

# TEST REPORT

Project Titel: Line Load Testing of OnLevel TL-6080 System  
in Accordance with Scandinavian Rules

System: TL-6080

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## **1. Test method**

The TL-6080 profile was bolt to the top of a concrete block, which was fixed to the floor of the test facility. The 1,0m length of the profile was bolted to the block at 250mm centers such that the Flex-Fit inlay was to the outside face of the glass (see Figure 1.) Mounting distance 312,5mm (3 pieces per meter).

The horizontal imposed line load was applied to the glass at different heights above the datum level of the floor. Glass 8/8/2 and glass 10/10/2, laminated tempered with PVB foil.

The deflection was measured at the top central point with the loading point.

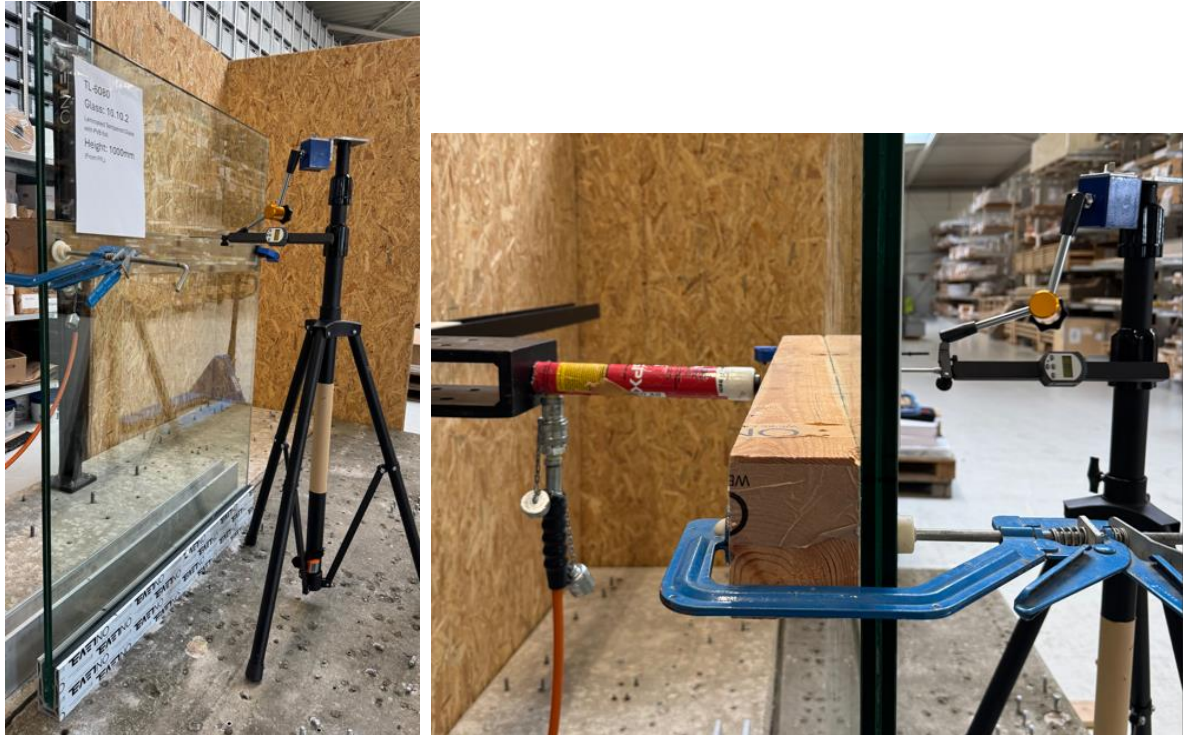
The load was applied via a hydraulic ram and the deflection measured with a digital dial indicator. All calibrated up to date.

## **2. Requirements**

The test was carried out in accordance with the Scandinavian guidance. The maximum allowable deflection for a free-standing glass panel is in Denmark 25mm, in Sweden 30mm and in Norway 50mm.

The loads archived by the OnLevel glazing system tested under horizontal imposed line loads to the maximum deflection are given in the tables below.

### 3. Test arrangement



Test arrangement



Profile TL-6080



Hydraulic pressure gauge



Digital dial indicator  
(accuracy 0,01mm)

**REGULATION CODES:**

DS-EN 1991-1-1

**Denmark****ESSENTIAL BALUSTRADE RULES**

\* No windloads!

| Private | Public  | BALUSTRADE HEIGHTS       |        | DEFLECTION |
|---------|---------|--------------------------|--------|------------|
| 0,5kN/m | 1,0kN/m | Drop                     | Height | max. 25mm  |
|         |         |                          | 1000mm |            |
|         |         | Stairs/over ground floor | 1200mm |            |

Table 1- Summary of Performance of OnLevel Balustade System  
 Tested under Horizontal Imposed Line Load  
 Line load height above concrete base-top of profile

| Deflection results |           |                 |        |          |                   |
|--------------------|-----------|-----------------|--------|----------|-------------------|
| Profile            | Height mm | Glass thickness | 0,5kN  | 1,0kN    | Working Line Load |
| 6080               | 1000      | 16,76           | 8,1mm  | 21,1mm   | 1,0kN/m           |
| 6080               | 1000      | 20,76           | 5,6mm  | 15,7mm   | 1,0kN/m           |
| 6080               | 1100      | 16,76           | 9,0mm  | 24,8mm   | 1,0kN/m           |
| 6080               | 1100      | 20,76           | 7,2mm  | 21,3mm   | 1,0kN/m           |
| 6080               | 1200      | 16,76           | 11,6mm | 29,7mm   | 0,5kN/m           |
| 6080               | 1200      | 20,76           | 8,5mm  | 24,8mm   | 1,0kN/m           |
| 6080               | 1300      | 16,76           | 14,5mm | 40,7,0mm | 0,5kN/m           |
| 6080               | 1300      | 20,76           | 10,3mm | 31,5mm   | 0,5kN/m           |

Pendulum Test was carried out by the LGA Germany

See approval P-239902-LGA

Pendulum height = 700mm

**REGULATION CODES:**

SS-EN 1991-1-1

**Sweden****ESSENTIAL BALUSTRADE RULES**

\* No windloads!

| Private | Public  | BALUSTRADE HEIGHTS                      |               | DEFLECTION |
|---------|---------|-----------------------------------------|---------------|------------|
| 0,5kN/m | 1,0kN/m | <b>Drop</b>                             | <b>Height</b> | max. 30mm  |
|         |         | interiur                                | 900mm         |            |
|         |         | 3mtr. over<br>ground and<br>outside use | 1100mm        |            |

Table 1- Summary of Performance of OnLevel Balustade System  
 Tested under Horizontal Imposed Line Load  
 Line load height above concrete base-top of profile

| Deflection results |           |                 |        |        |                   |
|--------------------|-----------|-----------------|--------|--------|-------------------|
| Profile            | Height mm | Glass thickness | 0,5kN  | 1,0kN  | Working Line Load |
|                    |           |                 |        |        |                   |
| 6080               | 900       | 16,76           | 7,5mm  | 18,3mm | 1,0kN/m           |
| 6080               | 900       | 20,76           | 4,1mm  | 13,2mm | 1,0kN/m           |
| 6080               | 1000      | 16,76           | 8,1mm  | 21,1mm | 1,0kN/m           |
| 6080               | 1000      | 20,76           | 5,6mm  | 15,7mm | 1,0kN/m           |
| 6080               | 1100      | 16,76           | 9,0mm  | 24,8mm | 1,0kN/m           |
| 6080               | 1100      | 20,76           | 7,2mm  | 21,3mm | 1,0kN/m           |
| 6080               | 1200      | 16,76           | 11,76m | 29,7mm | 1,0kN/m           |
| 6080               | 1200      | 20,76           | 8,5mm  | 24,8mm | 1,0kN/m           |
| 6080               | 1300      | 16,76           | 14,5mm | 40,7mm | 0,5kN/m           |
| 6080               | 1300      | 20,76           | 10,3mm | 31,5mm | 0,5kN/m           |

Pendulum Test was carried out by the LGA Germany

See approval P-239902-LGA

Pendulum height = 700mm

**REGULATION CODES:**

NS-EN 1991-1-1

NS3510

**Norway****ESSENTIAL BALUSTRADE RULES**

\* No windloads!

| Private interior | Private | Public | BALUSTRADE HEIGHTS |        | DEFLECTION |
|------------------|---------|--------|--------------------|--------|------------|
| 0,5kN            | 1,0kN   | 1,5kN  | Drop               | Height | max. 50mm  |
|                  |         |        | 0,5m-10m           | 1000mm |            |
|                  |         |        | 10m+               | 1200mm |            |

Table 1- Summary of Performance of OnLevel Balustade System

Tested under Horizontal Imposed Line Load

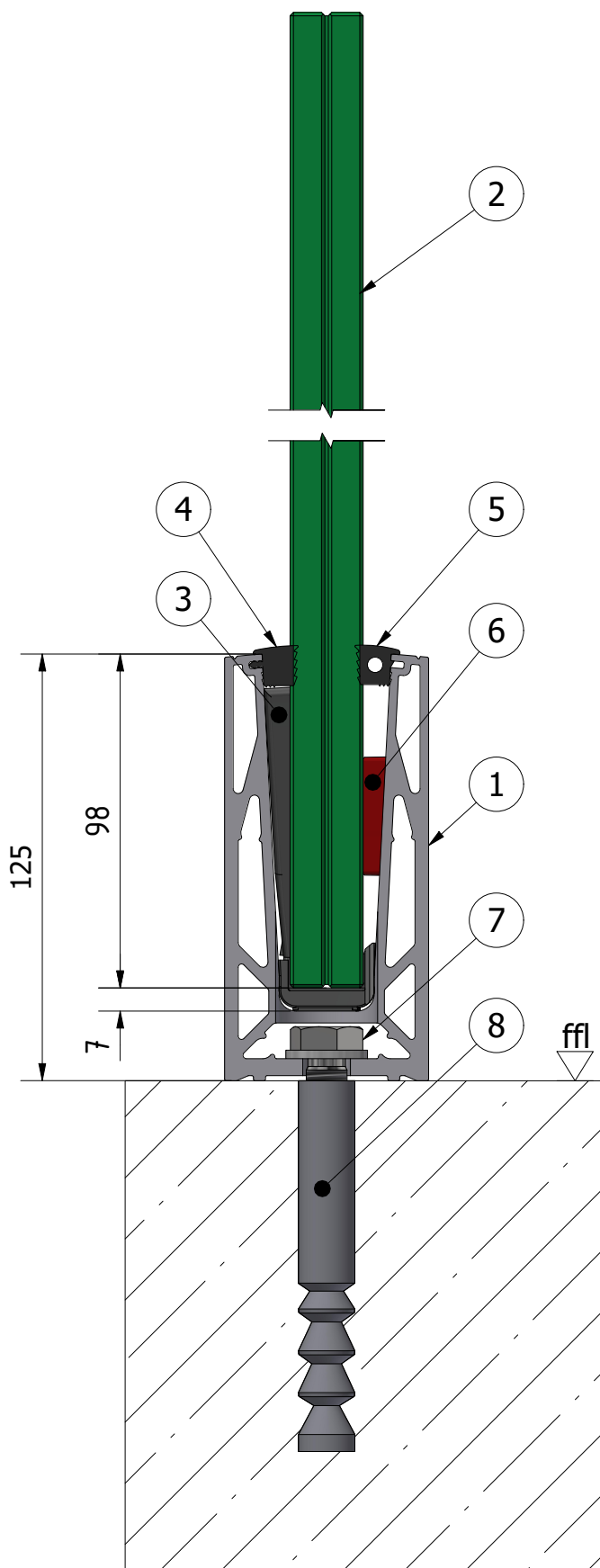
Line load height above concrete base-top of profile

| Deflection results |           |                 |        |        |                   |
|--------------------|-----------|-----------------|--------|--------|-------------------|
| Profile            | Height mm | Glass thickness | 0,5kN  | 1,0kN  | Working Line Load |
|                    |           |                 |        |        |                   |
| 6080               | 1000      | 16,76           | 8,1mm  | 21,1mm | 1,0kN/m           |
| 6080               | 1000      | 20,76           | 5,6mm  | 15,7mm | 1,0kN/m           |
| 6080               | 1100      | 16,76           | 9,0mm  | 24,8mm | 1,0kN/m           |
| 6080               | 1100      | 20,76           | 7,2mm  | 21,3mm | 1,0kN/m           |
| 6080               | 1200      | 16,76           | 11,6mm | 29,7mm | 1,0kN/m           |
| 6080               | 1200      | 20,76           | 8,5mm  | 24,8mm | 1,0kN/m           |
| 6080               | 1300      | 16,76           | 14,5mm | 40,7mm | 1,0kN/m           |
| 6080               | 1300      | 20,76           | 10,3mm | 31,5mm | 1,0kN/m           |

Pendulum Test was carried out by the LGA Germany

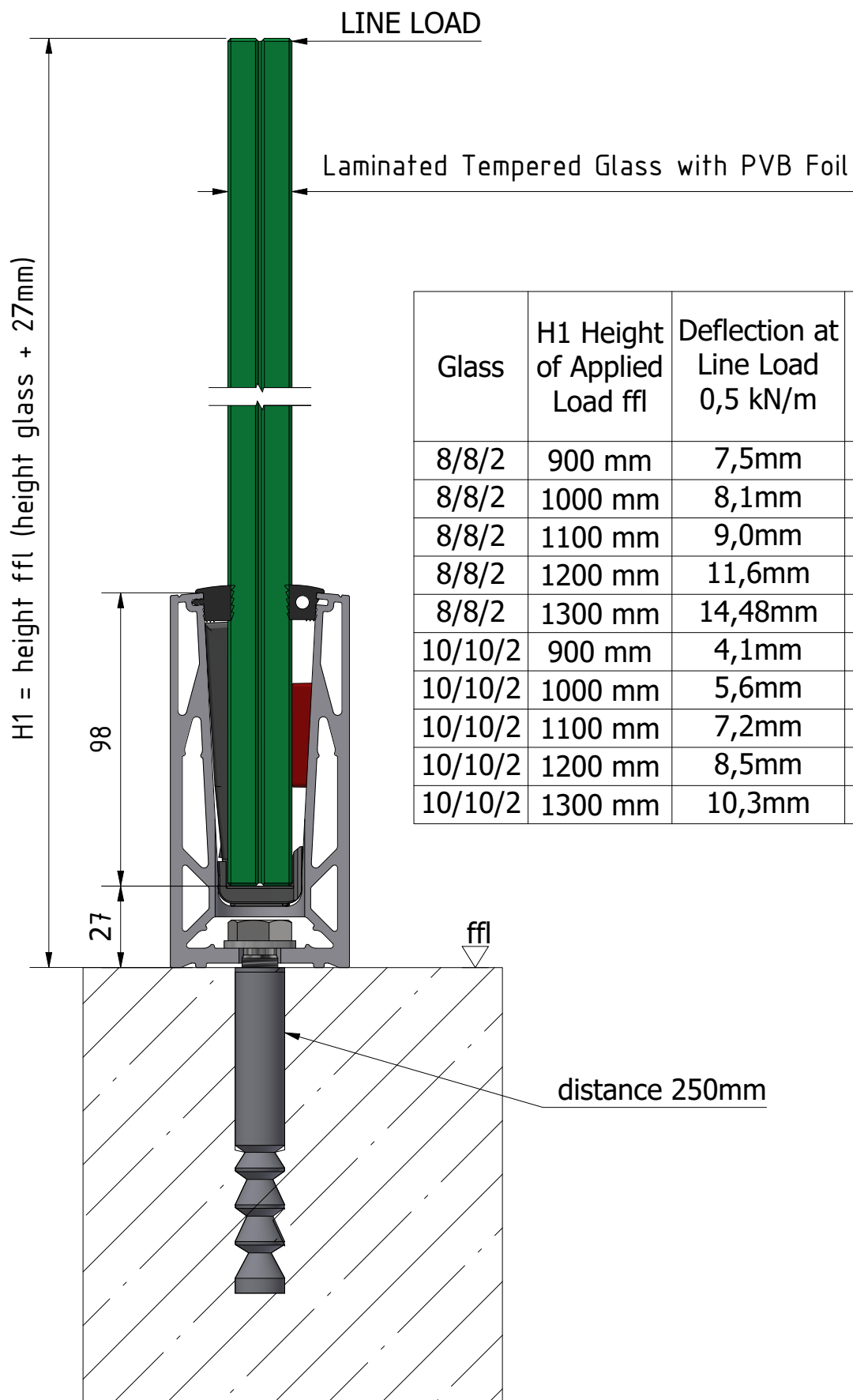
See approval P-239902-LGA

Pendulum height = 700mm



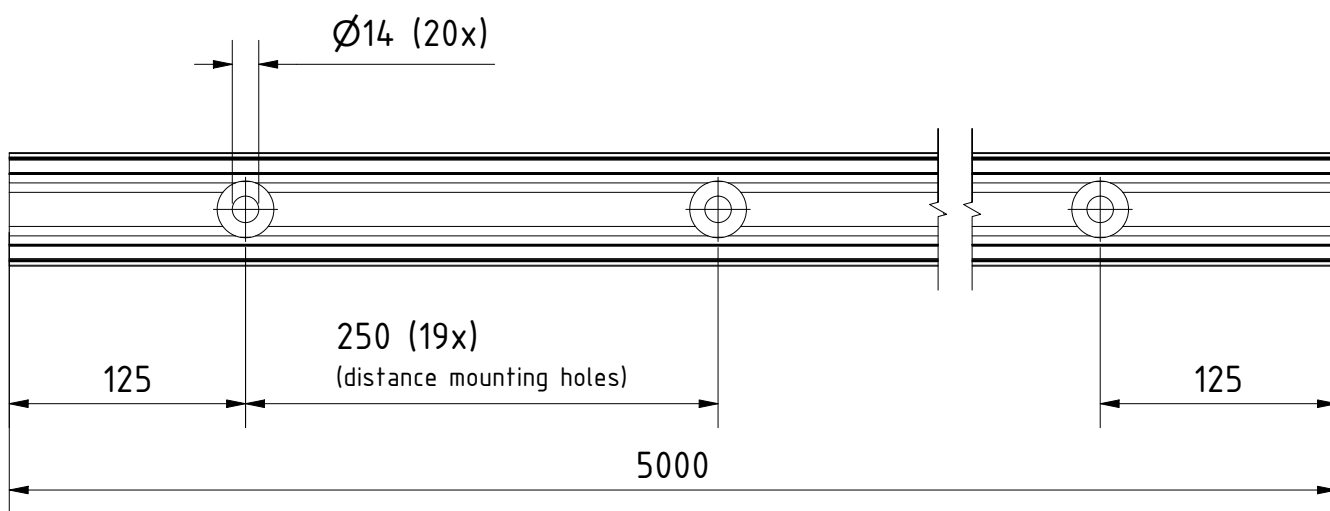
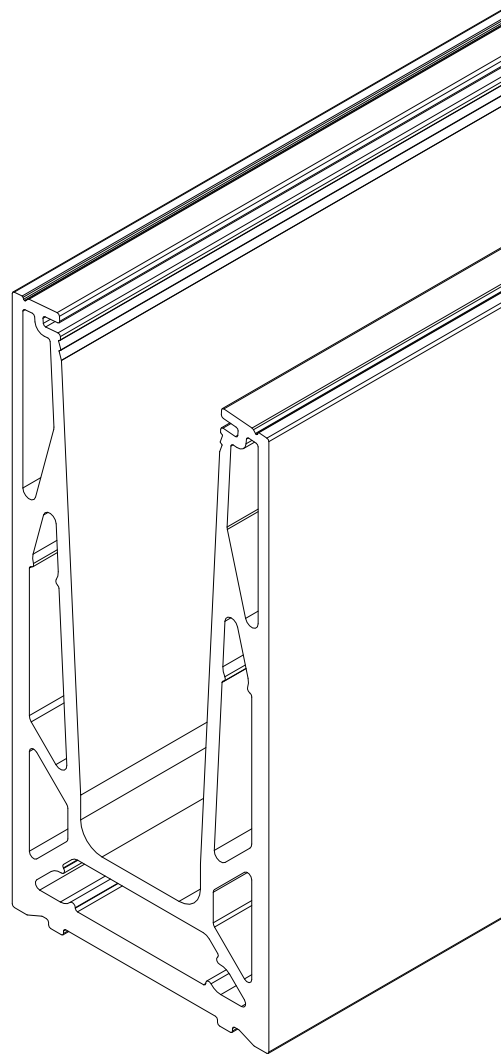
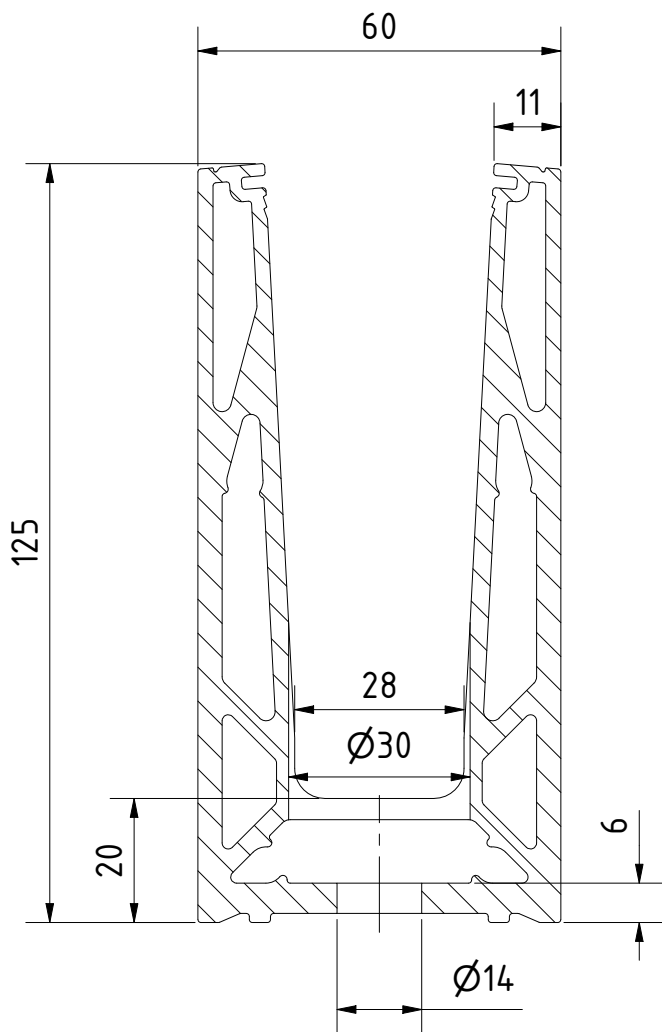
1. Glass profile TL-6080,top mount  
Aluminum EN AW 6063-T6
2. Glass 8/8/2 (16,76mm) ,10/10/2 (20,76mm)
3. Glass carrier set  
Model 0502/05058  
ABS-GF30
4. Glasrubber falling side  
hardness 75° shore A
5. Glasrubber user side  
TPE, hardness 75° shore A
6. Wedge  
ABS-GF30
7. Hexagon screw M12x40mm
8. Fixation anchor VMZ-IG 105 M12

|                                                                                     |                       |                                       |            |              |
|-------------------------------------------------------------------------------------|-----------------------|---------------------------------------|------------|--------------|
| Designed by<br>FV                                                                   | Created<br>05.12.2024 | Modified                              | Comment    |              |
|  |                       | Description<br>Detail: Figure 1       |            |              |
|                                                                                     |                       | Article number<br>TL-6080 (top mount) | Size<br>A4 | Scale<br>1:2 |



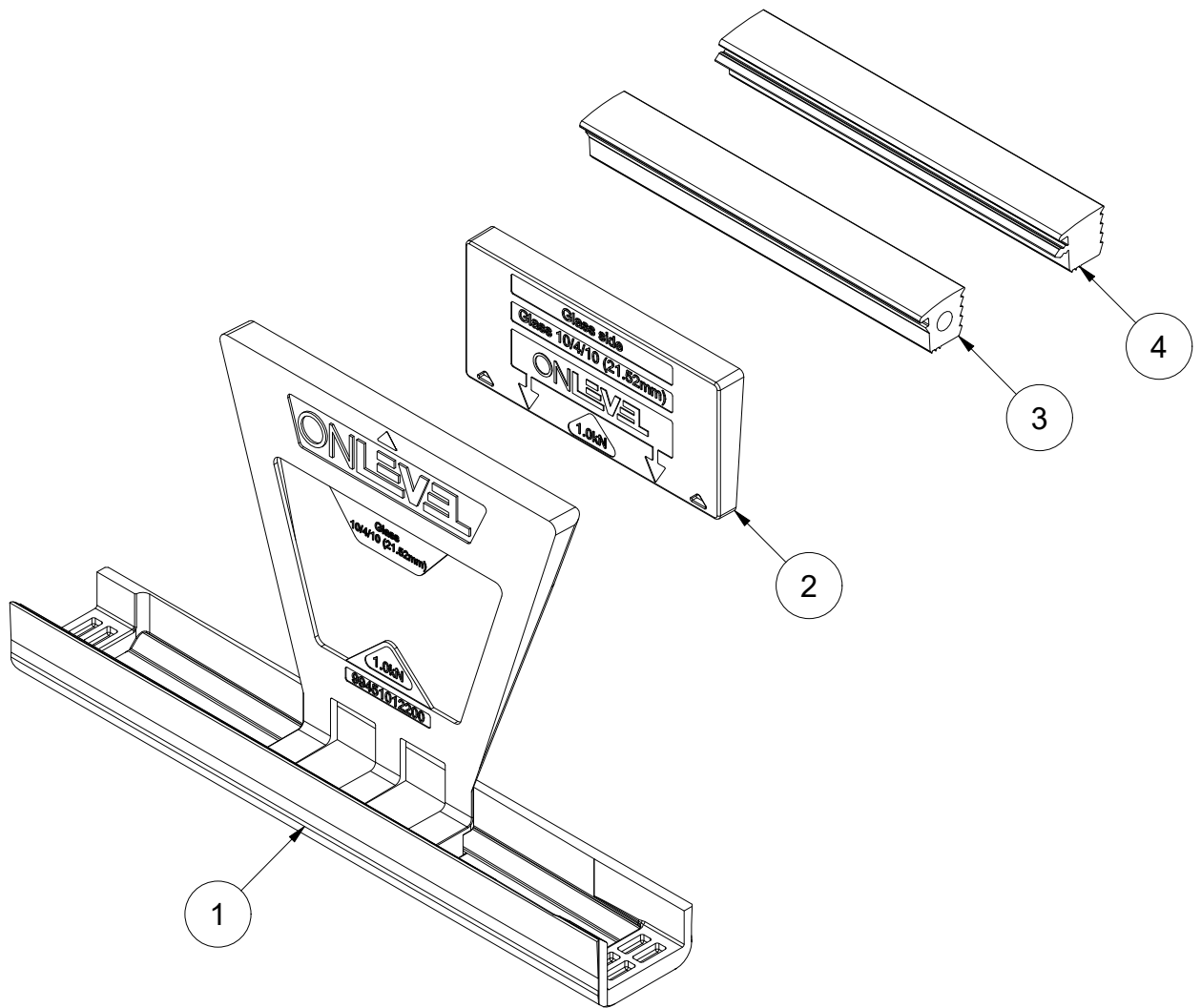
| Glass   | H1 Height of Applied Load ffl | Deflection at Line Load 0,5 kN/m | Deflection at Line Load 1,0 kN/m |
|---------|-------------------------------|----------------------------------|----------------------------------|
| 8/8/2   | 900 mm                        | 7,5mm                            | 18,3mm                           |
| 8/8/2   | 1000 mm                       | 8,1mm                            | 21,1mm                           |
| 8/8/2   | 1100 mm                       | 9,0mm                            | 24,8mm                           |
| 8/8/2   | 1200 mm                       | 11,6mm                           | 29,7mm                           |
| 8/8/2   | 1300 mm                       | 14,48mm                          | 40,7mm                           |
| 10/10/2 | 900 mm                        | 4,1mm                            | 13,2mm                           |
| 10/10/2 | 1000 mm                       | 5,6mm                            | 15,7mm                           |
| 10/10/2 | 1100 mm                       | 7,2mm                            | 21,3mm                           |
| 10/10/2 | 1200 mm                       | 8,5mm                            | 24,8mm                           |
| 10/10/2 | 1300 mm                       | 10,3mm                           | 31,5mm                           |

|                                                                                     |                       |                                                             |                            |
|-------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------|----------------------------|
| Designed by<br>FV                                                                   | Created<br>05.12.2024 | Modified                                                    | Comment                    |
|  |                       | Description<br>Detail: Figure 2 (Line Load / Glass Heights) |                            |
|                                                                                     |                       | Article number<br>TL-6080 (top mount)                       | Size<br>A4<br>Scale<br>1:2 |



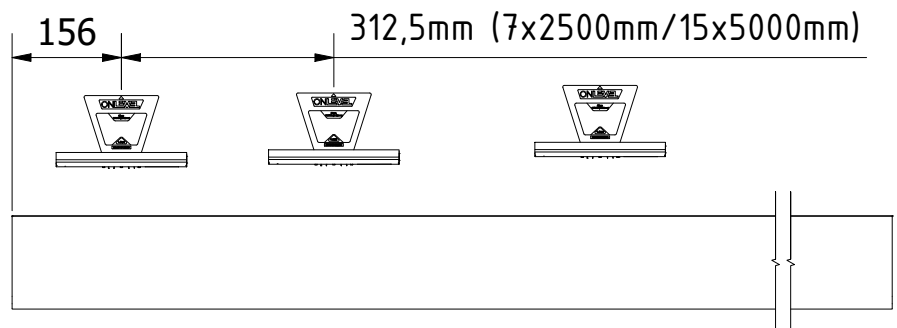
Material: Aluminium 6063-T6

|                                                                                     |                       |                                       |            |              |
|-------------------------------------------------------------------------------------|-----------------------|---------------------------------------|------------|--------------|
| Designed by<br>FV                                                                   | Created<br>05.12.2024 | Modified                              | Comment    |              |
|  |                       | Description<br>Profile TL-6080        |            |              |
|                                                                                     |                       | Article number<br>TL-6080 (top mount) | Size<br>A4 | Scale<br>1:2 |



| ITEM | QTY<br>(L=2500mm) | QTY (L=5000mm) | DESCRIPTION              |
|------|-------------------|----------------|--------------------------|
| 1    | 8                 | 16             | Flex-Fit 1.0kN carrier   |
| 2    | 8                 | 16             | Glass wedge 1.0kN        |
| 3    | 1 L=2500mm)       | 1 (L=5000mm)   | Rubber userside 1.0kN    |
| 4    | 1 L=2500mm)       | 1 (L=5000mm)   | Rubber fallingside 1.0kN |

Distance Glass Carrier  
/ Glass Wedges:



|                                                                                     |                       |                                                       |                          |
|-------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------|--------------------------|
| Designed by<br>FV                                                                   | Created<br>05.12.2024 | Modified                                              | Comment                  |
|  |                       | Description<br>Flex-Fits sets (quantity and distance) |                          |
|                                                                                     |                       | Article number<br>TL-6080 (top mount)                 | Size<br>A4<br>Scale<br>/ |