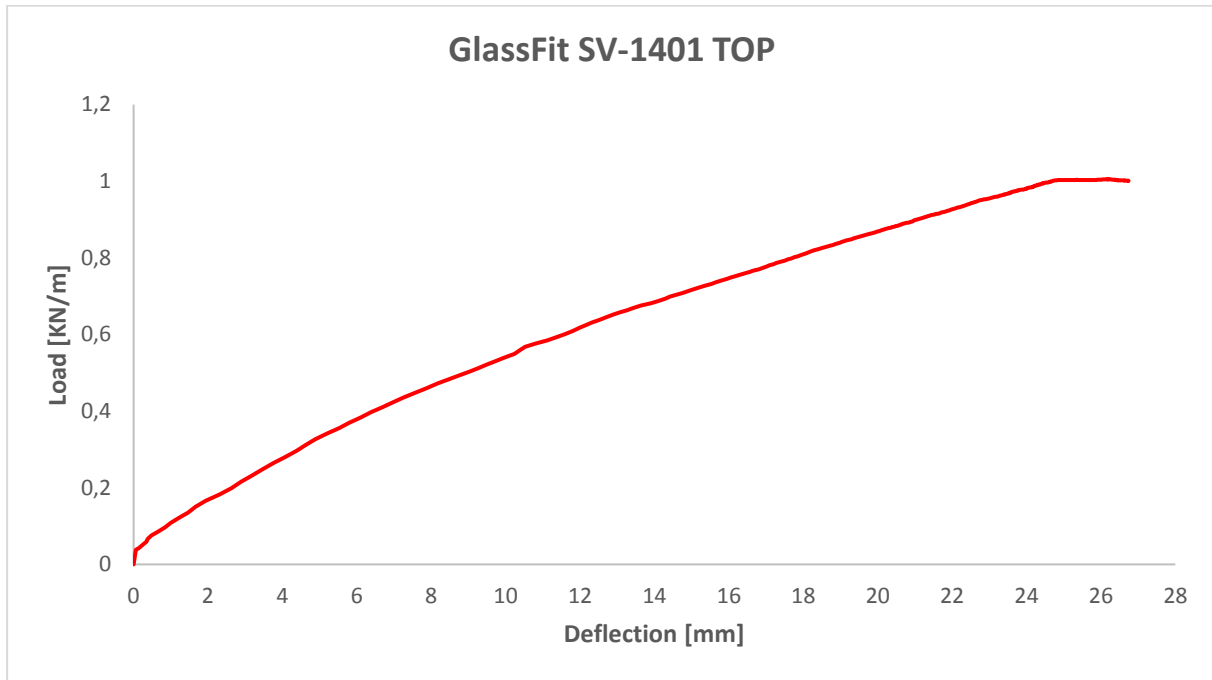
**Chart 1** – Load Versus Deflection Curves for Comenza Glassfit SV-1401 Top Level In / PL -14 [Q=0,5 kN/m]



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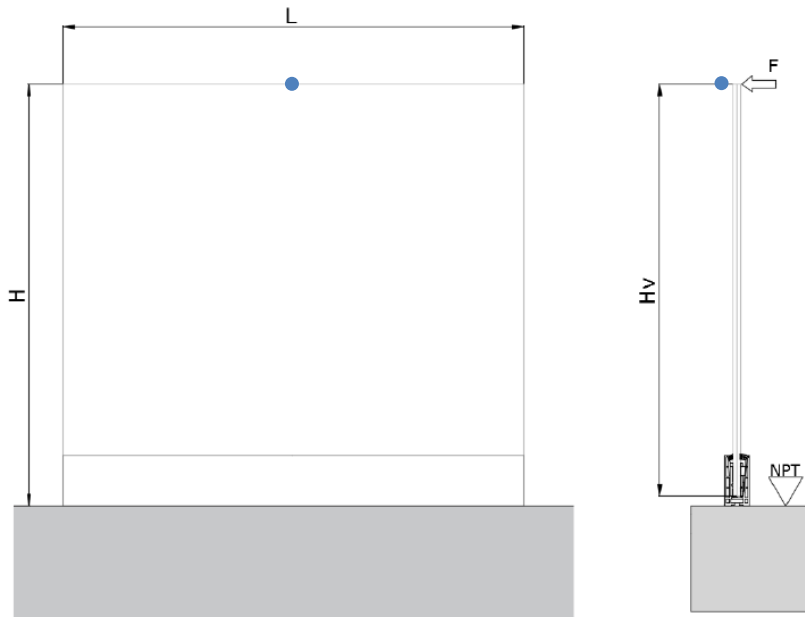
**Chart 2 – Load Versus Deflection Curves for Comenza Glassfit SV-1401 Top Level In / PL -14 [Q=1 kN/m]**



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## APPENDIX: Figures

**Figure 1** – Configuration of the model

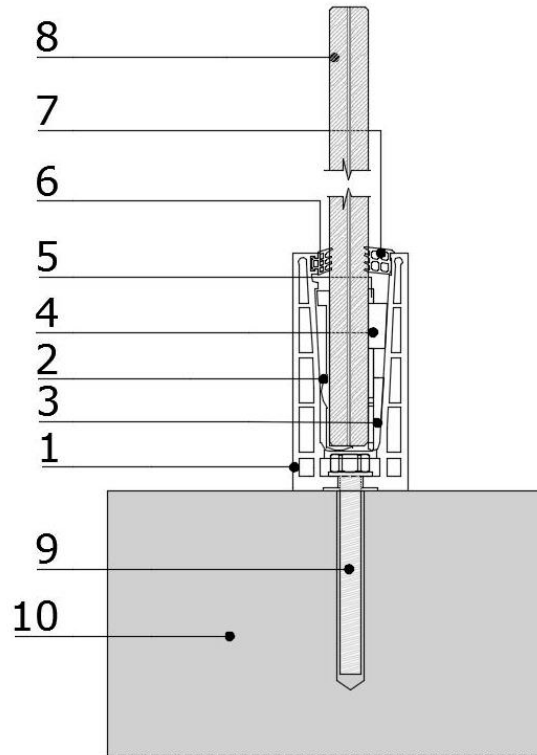


Horizontal force [kN/m]	<b>Q</b>	0,5 - 1
Length of the railing system[mm]	<b>L</b>	1000
Total force applied over the railing system[kN]	<b>F=QxL</b>	0,5 - 1
Effective height of the railing [mm]	<b>H</b>	1000
Effective height of the glass [mm]	<b>H<sub>v</sub></b>	975

- TRANSDUCER

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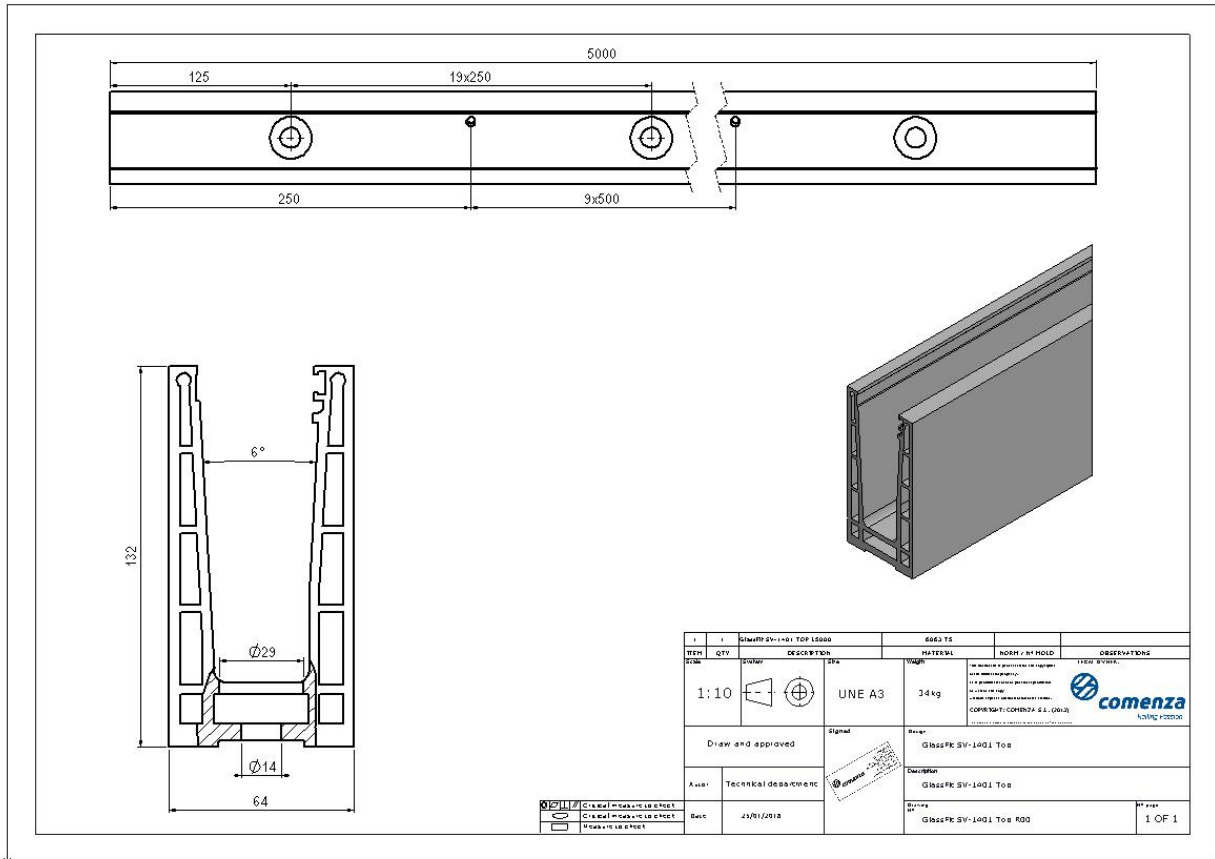
**Figure 2** – Glassfit SV-1401 TOP – components



Item	References	Quantity	Units	
1	Aluminum profile ref: SV-1401 TOP	1	metre	
2	L Spacer ref: PL-20	PL - 14	4	unit
3	"Bottom wedge" ref: PL-21 17,52		4	unit
4	"Top wedge" ref: PL-22 17,52		3	unit
5	Device "Top wedge" ref: PL-23		3	unit
6	Rubber ref: PL-24		1	metre
7	Rubber ref: PL-25		1	metre
8	Laminated tempered glass 88.4 [17.52] Dimensions (LxH): 1000x975	1	unit	
9	Threaded Rod M12x160mm	4	unit	
	FIS VS 300T chemical anchor	1	unit	
10	Concrete base	1	unit	

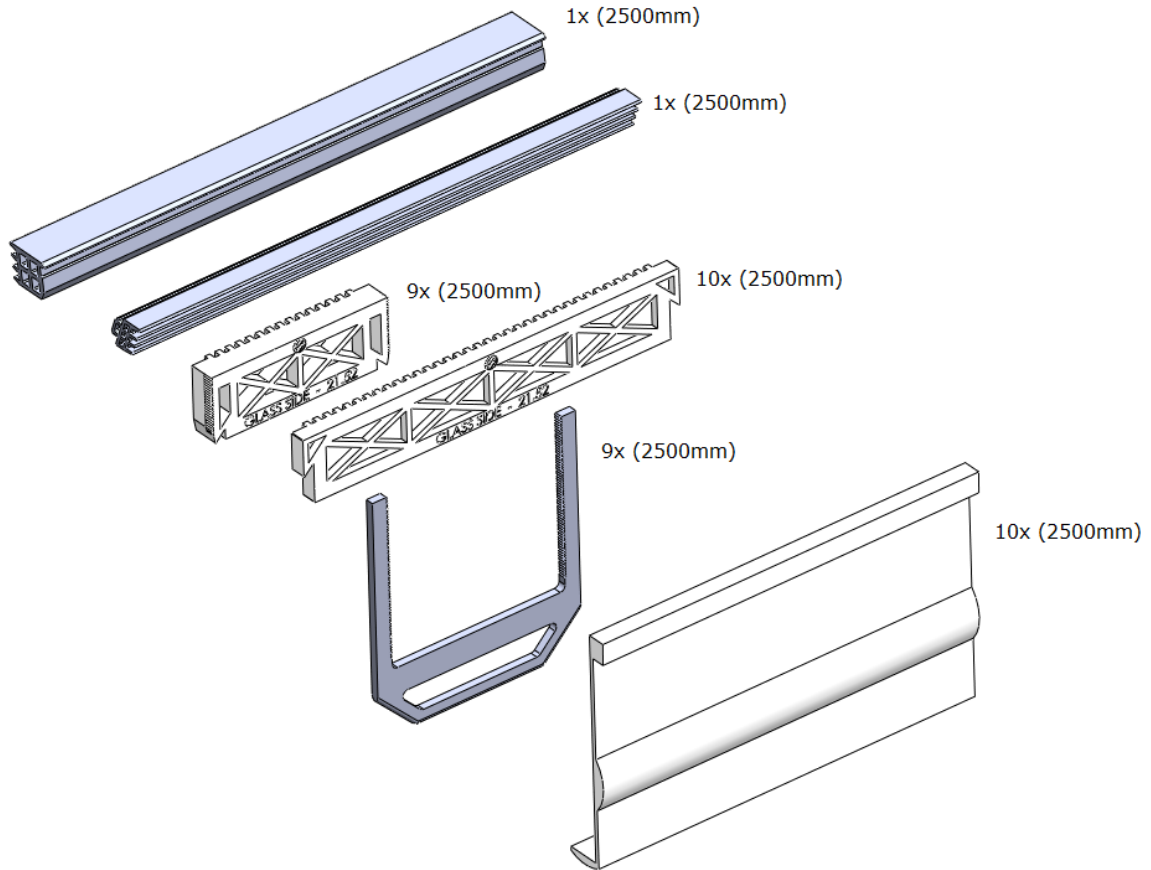
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**Figure 3 – Glassfit SV-1401 TOP**



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**Figure 4** – Level In / PL-14 adjustable fixing system



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