

Owner of this report:

REYNAERS Aluminium UAB

Kęstučio g. 47-27

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Lietuva

EXTENDED APPLICATION REPORT OF FIRE RESISTANCE DOOR SYSTEM TYPE CS-77 FP (EI30)

This extended application report concerns test results obtained in accordance with test methods:

- EN 1634-1:2014 „Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware – Part 1: Fire resistance test for door and shutter assemblies and openable windows“;

The extended application process is carried out in conformity with the following extended application standard:

- EN 15725:10 "Extended application reports on the fire performance of construction products and building elements".

The extended application process is carried out in conformity with the following extended application standards:

- EN 15269-5:2014+A1:2017 "Extended application of test results for fire resistance and/or smoke control for door, shutter and openable window assemblies, including their elements of building hardware - Part 5: Fire resistance of hinged and pivoted metal framed glazed doorsets and openable windows".

Report issued by:

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Extended application report contains 41 pages

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1. Details of the product or building element concerned

1.1 Nature

Product: Single or double glazed door assembly with or without glazed partitions.

Product designation: CS-77 FP (EI30).

Intended use: Fire resistant.

1.2 Description

Dimensions of double leaf door (EI₂₃₀ C5):

Overall dimension of the doorset:	(2600 x 2556 x 68) mm (W x H x D)
Dimension of the active door leaf:	(1310 x 2500 x 68) mm (W x H x D)
Dimension of the passive door leaf:	(1188 x 2500 x 68) mm (W x H x D)

Dimensions of single leaf door (EI₂₃₀ C5):

Overall dimension of the door:	(1406 x 2806 x 68) mm (W x H x D)
Dimension of the door leaf:	(1310 x 2750 x 68) mm (W x H x D)

Overall dimension of the glazed partition:

Overall dimension of the glass pane:	(2193 x 798 x 22) mm (W x H x D)
Overall dimension of the glass pane:	(883 x 2478 x 22) mm (W x H x D)
Overall dimension of the glass pane:	(1247 x 2287 x 20) mm (W x H x D)
Overall dimension of the glass pane:	(2630 x 1234 x 28) mm (W x H x D)
Overall dimension of the glass pane:	(1497 x 2430 x 20) mm (W x H x D)
Overall dimension of the glass pane:	(3024 x 550 x 20) mm (W x H x D)

Profile structure

Element made of REYNAERS Aluminum CS-77 FP (EI 30) system extruded profiles

- Door frame: 008.0469.xx,
- Door leaf: 008.2014.xx;
- Glazing bead: 030.3614.XX or similar;
- Brush holder profile: 005.0177.xx

In parts with fixed glazing used:

Fixed frame profile 008.0125.xx

Fixed transom profiles 008.0114.xx

Between fixed parts & leaves used change - over profile 008.0428.XX

All insulated profiles (except not insulated 005.0177.xx and glazing bead) were made of two separate aluminum half scales connected together with thermal breaks made of polyamide reinforced with glass fiber (PA-6.6 GF25).



Fixed part frame and transom 32 mm width profiles; door frame, sash and change - over profile 23 mm width thermal breaks. Middle chambers of insulated profiles filled with F - type plasterboard inserts, properly matched to the profile chamber.

On the perimeter of the inner part of the frame and the outer part of the sash, a Tecnoflame intumescent seal by Marvon with a cross - section of 45 x 2 mm (084.9464.04) placed. Between inner part of the sash and glazing, a Tecnoflame intumescent seal by Marvon with a cross - section of 35 x 2 mm (084.9462.04) placed.

Profile connections

Fixed part frame profiles connected with each other using corner connectors (068.7854.00 / 068.7855.00).

Door leaves connected to each other with corner connectors set 068.7797.00.

Door frames connected to each other with corner connectors set 068.7794.00.

To achieve required strength corner connections filled with an adhesive of the COSMOPEN DUO-1651 type (084.9081.--).

T - connections made with T - connectors (068.8732.00 / 068.8742.00).

Glazing fixation

The glazing fixed with glazing beads (030.3614.XX) and in the lower part supported on stainless steel glazing supports (069.6550.--, 069.6551.--, 060.6552.--). Supports fastened with stainless steel screws DIN 7982 4.2x19 (052.5316.--).

The glazing additionally fixed with stainless steel clips (068.6311.--). Clips (068.6310.--) used only for glass fixation in door leaf. For vertical part distance between clips (068.6310.--) from 346 mm to 350 mm with the maximum allowable 370 mm. For horizontal part distance between clips from 250 mm to 292 mm with the maximum allowable 370 mm. Distance from the corners 100 mm with the maximum allowable 100 mm.

For vertical part distance between clips (068.6311.--) 243.5 mm, 278.5 mm and 350 mm with the maximum allowable 370 mm. For horizontal part distance between clips 276 mm, 321 mm and 350 mm with the maximum allowable 370 mm.

Between glass and glass supports (069.6550.--, 069.6551.--, 060.6552.--) placed hard glazing blocks (084.8952.-- / 084.8953.--) made of materials based on inorganic oxides.

Sealing (gaskets and brushes)

In tested constructions the gap between glass and frame filled with EPDM gaskets (080.9114.04). The gap between the glass and the glazing bead filled with EPDM gaskets (080.9126.04). The gap between the sash and the frame filled with EPDM gaskets (080.9078.04). An EPDM gasket (080.9381.04) used to connect the change - over profile to the T-profile.

At the bottom in brush profile (005.0177.XX) installed brush (081.9141.04).

Hardware and accessories

Element equipped with following hardware and accessories:

- 3 pieces of 2 - part WALA WX hinges (065.6316.--).
- 1 safety bolt (061.7642.--);
- Fuhr 803 series 1 point lock (061.8527.ZC);

- door handle (061.7130.XX / 061.7140.XX 061.7434.XX / 061.7441.XX);
- GEZE TS 4000 door closer (065.7441.14 ,+ 065.7450.14 + 065.7582.14).
- connection pieces for frame profile half - scales (068.6391 .--);

Supporting construction

Test element was fixed with Fischer FFS 7.5 × 180 mm steel screws at intervals of not more than 610 mm for the side frames and 570 mm for the upper frame. Distance from the corners were not exceeding 200 mm.

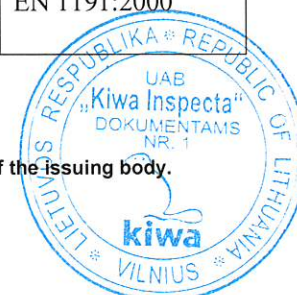
Mounting of the specimen

Test element fixed with Fischer FFS 7.5 × 180 mm steel screws at intervals of not more than 610 mm for the side frames and 570 mm for the upper frame. Distance from the corners not exceeding 200 mm.

2. Test reports and test results in support of this extended application report

Test No.	Laboratory	Sponsor	Test report No. and date	Test method
1	Intytut Techniki Budowlanej, Poland	Reynaers Aluminium Sp. z o.o.	LZP04-00948/17/R141NZP 29-11-2019	EN 1634-1:2014+A1:2018
2	Intytut Techniki Budowlanej, Poland	Reynaers Aluminium Sp. z o.o.	LZP05-00948/17/R141NZP 02-12-2019	EN 1634-1:2014+A1:2018
3	Intytut Techniki Budowlanej, Poland	Reynaers Aluminium Sp. z o.o.	LZP06-00948/17/R141NZP 24-12-2019	EN 1634-1:2014+A1:2018
4	IFT Rosenheim, Germany	Reynaers Aluminium N.V./S.A.	271 37150 16-02-2009	EN 1634-1:2000
5	Efectis Nederland BV	Reynaers Aluminium N.V./S.A.	2008-Efectis-R0802 January 2009	EN 1634-1:2000
6	Efectis Nederland BV	Reynaers Aluminium N.V./S.A.	2008-Efectis-R9119 September 2012	EN 1634-1:2008
7	Efectis Nederland BV	Reynaers Aluminium N.V./S.A.	2014-Efectis-R000970 March 2015	EN 1634-1:2014
8	Efectis Nederland BV	Reynaers Aluminium N.V./S.A.	2016-Efectis-R000316 May 2016	EN 1634-1:2014
9	Efectis Nederland BV	Reynaers Aluminium N.V./S.A.	2017-Efectis-R000156 March 2017	EN 1634-1:2014
10	Intytut Techniki Budowlanej, Poland	Reynaers Polska Sp. z o.o.	557.3/08 06-10-2008	EN 1634-1:2002
11	IFT Rosenheim, Germany	Reynaers Aluminium N.V./S.A.	251 37238/5 25-07-2012	EN 1191:2000
12	IFT Rosenheim, Germany	Reynaers Aluminium N.V./S.A.	251 37238/3 24-07-2012	EN 1191:2000
13	IFT Rosenheim, Germany	Reynaers Aluminium N.V./S.A.	251 37240/7 20-07-2012	EN 1191:2000
14	IFT Rosenheim, Germany	Reynaers Aluminium N.V./S.A.	251 37240/5 20-07-2012	EN 1191:2000

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15	FRC, Lithuania	Reynaers Aluminum JSC	No. 59-21.2022.4 2022-11-08	EN 1634-1:2014+A1:2018
16	Efectis Nederland BV	Reynaers Aluminium N.V./S.A.	2012-Efectis-R0119 September 2012	EN 1634-1:2014
17	Efectis Nederland BV	Reynaers Aluminium N.V./S.A.	2008-Efectis-R0174, July 2008	EN 1634-1:2014

Test report no and date: LZP04-00948/17/R141NZZ, 29-11-2019 (single leaf door)

Parameter	Door A (single door, outwards)	Door B (single door, inwards)
Supporting construction	aerated concrete blocks, 150 mm thickness, density $680 \pm 40 \text{ kg/m}^3$	
INTEGRITY		
Ignitation of the cotton pad	36 minutes, no failure	32 minutes, failure
Gap gauges	36 minutes, no failure	32 minutes, failure
Sustained flaming	36 minutes, no failure	32 minutes, failure
INSULATION		
Insulation – average temperature (140°)	36 minutes, no failure	36 minutes, no failure
Insulation I_1 – maximal temperature (180°)	34 minutes, failure (TC 16)	34 minutes, failure (TC 38)
Insulation I_2 – maximal temperature (180°)	36 minutes, no failure	33 minutes, failure (TC 28)
Insulation I_1 – maximal temperature (supplementary procedure) (180°)	19 minutes, failure (TC 14)	29 minutes, failure (TC 35)
Insulation I_2 – maximal temperature (360°)	36 minutes, no failure	36 minutes, no failure

Test report no and date: LZP05-00948/17/R141NZZ, 02-12-2019 (double door, outwards)

Parameter	Result
Supporting construction	flexible supporting construction with 125 mm thickness of gypsum plasterboard type F (2 x 125 mm thickness)
INTEGRITY	
Ignitation of the cotton pad	35 minutes, no failure
Gap gauges	35 minutes, no failure
Sustained flaming	35 minutes, no failure
INSULATION	
Insulation – average temperature (140°)	36 minutes, no failure
Insulation I_1 – maximal temperature (180°)	31 minutes, failure (TC 30)
Insulation I_1 – maximal temperature (supplementary procedure) (180°)	31 minutes, failure (TC 16, 20)
Insulation I_2 – maximal temperature (180°)	36 minutes, no failure
Insulation I_2 – maximal temperature (360°)	36 minutes, no failure

Test report no and date: LZP06-00948/17/R141NZZ, 24-12-2019 (single door outwards, glazing beads on exposed side)

Parameter	Result
Supporting construction	aerated concrete blocks, 150 mm thickness, density $600 \pm 40 \text{ kg/m}^3$
INTEGRITY	
Ignitation of the cotton pad	36 minutes, no failure
Gap gauges	36 minutes, no failure
Sustained flaming	36 minutes, no failure
INSULATION	
Insulation – average temperature (140°)	36 minutes, no failure
Insulation – maximal temperature (180°)	36 minutes, no failure
Radiation, kW/m^2	36 minutes, no failure

Test report no and date: 271 37150, 16-02-2009 (double leaf (outwards) in glass wall with top and side panels)	
Parameter	Result
Supporting construction	concrete blocks, 175 mm thickness, free edges filled with mineral wool „Termarock 50“
INTEGRITY	
Ignitation of the cotton pad	36 minutes, no failure
Gap gauges	36 minutes, no failure
Sustained flaming	36 minutes, no failure
INSULATION	
Insulation – average temperature (140°)	36 minutes, no failure
Insulation I ₁ – maximal temperature (180°)	26 minutes, no failure
Insulation I ₂ – maximal temperature (180°)	33 minutes, no failure
Insulation I ₂ – maximal temperature (360°)	36 minutes, no failure

Test report no and date: 2008-Efectis-R0802, January 2009 (glazed wall with top and side panels, glazing beads on exposed side)	
Parameter	Result
Supporting construction	aerated concrete blocks, density 675 kg/m ³
INTEGRITY	
Ignitation of the cotton pad	48 minutes, no failure
Gap gauges	48 minutes, no failure
Sustained flaming	48 minutes, no failure
INSULATION	
Insulation – average temperature (140°)	48 minutes, no failure
Insulation I ₂ – maximal temperature (180°/360°)	48 minutes, no failure
Radiation, kW/m ²	48 minutes, no failure

Test report no and date: 2008-Efectis-R9119, September 2012 (double leaf outwards, glazed wall with top and side panels, glazing beads on exposed side)	
Parameter	Result
Supporting construction	aerated concrete blocks, 150 - 230 mm thickness, density 650 - 1200 kg/m ³
INTEGRITY	
Ignitation of the cotton pad	38 minutes, no failure
Gap gauges	38 minutes, no failure
Sustained flaming	38 minutes, no failure
INSULATION	
Insulation – average temperature (140°)	38 minutes, no failure
Insulation I ₁ – maximal temperature (180°)	32 minutes, failure
Insulation I ₁ – maximal temperature (supplementary procedure) (180 °)	32 minutes, failure
Insulation I ₂ – maximal temperature (180°)	38 minutes, no failure
Insulation I ₂ – maximal temperature (360 °)	38 minutes, no failure



Test report no and date: 2014-Efectis-R000970, March 2015 (double leaf outwards, with top panels, glazing beads on exposed side)	
Parameter	Result
Supporting construction	aerated concrete blocks, 150 mm thickness, density 650 kg/m ³
INTEGRITY	
Ignitation of the cotton pad	45 minutes, no failure
Gap gauges	45 minutes, no failure
Sustained flaming	45 minutes, no failure
INSULATION	
Insulation – average temperature (140°)	35 minutes, failure
Insulation I ₁ – maximal temperature (180°)	31 minutes, failure
Insulation I ₁ – maximal temperature (supplementary procedure) (180 °)	31 minutes, failure
Insulation I ₂ – maximal temperature (180°)	35 minutes, failure
Insulation I ₂ – maximal temperature (360 °)	35 minutes, failure

Test report no and date: 2016-Efectis-R000316, May 2016 (double leaf outwards, with top panels, glazing beads on exposed side)	
Parameter	Result
Supporting construction	Associated of an aluminium frame type CS 77-FP (EI30), the bottom and top of construction built in aerated concrete blocks
INTEGRITY	
Ignitation of the cotton pad	37 minutes, no failure
Gap gauges	37 minutes, no failure
Sustained flaming	37 minutes, no failure
INSULATION	
Insulation – average temperature (140°)	37 minutes, no failure
Insulation I ₁ – maximal temperature (180°)	30 minutes, failure (TC 59)
Insulation I ₁ – maximal temperature (supplementary procedure) (180 °)	30 minutes, failure
Insulation I ₂ – maximal temperature (180°)	30 minutes, failure (TC 59)
Insulation I ₂ – maximal temperature (360 °)	30 minutes, failure
Radiation, kW/m ²	37 minutes, no failure

Test report no and date: 2017-Efectis-R000156, March 2017 (double leaf outwards, glazed wall with top and side panels, glazing beads on exposed side)	
Parameter	Result
Supporting construction	aerated concrete blocks, 150 mm thickness, density 650 kg/m ³
INTEGRITY	
Ignitation of the cotton pad	36 minutes, no failure
Gap gauges	36 minutes, no failure
Sustained flaming	35 minutes, failure
INSULATION	
Insulation – average temperature (140°)	36 minutes, no failure
Insulation I ₁ – maximal temperature (180°)	36 minutes, no failure
Insulation I ₁ – maximal temperature (supplementary procedure) (180 °)	36 minutes, no failure
Insulation I ₂ – maximal temperature (180°)	36 minutes, no failure
Insulation I ₂ – maximal temperature (360 °)	36 minutes, no failure
Radiation, kW/m ²	36 minutes, no failure

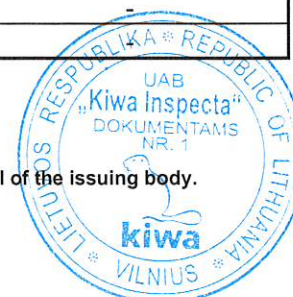
Test report no and date: 557.3/08, 06-10-2008 (double door, inwards)	
Parameter	Result
Supporting construction	aerated concrete blocks, 200 mm thickness, density 800 kg/m ³
INTEGRITY	
Ignitation of the cotton pad	37 minutes, no failure
Gap gauges	37 minutes, no failure
Sustained flaming	37 minutes, no failure
INSULATION	
Insulation – average temperature (140°)	37 minutes, no failure
Insulation I ₁ – maximal temperature (180°)	30 minutes, failure
Insulation I ₁ – maximal temperature (supplementary procedure) (180 °)	30 minutes, failure
Insulation I ₂ – maximal temperature (180°)	37 minutes, no failure
Insulation I ₂ – maximal temperature (360 °)	37 minutes, no failure

Test Report no and date: 251 37238/5, 25-07-2012 (double door with top light panel)				
Number of test cycles	Measurement of operational forces			
	Opening of active door (N)	Opening of passive door (N)	Pushing down the handle active door (N)	Pushing down the handle passive door (N)
0	2,2	2,4	32,3	39,7
50 000	-	-	-	-
100 000	-	-	-	-
150 000	-	-	-	-
200 000	-	-	28,0	35,3

Test Report no and date: 251 37238/3, 24-07-2012 (double door with top and side light panel)				
Number of test cycles	Measurement of operational forces			
	Opening of active door (N)	Opening of passive door (N)	Pushing down the handle active door (N)	Pushing down the handle passive door (N)
0	2,2	4,1	41,3	40,3
50 000	-	-	-	-
100 000	-	-	-	-
150 000	-	-	-	-
200 000	-	-	33,7	37,7

Test Report no and date: 251 37240/7, 20-07-2012 (single door with top and side light panel)				
Number of test cycles	Measurement of operational forces			
	Opening of active door (N)	Opening of passive door (N)	Pushing down the handle active door (N)	Pushing down the handle passive door (N)
0	1,9	-	31,0	-
50 000	-	-	-	-
100 000	-	-	-	-
150 000	-	-	-	-
200 000	-	-	28,7	-

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Test Report no and date: 251 37240/5, 20-07-2012 (single door with top and side light panel)				
Number of test cycles	Measurement of operational forces			
	Opening of active door (N)	Opening of passive door (N)	Pushing down the handle active door (N)	Pushing down the handle passive door (N)
0	2,7	-	62,7	-
50 000	-	-	-	-
100 000	-	-	-	-
150 000	-	-	-	-
200 000	-	-	55,0	-

Test report no and date: No. 59-21.2022.4, 2022-11-08 (single leaf door in glazed wall with top and side panels, glazing beads on exposed side)	
Parameter	Result
Supporting construction	aerated concrete blocks, density 675 kg/m ³
INTEGRITY	
Ignitation of the cotton pad	36 minutes, no failure
Gap gauges	36 minutes, no failure
Sustained flaming	36 minutes, no failure
INSULATION	
Insulation – average temperature (140°)	36 minutes, no failure
Insulation I ₁ – maximal temperature (180°/180°)	33 minutes, no failure
Insulation I ₂ – maximal temperature (180°/360°)	34 minutes, no failure
Radiation, kW/m ²	36 minutes, no failure

Test report no and date: 2012-Efectis-R9119, September 2012 (double leaf outwards, with top panels, glazing beads non exposed side)	
Parameter	Result
Supporting construction	Associated of an aluminium frame type CS 77-FP (EI30), the bottom and top of construction built in aerated concrete blocks
INTEGRITY	
Ignitation of the cotton pad	38 minutes, no failure
Gap gauges	38 minutes, no failure
Sustained flaming	38 minutes, no failure
INSULATION	
Insulation – average temperature (140°)	38 minutes, no failure
Insulation I ₁ – maximal temperature (180°)	32 minutes, failure (TC 10)
Insulation I ₁ – maximal temperature (supplementary procedure) (180 °)	38 minutes, no failure
Insulation I ₂ – maximal temperature (180°)	38 minutes, no failure
Insulation I ₂ – maximal temperature (360 °)	38 minutes, no failure
Radiation, kW/m ²	38 minutes, no failure

Test report no and date: 2008-Efectis-R0174, July 2008 (single leaf outwards, glazing beads non exposed side)	
Parameter	Result
Supporting construction	Rigid masonry of aerated concrete blocks
INTEGRITY	
Ignition of the cotton pad	36 minutes, no failure
Gap gauges	36 minutes, no failure
Sustained flaming	36 minutes, no failure
INSULATION	
Insulation – average temperature (140°)	36 minutes, no failure
Insulation I ₁ – maximal temperature (180°)	21 minutes, failure (TC 21)
Insulation I ₁ – maximal temperature (supplementary procedure) (180 °)	36 minutes, no failure
Insulation I ₂ – maximal temperature (180°)	36 minutes, no failure
Insulation I ₂ – maximal temperature (360 °)	36 minutes, no failure
Radiation, kW/m ²	36 minutes, no failure

3. Extended application

3.1. Direct application

- Type of glass can be changed providing the glass is no lower fire performance characteristics and has a similar edge fixing technique;
- The dimensions of glass in each pane shall not be increased;
- Number of hinges may be increased, but not reduced;
- The distance between upper hinge and upper door leaf edge shall be equal to than that tested or less. The distance between bottom hinge and bottom door leaf edge shall be equal to than that tested or less.
- Where the hinges or distortion preventers are used, the distance between the bottom of the door leaf and centre restraint shall be equal to or greater than that tested;
- The number of fixings used to attach door sets to supporting constructions may be increased but shall not be decreased and the distance between fixings may be reduced but shall not be increased;
- The number of any movement restrictors such as locks, latches and hinges may be increased but shall not be decreased;
- The fire resistance of a doorset tested in supporting construction built in standard rigid (density 650 kg/m³, flexible or associated supporting construction. Doorset can be mounted in the same manner in a wall provided the density and the thickness of the wall are equal to or greater than that in which the doorset was tested.
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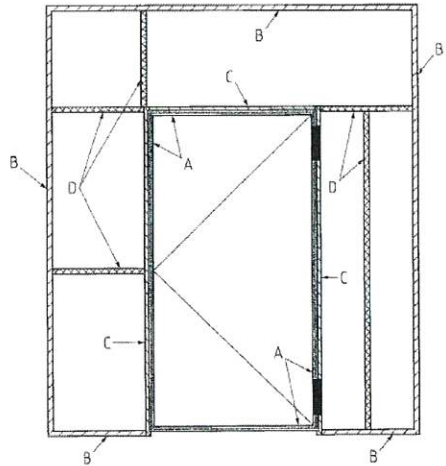
3.2. Principles applied for the extension of the field of application

This extended application procedure is based on (methods from EN 15725:2010+AC:2012):

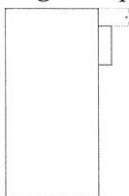
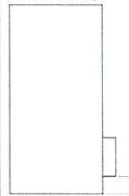
- Method 1: Established influence(s) of product and end-use parameters in accordance with:

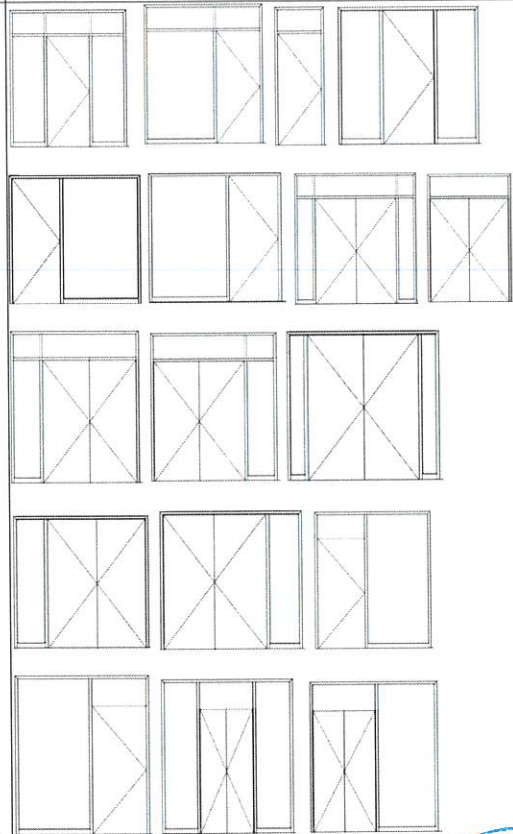
EN 15269-5:2014+A1:2017 "Extended application of test results for fire resistance and/or smoke control for door, shutter and openable window assemblies, including their elements of building hardware - Part 5: Fire resistance of hinged and pivoted metal framed glazed doorsets and openable windows".

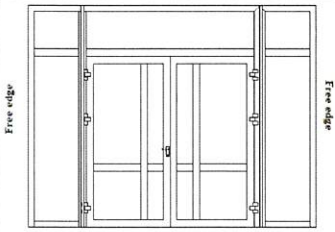
Paragraph	Construction parameter	Test report used	Valid for range
Door leaf			
EN 15269-5 A.1.1, A.1.2	Number of leaves	1, 2, 10	Single and double leaf doorset
Size variations			
EN 15269-5 A.2.2, A.2.3, A.2.4	Increase	1, 2, 10, 11, 12, 13, 14, 15	Not possible increase Single leaf doorset EI₂30 C5 Frame (w × h × d) mm: ≤ 1406 mm × ≤ 2806 mm × 68 mm Leaf (w × h × d) mm: ≤ 1310 mm × ≤ 2750 mm × 68 mm Area: ≤ 3.6 m² Weight: ≤ 197 kg Double leaf doorset EI₂30 C5 Frame (w × h × d) mm: ≤ 2600 mm × ≤ 2556 mm × 68 mm Active leaf (w × h × d) mm: ≤ 1310 mm × ≤ 2500 mm × 68 mm Area: ≤ 3.25/ m² Passive leaf (w × h × d) mm: ≤ 1188 mm × ≤ 2500 mm × 68 mm Area: ≤ 2.97/ m² Weight: ≤ 209 kg
EN 15269-5 A.2.1	Decrease		Possible decrease to a minimum dimension of the glass (width x height) 250 mm x 250 mm
Materials and construction			
EN 15269-5 A.3.1, A.3.2	Increase density of infill of profile or core material		Possible by a maximum of 15% (nominal value) of each core material of the door leaf
EN 15269-5 A.3.	Type of infill of profile or core material	1, 2, 3, 10, 15	Possible change of supplier/ manufacturer of identical material with identical composition. Kerafix Coolmax (Gluske), gypsum plasterboard type F
EN 15269-5 A.3.9	Type of adhesives	2, 3, 9	Cosmopen DUO 1651 (Weiss Chemie)
LST EN 15269-5 A.3.16, A.3.17	Type of intumescent seal	2, 4, 5, 8, 9, 10, 15	Possible change supplier but only for identical composition Tecnoflame 25 x 2 mm, 35 x 2 mm, 45 x 2 mm (Marvon) Kerafix Flextrem 100 (Rolf Kuhn GmbH), Kerafix Flextrem (Gluske GmbH) 45 x 2 / 35 x 2 / 35 x 1,5 / 30 x 2 / 25 x 2 Promaseal LX 20 x 30 mm, 20 x 35 mm, 20 x 45 mm (Promat)

	Vertical and horizontal mullions		
EN 15269-5 B.4.6	Add profiles and decrease width	4	Profiles not associated with the doorleaf (profile D) and vertical profiles associated with the doorleaf (profile C) allowed decrease of 40% down to minimum width of 30 mm.  Key A Profile in door leaf B Profile in frame C Profile in side or toplight, associated with the door leaf D Profile in side or toplight, not associated with the door leaf
EN 15269-5 B.4.9	Horizontal and vertical mullions in each sidelight		Possible add maximum of three horizontal mullions providing minimum height of the glass is bigger than 20% of its width. One vertical mullion is allowed providing that the remaining visible width of the glass associated with the frame is at least 250 mm.
EN 15269-5 B.4.11	Horizontal mullions in sidelight		Possible moving upwards and downwards providing the height of the glass is not bigger than the biggest tested and the height is not smaller than 20% of its width.
EN 15269-5 B.4.12	Vertical mullions in sidelight		Possible moving providing that the remaining visible glass associated with the frame is at least 250 mm
EN 15269-5 B.4.13	Horizontal and vertical mullions in each toplight		Possible add maximum three vertical mullions providing that the remaining visible width of the glass associated with the frame is at least 250mm. One or more horizontal mullion are allowed providing the minimum height of the glass is bigger than 20% of its width.
EN 15269-5 B.4.15	Horizontal mullions in toplight		Possible moving upwards and downwards providing the height of the glass is not bigger than the biggest tested and the height is not smaller than 20% of its width.
EN 15269-5 B.4.16	Vertical mullions in toplight		Possible moving sideways providing that the remaining visible width of the glass associated with the frame is at least 250 mm.

	Hardware		
EN 15269-5 C.1.1	Latches/locks/ strike plates	1, 2, 4, 5, 8, 9, 10, 15, DoP No. 18012, DoP No. 1028, DoP No. 18013, DoP No. 21001, DoP No. 21008, DoP No. 20007, DoP No. 20008; 2391-CPR-18-370 0432-CPR-00007-04	Fuhr type 803, 833, 833P, 2-point safety lock (061.6655.ZC) BKS, B 1831 0165 BKS, B 1890 1003 BKS, 3-point safety lock, type M835 2Q58N0L. 2-point safety lock, type B 1838 0814, B 1838 0211/0212 BKS, Fuhr (061.8300.ZC), B 7125 5285 (061.6421.--) BKS; Abloy EL 480, EL490, EL495, EL460, EL 461, EL 462, EL463, PE460, PE461, PE462, PE463, EL420, EL422, PE420, PE422, EL260, EL262, PE260, EL560, EL561, EL562, EL563, EL564, EL565, PE560, PE561, PE562, PE563, PE564, PE565, EL520, EL522, EL524, PE520, PE522, EL360, EL362, EL365, PE360, PE362 EL566, EL567, EL568, EL569, EL366, EL368, MP564, MP565, MP520, MP522, MP524, LE945, PE945, LE955, PE955, EL466, EL467, EL468, EL469, EL266, EL268, MP420, MP422, EL432, EL434, EL532, EL534, MP432, MP434, MP532, MP534, EL060, EL062, PE062, MD060, MD062, EL160, EL162, EL165, PE160, PE162, MD160, MD162, EL166, EL168, MP165, MD166, MD168, EL066, EL068, MD066, MD068, EL482, EL491, LC300, LC303, LC301F, LC305; Assa Abloy 212-35/50/70; 310-35/50/70; 640-35/50/70; 202-50/70; 216-50; 340-35/50/70; 710-35/50/70; 2500-50/70; 220-35/50/70; 345-50/70; 721-35/50/70; 221-35/50/70; 410-35/50/70; 722-35/50/70; 222-35/50/70; 510-50; 727-35/50/70; 223-35/50/70; 610-50; 732-35/50/70; 230-35/50/70; 620-35/50/70; 740-50; 231-35/50/70; 621-35/50/70; 761-50; 232-35/50/70; 622-35/50/70; 762-50; 235-35/50/70; 624-35/50/70; 767-50; 236-35/50/70; 636-35/50; 772-50; Assa Abloy 118F, 131, 142U, 142G, EX142, EX118, 143, 143WSS, 740, 960.
	Electrical receiver	5	Type B9243 0013, BKS or BF 8075
	Cylinder	5, 8, 9	Sobinco/ 880R-22 (061.7053.--), Sobinco (061.7040.--), Sobinco (061.7045.--), KABA8 BKS
EN 15269-5 C.1.13	Handle/ Push pad	1, 2, 3, 5, 8, 9, 10	ECO Shulte (NI 9m P2DD D-110), Fuhr (061.8291.17, 061.8293.17) BKS type B 7125 5205, BKS 7125 5205 (061.6431.--) 061.7130.XX, 061.7434.XX, 061.7140.XX, 061.7441.XX. Possible exchange operating device for face mounded metal components
EN 15269-5 C.1.13	Safety bolts	8, 9, 10	Possible to add on the hinged edge of the door leaves Ø 8 x 21 mm (061.7642.--) Schechten Dahl Ø 10 (061.7836.--) Dr. Hahn
EN 15269-2 C.1.42	Door closer	1, 2, 5, 8, 9, 10	GEZE TS 4000 (065.7441.14 + 065.7550.14 + 065.7582.14), GEZE TS 5000 L-ISM (065.7443.14)

			GEZE, TS 5000 (065.7581.14) GEZE, TS 5000 IS (065.7583.14)
EN 15269-5 C.1.18, C.1.19	Hinges	1, 2, 4, 5, 8, 9, 10	3 psc. WX WALA (065.6313.--, 065.6317.--, 065.6312.--), Loira + (065.8893.XX) FAPIM, Sobinco (065.6565.XX), A8 55 60000 Dr. Hahn, A95/521327 (65.6381.xx) Dr. Hahn, Turband Dr. Hahn
EN 15269-5 C.1.28, C.1.29	Hinges		Possible change of supplier/ manufacturer Possible change into alternative material/ type providing the components has been tested.
EN 15269-5 C.1.31	Positioning of hinge	3	Not possible increase distance from upper of 3 hinge to top of door – max 200 mm 
EN 15269-5 C.1.32	Positioning of hinge	3	Not possible increased distance from bottom of lower of 3 hinge to bottom of door – 195 mm 
EN 15269-5 C.1.56	Threshold 'drop' seal	5, 9	Planet 20 x 20 (081.9050.--) Planet MF (FH and RD) (081.9041.00)
EN 15269-5 C.1.58	Threshold seal	5, 10	Polyamide insulation strip, type PA-6.6GF25 (000.0836.04, 000.0835.04) with insulated threshold profile 008.1874.xx
	Glass		
EN 15269-5 F.1.1, F.1.2	Increase/ decrease thickness	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17	Pyrostop 30-10, Pyrostop 101 (NSG Pilkington) 15 mm, 16 mm Pyrobel 16, Pyrobel 16 EG, Pyrobel DGU (AGC Glass Europe) 16 mm, 17 mm, 21 mm, 41 mm POLFLAM EI30 22 mm, 40 mm Contraflam 30 (Vetrotech) 24 mm Fireblock EI30 (Glass LT) 49 mm
EN 15269-5 F.1.3		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17	Pyrobel 16 EG (w x h x th): $\leq 1146 \text{ mm} \times \leq 2136 \text{ mm} \times \geq 39 \text{ mm}$ Area: $\leq 2,45 \text{ m}^2$; Pyrostop 30-10 (w x h x th): $\leq 1040 \text{ mm} \times \leq 2136 \text{ mm} \times \geq 15 \text{ mm}$ Area: $\leq 2,22 \text{ m}^2$; Contraflam 30 (Vetrotech) (w x h x th): $\leq 1137 \text{ mm} \times \leq 2544 \text{ mm} \times \geq 34 \text{ mm}$ Area: $\leq 2,89 \text{ m}^2$;

			Pyrostop 101 (w × h × th): ≤ 2350 mm × ≤ 2727 mm × ≥ 15 mm Area: ≤ 1,83 m ² ; Pyrobel 16 (w × h × th): ≤ 1154 mm × ≤ 2584 mm × ≥ 17 mm Area: ≤ 2,98 m ² ; POLFLAM EI30 (w × h × th): ≤ 1147 mm × ≤ 2587 mm × ≥ 22 mm Area: ≤ 2,97 m ² ; POLFLAM EI30 (w × h × th): ≤ 1147 mm × ≤ 2337 mm × ≤ 40 mm Area: ≤ 2,68 m ² ; Fireblock EI30 DGU, TGU (Glass LT) (w × h × th): ≤ 1497 mm × ≤ 2430 mm × ≤ 49 mm Area: ≤ 3,63 m ²
EN 15269-5 F.1.4	Decrease dimensions		Possible <u>decrease</u> to a minimum dimension of the glass 250 x 250 mm
EN 15269-5 F.1.12	Fixing of glazing beads	2, 4, 9, 10	(030.3608.xx, 030.3615.xx, 030.3616.xx, 030.3609.xx, 030.3614.xx, 030.3200.xx, 030.3606.xx, 030.3607.xx, 030.3610.xx, 030.3611.xx, 030.3612.xx, 030.3613.xx). Inox glazing clips (068.6311.--068.6310.--, 068.6361.--, 068.6365.--, 068.6376.--, 068.6369.--)
	Side/ transom and over panels		
EN 15269-5 E.1.1	Side/ transom panels	4, 15	

			
EN 15269-5 E.3.1, E.3.2	Size variation of side, transom panel		Possible decrease to a minimum dimension of the glass 250 x 250 mm
EN 15269-5 H.1 - H.7	Supporting construction	1, 2, 3, 4, 5	Standard rigid (of aerated concrete blocks), flexible (of gypsum plasterboard) or associated (of REYNAERS Aluminum CS-77 FP (EI 30) system with free edge)
EN 15269-5 H.1.7	Type of fixings	1, 4, 8, 9	Steel screws Fischer FFS 7,5 x 182 mm, FFS 7,5 x 152 mm, FFS 7,5 x 132 mm, FFS 6 x 120 mm, Fischer FUR 10 x 160 T A4, Fischer FUR 8 x 120 T A4. Soudafoam FR (084.9093.--) SOUDAL Mineral wool (Rockwool)
EN 15269-5 H.1.17	Gaps	2, 3	Permitted: Top – 13,00 mm; Bottom – 12,68 mm; Lock side – 14,41 mm; Hinge side – 14,78 mm. Possible increase up to a 50% in the tested gap size between door leaf and floor but limited to a maximum of 25 mm total gap size.

3.3 Fire resistance and smoke control performance parameters:

Integrity: 30 min;

Insulation: 30 min.

4. Additional statement

The extendend application results applicable for the defined product range(s) under the same (tabulated) format as specified in the relevant test standard.

Certification expert
Aurelija Rimkienė

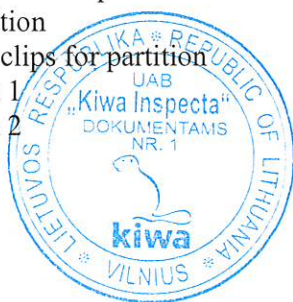


Certification expert
PhD. Mindaugas Grigonis

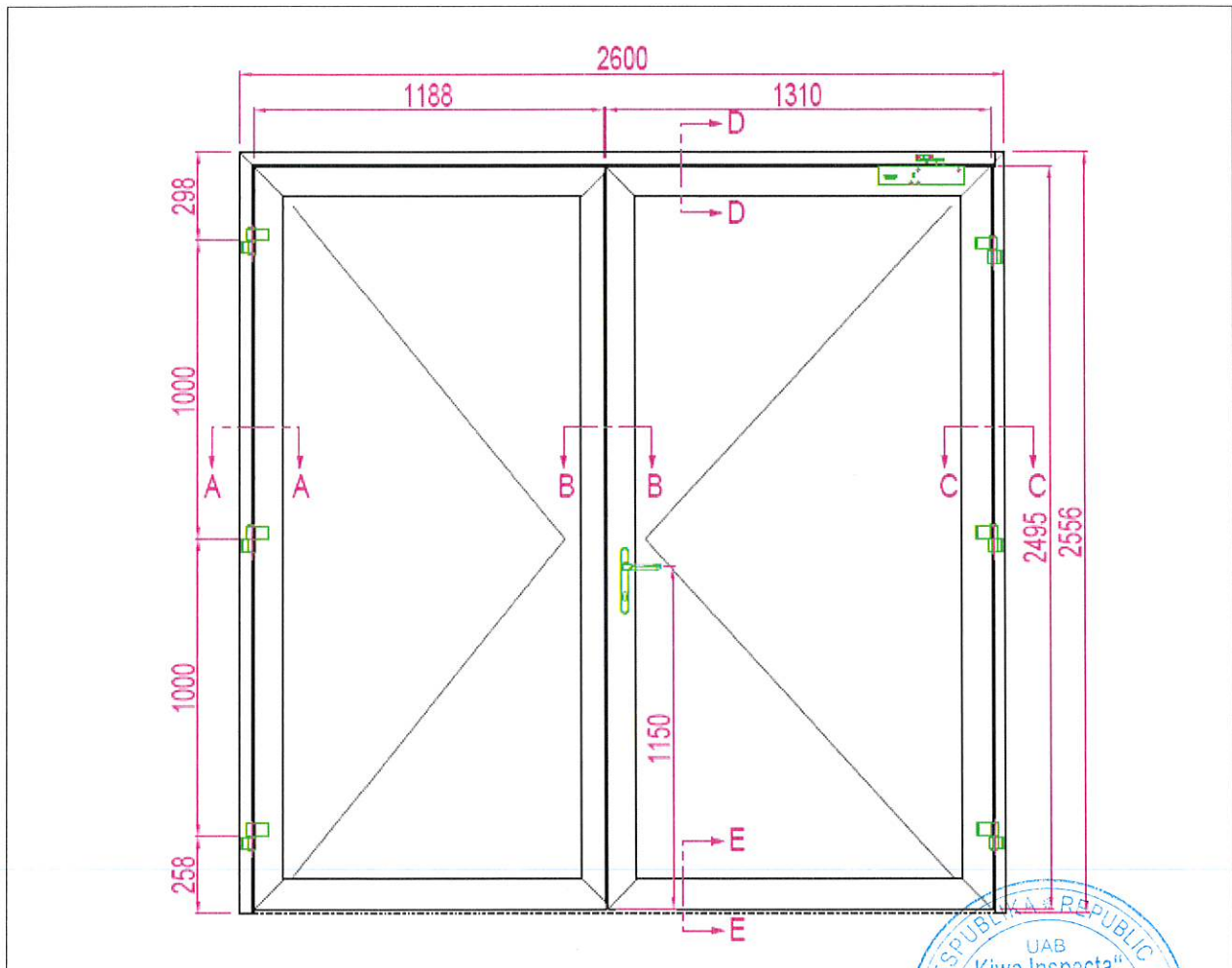


ANNEXES

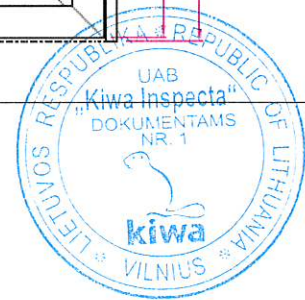
Drawing 1.	Front view of double door
Drawing 2.	View of double door section A-A cut
Drawing 3.	View of double door section B – B cut
Drawing 4.	View of double door section C – C cut
Drawing 5.	View of double door section D – D cut
Drawing 6.	View of double door section E – E cut
Drawing 7.	Fire proof glazing clips for double door
Drawing 8.	Hardware for double door
Drawing 9.	Profile for double door
Drawing 10.	Accessories 1 (double door)
Drawing 11.	Accessories 2 (double door)
Drawing 12.	List of materials for single door
Drawing 13.	Front view of single door (glazing beads to fire)
Drawing 14.	Front view of single door (glazing beads cold side)
Drawing 15.	View of single door section A – A, E -E cut
Drawing 16.	View of single door section B – B, F- F cut
Drawing 17.	View of single door section C – C, G - G cut
Drawing 18.	View of single door section D – D, H - H cut
Drawing 19.	Hardware for single door
Drawing 20.	Fire proof glazing clips for single door
Drawing 21.	Profile for single door
Drawing 22.	Accessories 1 (single door)
Drawing 23.	Accessories 2 (single door)
Drawing 24.	List of materials for single door
Drawing 25.	View of construction with partitions
Drawing 26.	View of partition cuts
Drawing 27.	View of construction with partitions section A – A cut
Drawing 28.	View of construction with partitions section B – B cut
Drawing 29.	View of construction with partitions section C – C cut
Drawing 30.	View of construction with partitions section D – D cut
Drawing 31.	Hardware for partition
Drawing 32.	Fire proof glazing clips for partition
Drawing 33.	Profile of partition 1
Drawing 34.	Profile of partition 2

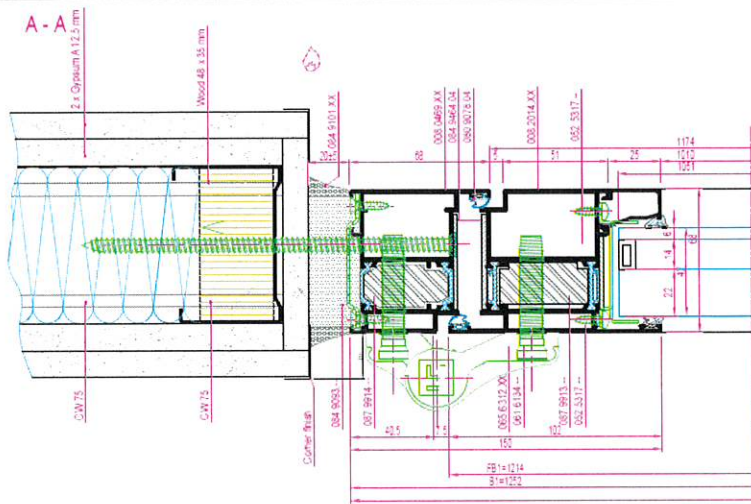


ANNEX

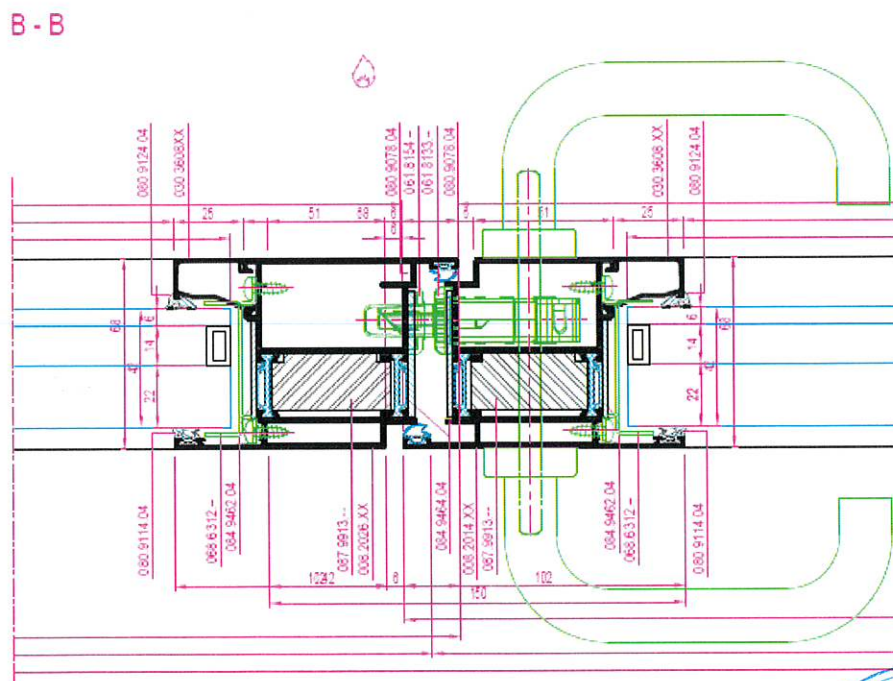


Drawing 1. Front view of double door

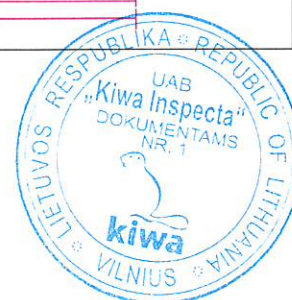


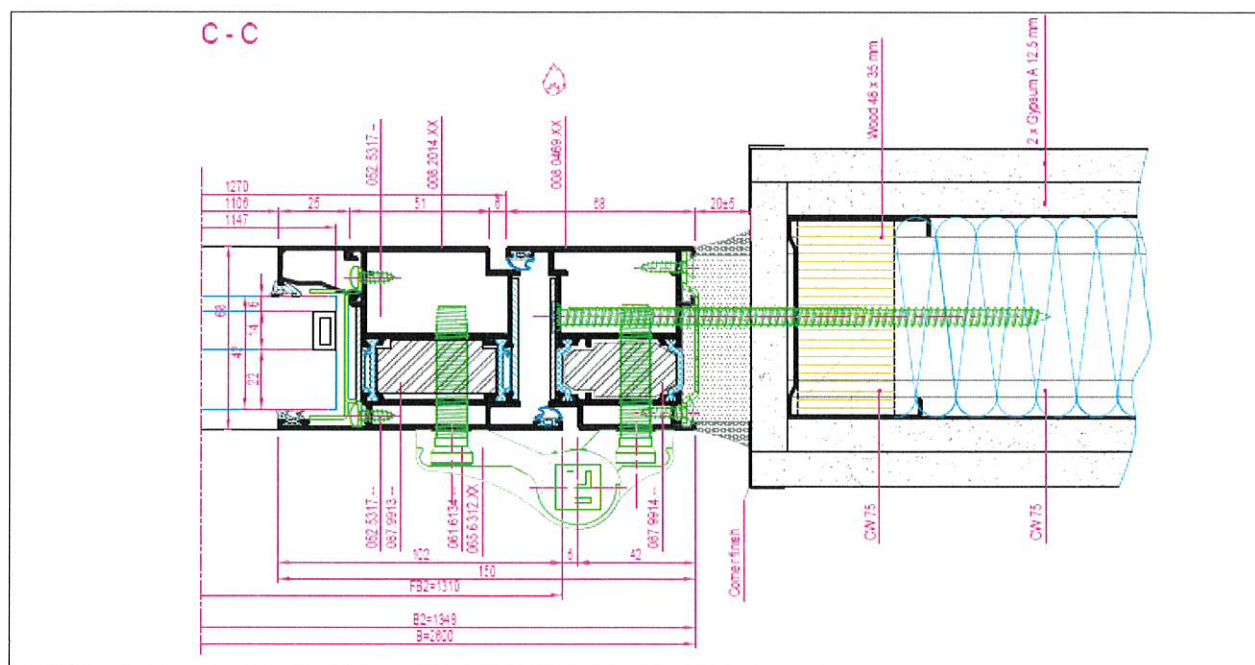


Drawing 2. View of double door section A – A cut

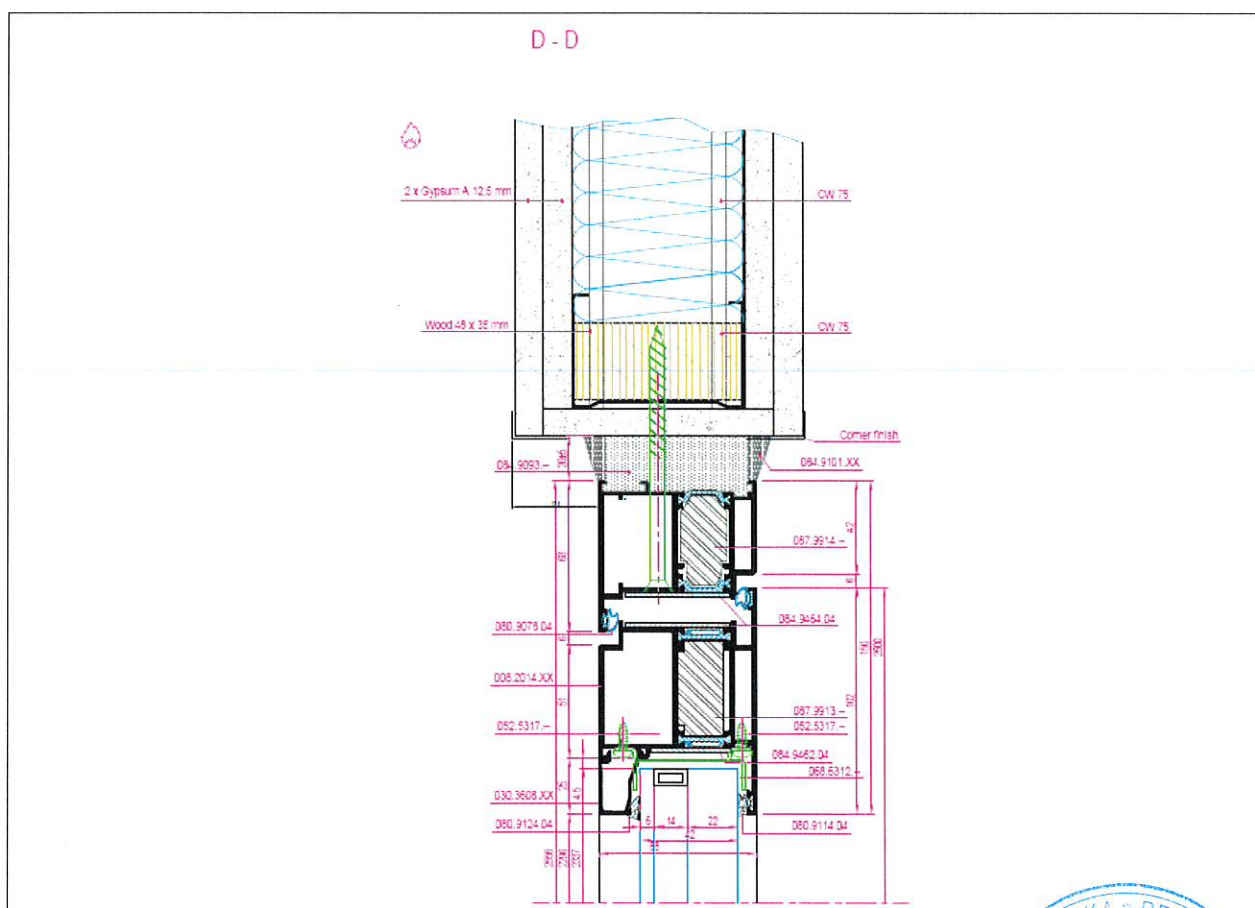


Drawing 3. View of double door section B – B cut

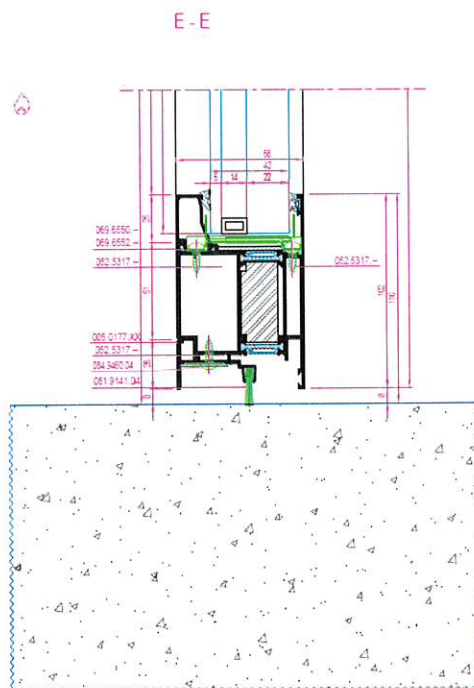




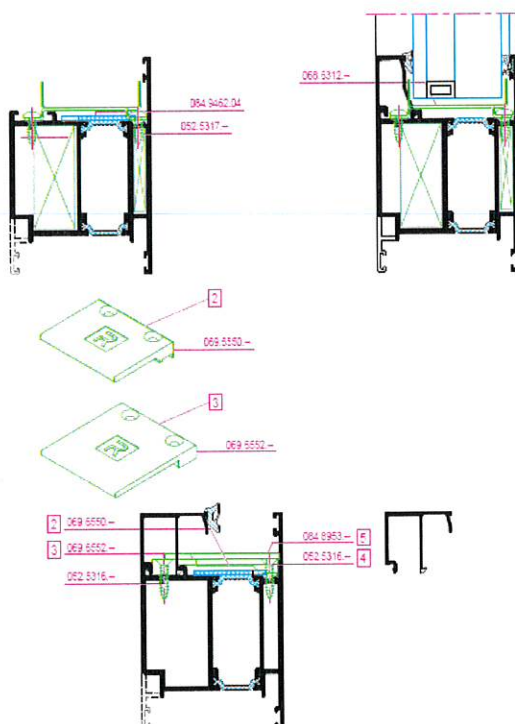
Drawing 4. View of double door section C – C cut



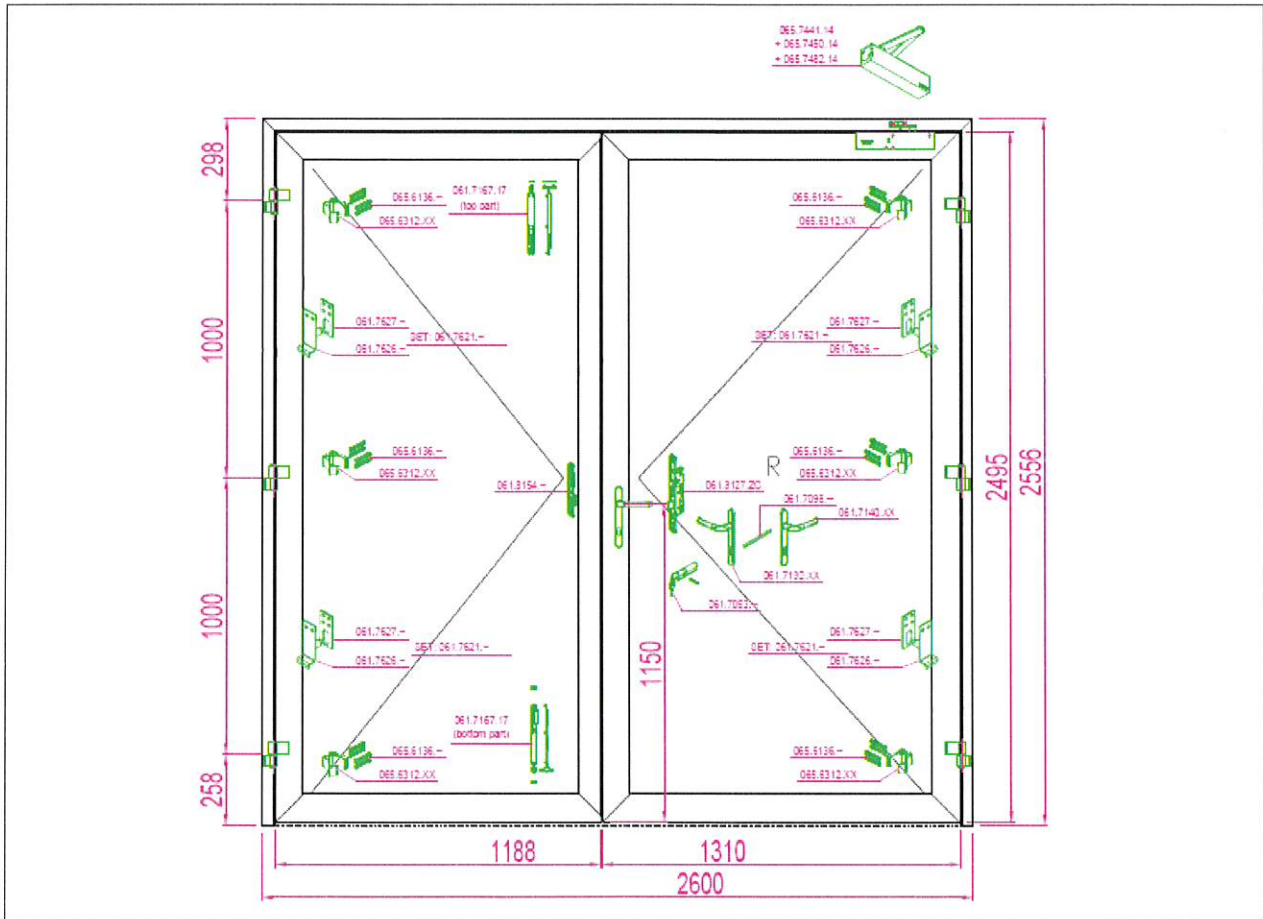
Drawing 5. View of double door section D – D cut



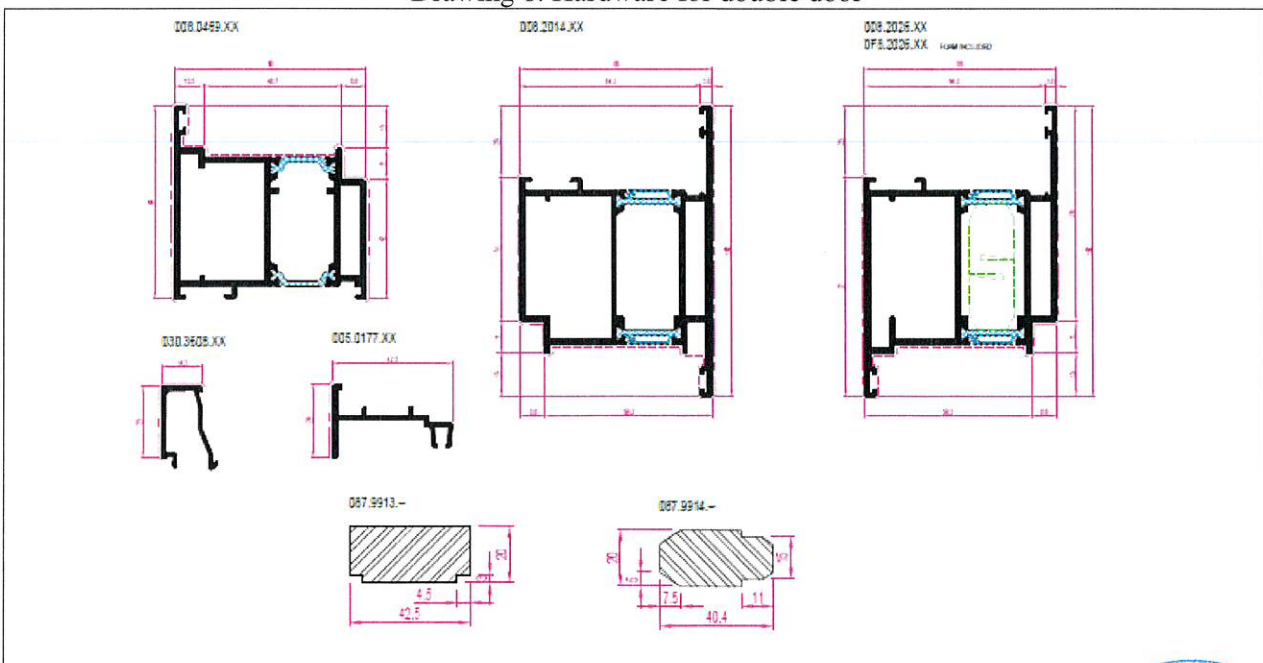
Drawing 6. View of double door section E – E cut



Drawing 7. Fire proof glazing clips for double door

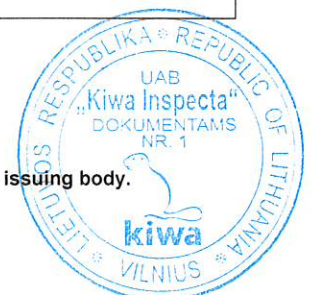


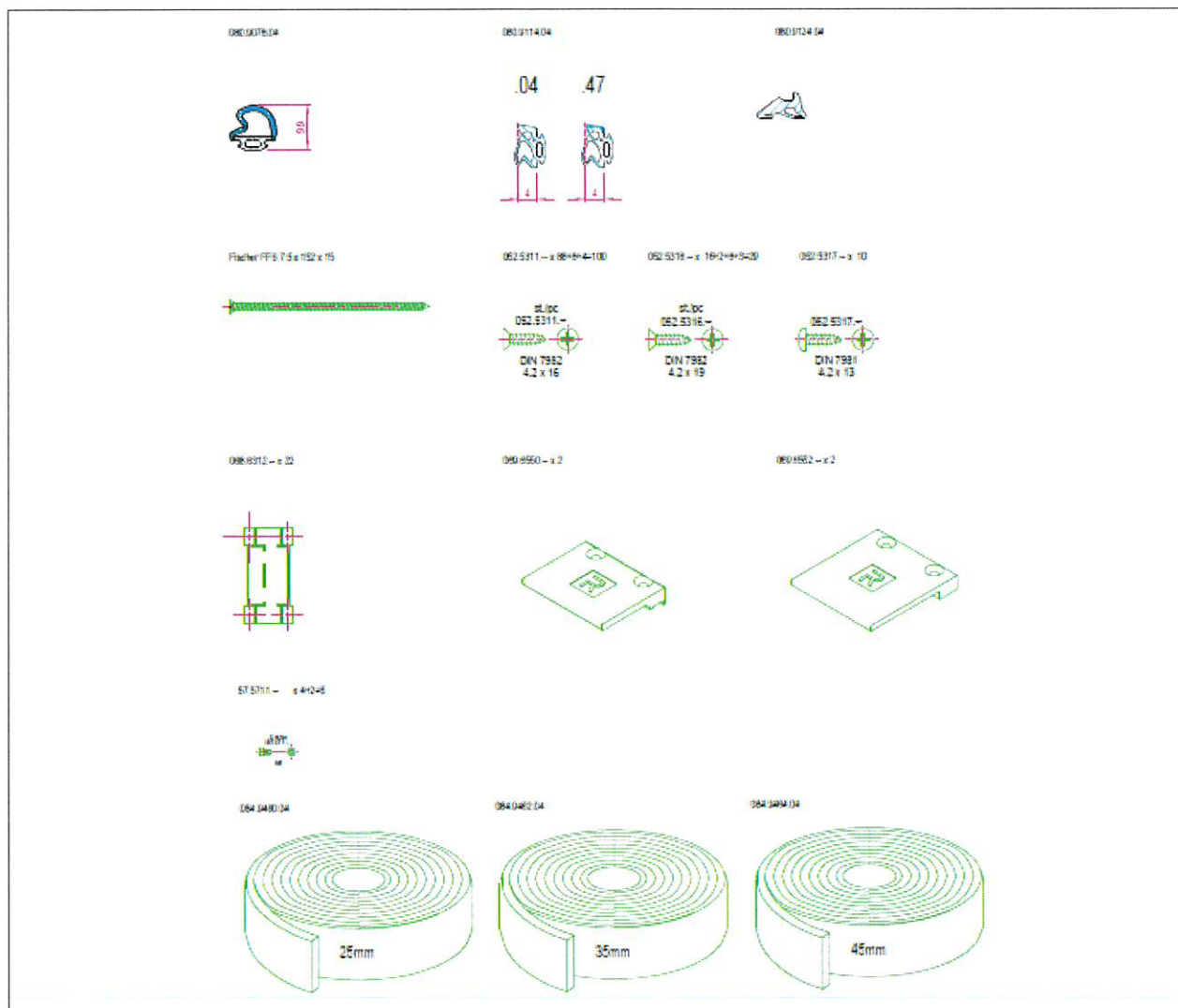
Drawing 8. Hardware for double door



Drawing 9. Profile for double door

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F SP 08-18-015





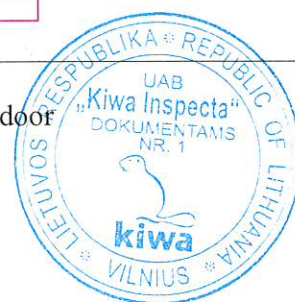
Drawing 10. Accessories 1 (double door)

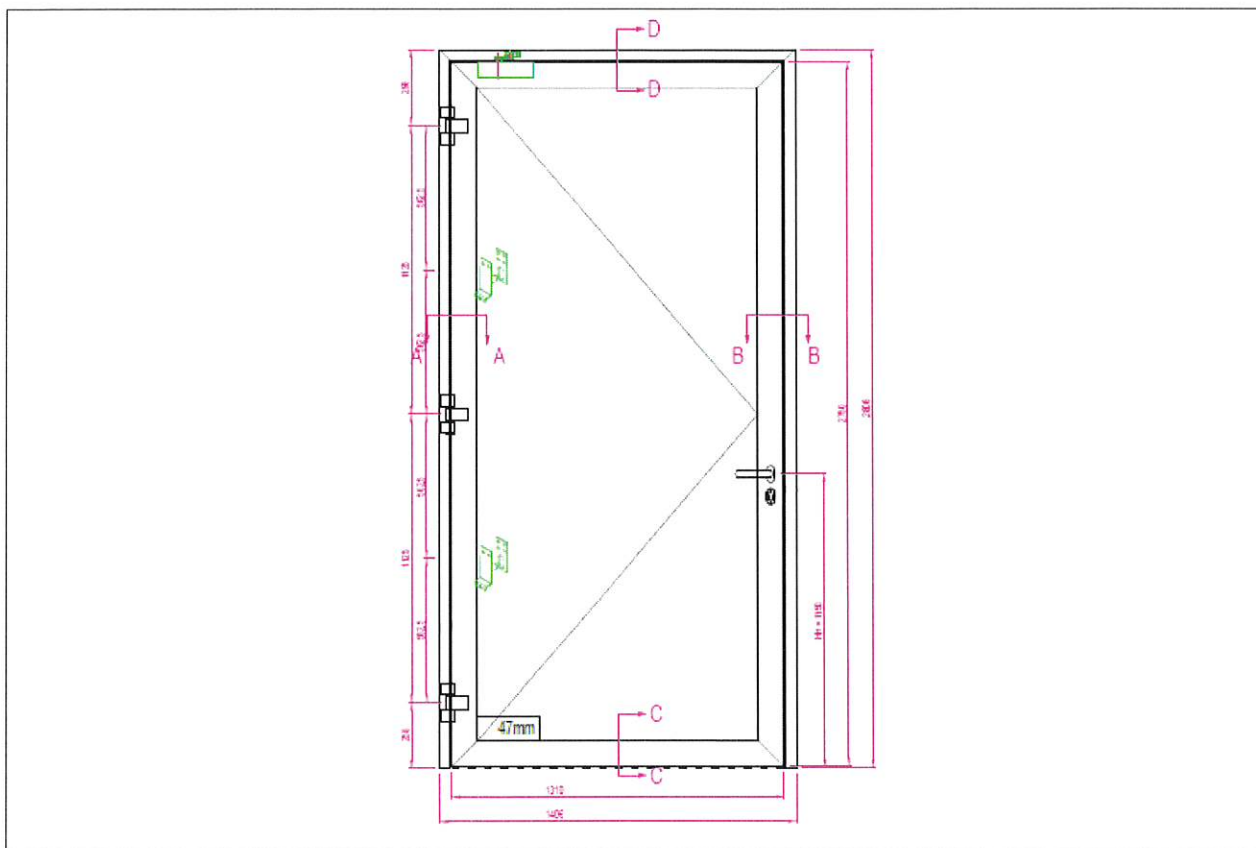


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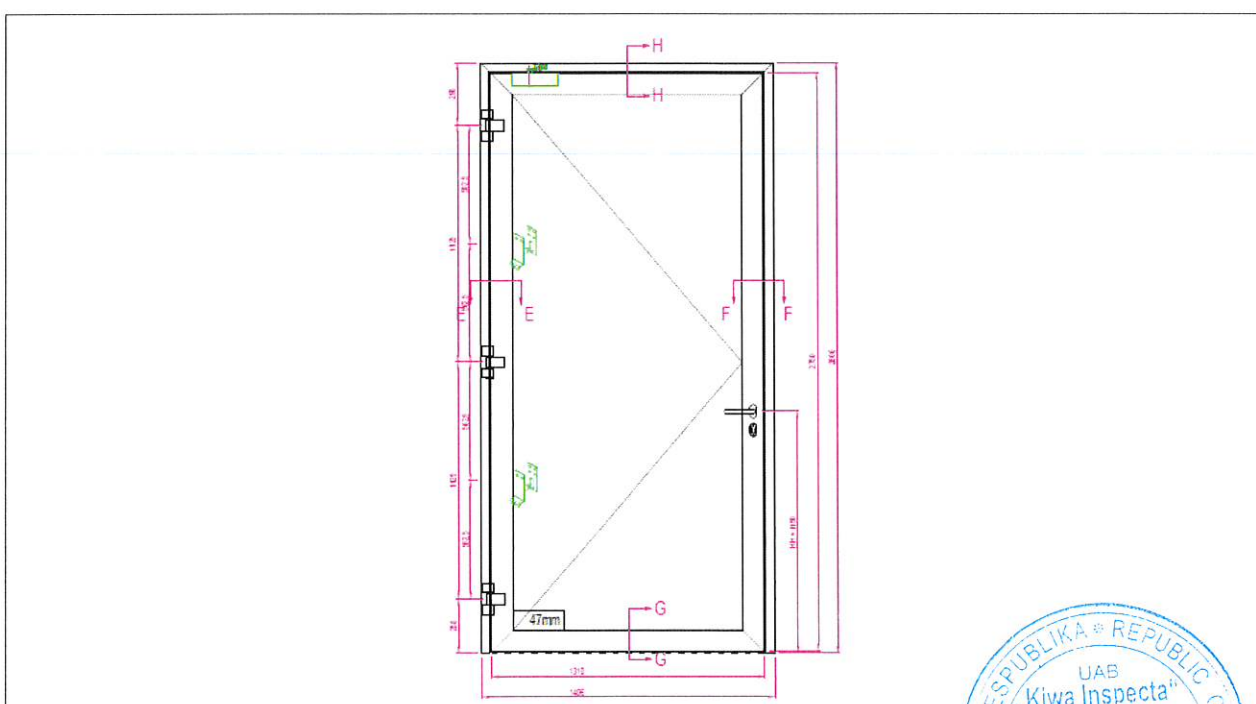
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USZCZELKI			OKUCIA		
080.9078.04		(2x5)+(5x4)=20536	085.8312.XX		6
080.9114.SY		(2x1)+(2x2) +(4x1)=13720	085.8134.-		6
080.9124.SY		(2x1)+(2x2) +(4x1)=13720	081.8127.ZC		1
SZCZOTKI			052.5318.-		2
081.9092.04		16 x 51,5	081.8154.-		1
081.9141.04		2600	052.5318.-		3
NAROŻNIKI			081.7187.-		1
088.7794.00		2	081.7130.XX		1
088.7797.00		8	081.7140.XX		1
080.8723.-		8	081.7053.-		1
PODPÓRKI POD PRZESZKLENIE			081.7098.-		1
089.8550.-		4	050.5083.-		3
052.5318.-		8	085.7441.14		1
089.8552.-		4	057.5711.-		4
052.5318.-		8	085.7450.14		1
084.8952.-		4	085.7482.14		1
084.8953.-		4	088.8390.-		4
PROG			052.5318.-		8
089.8453.04		1	088.8312.-		44
052.5311.-		4	052.5317.-		176
089.8480.04		2	081.7828.-		4
052.5311.-		8	052.5317.-		8
TAŚMY MARVON			052.5320.-		4
084.9480.04		2600	081.7827.-		4
084.9482.04		15424	052.5317.-		16
084.9484.04		20536	ZASŁEPKI		
GKF			089.8511.04		1
087.9913.-		8500	089.8512.04		1
087.9914.-		7500	CHEMIA		
			084.9099.-		1
			084.9101.XX		1
			084.9081.-		1
			087.9551.-		1

Drawing 12. Fire proof glazing clips for double door

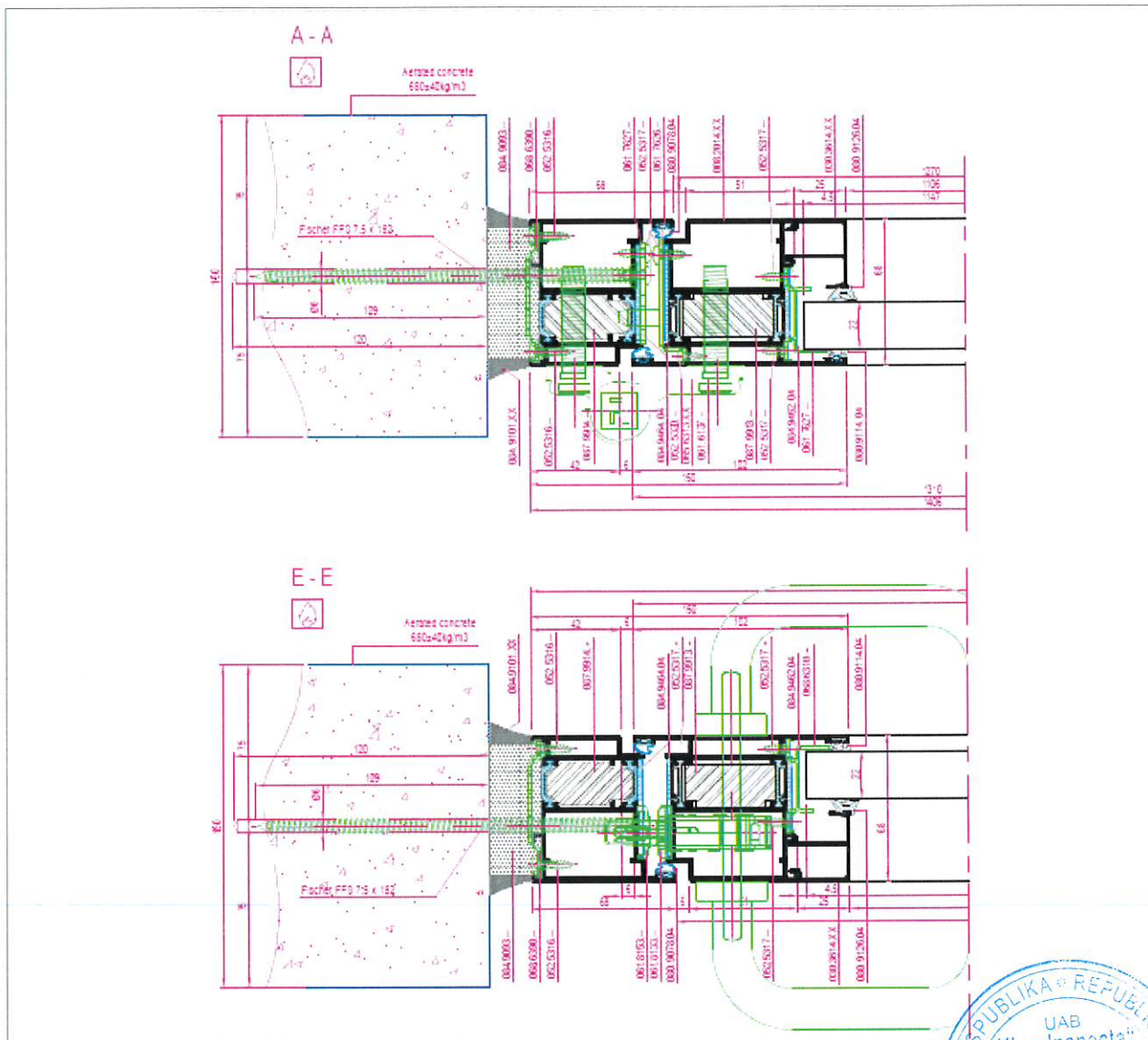




Drawing 13. Front view of single door (glazing beads to fire)

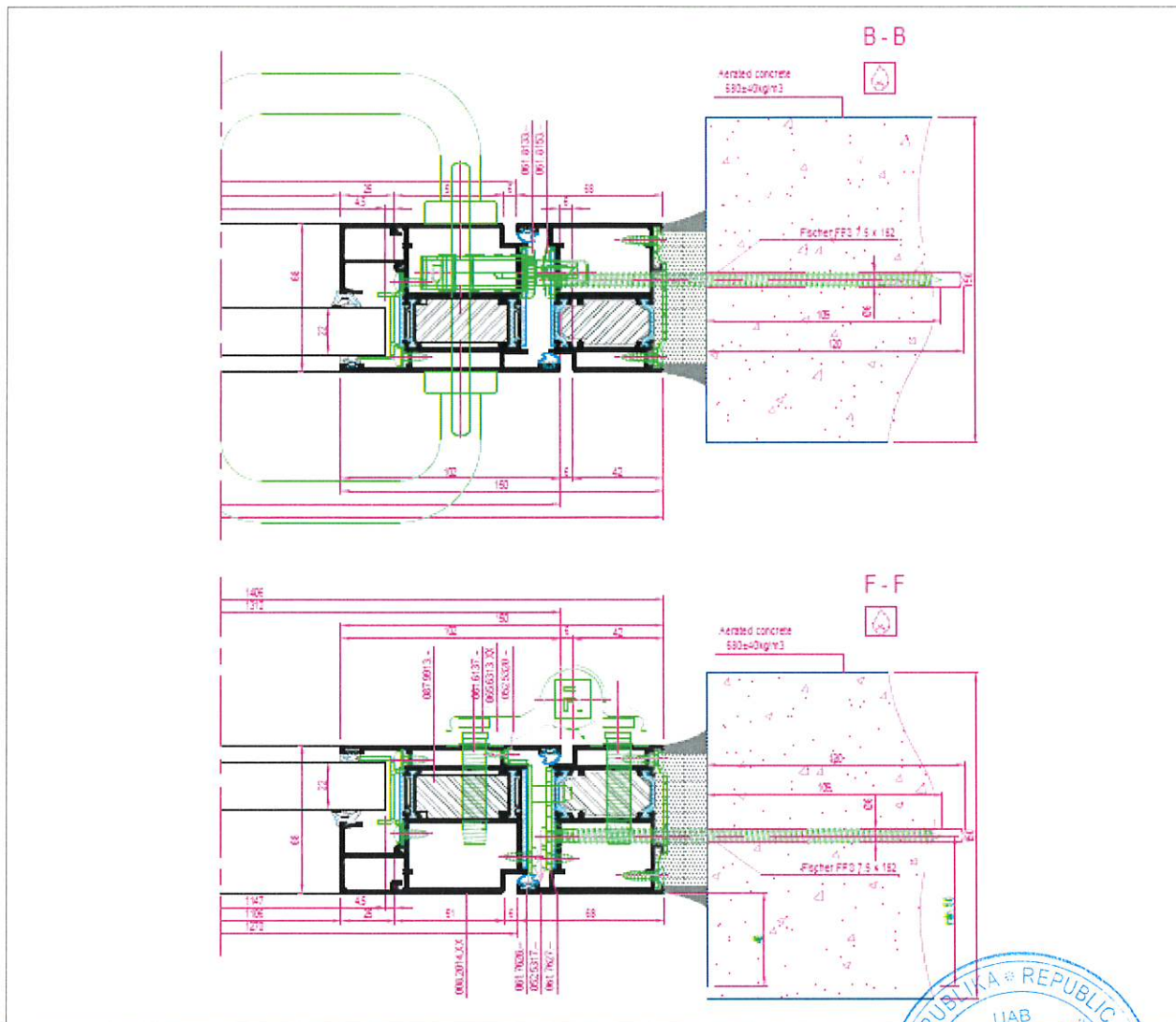


Drawing 14. Front view of single door (glazing beads cold side)

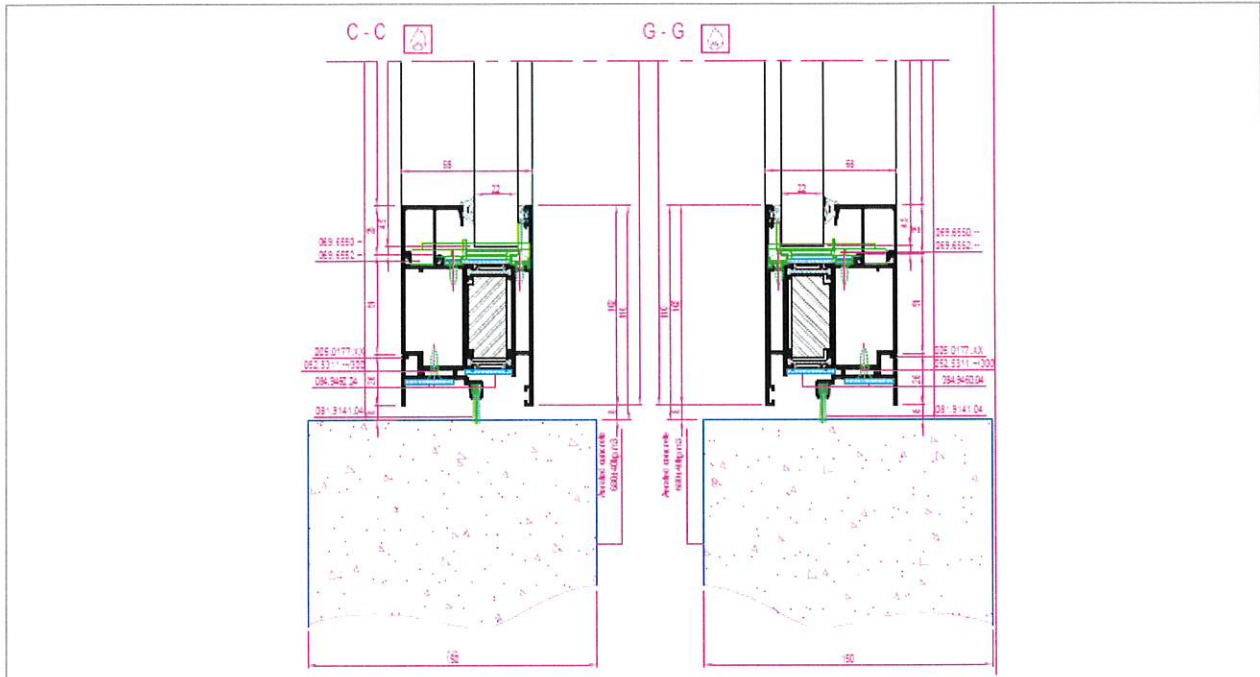


Drawing 15. View of single door section A – A, E - E cut

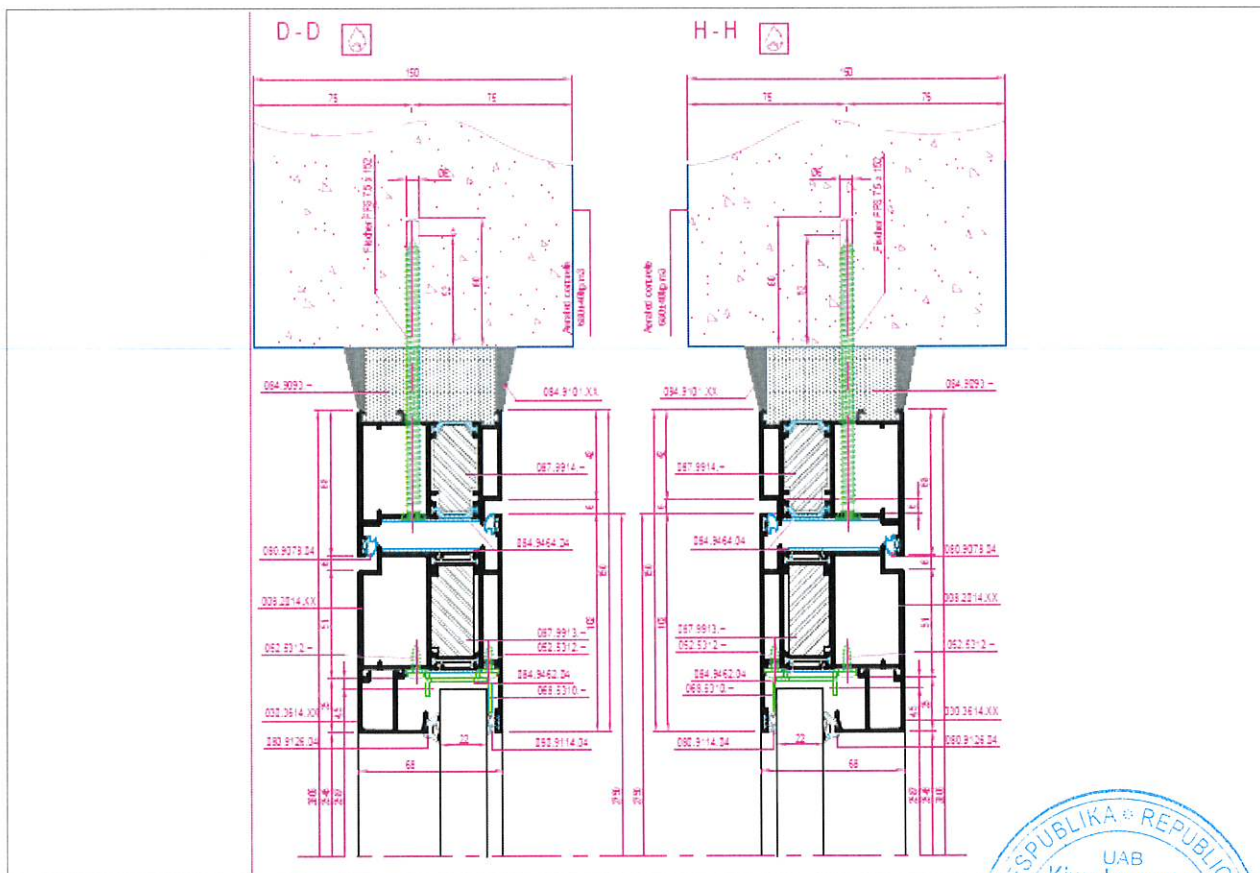




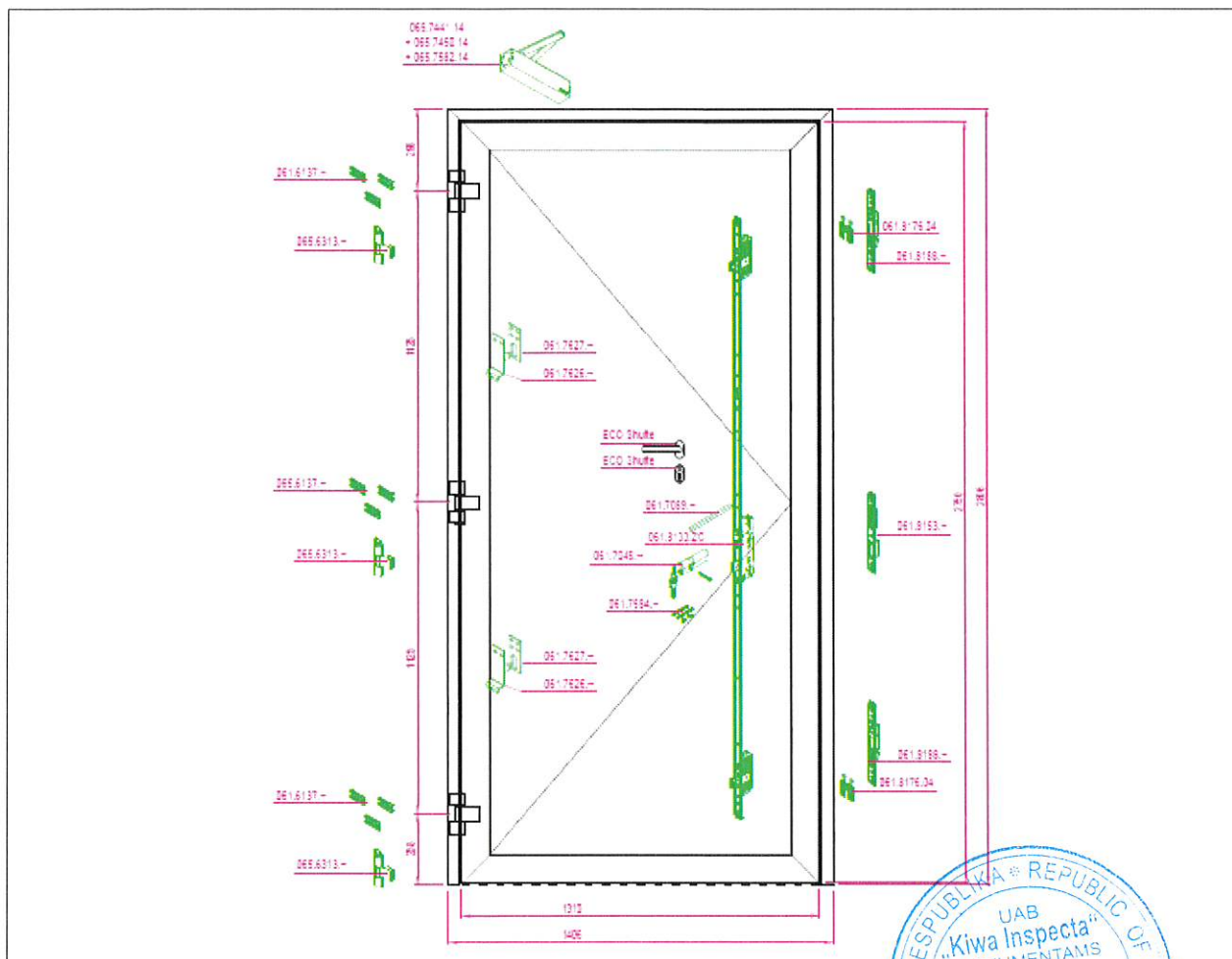
Drawing 16. View of single door section B – B, F - F cut



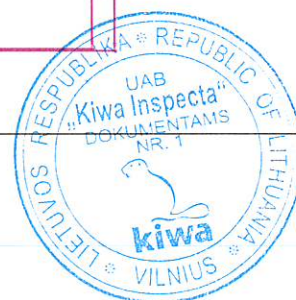
Drawing 17. View of single door section C – C, G - G cut

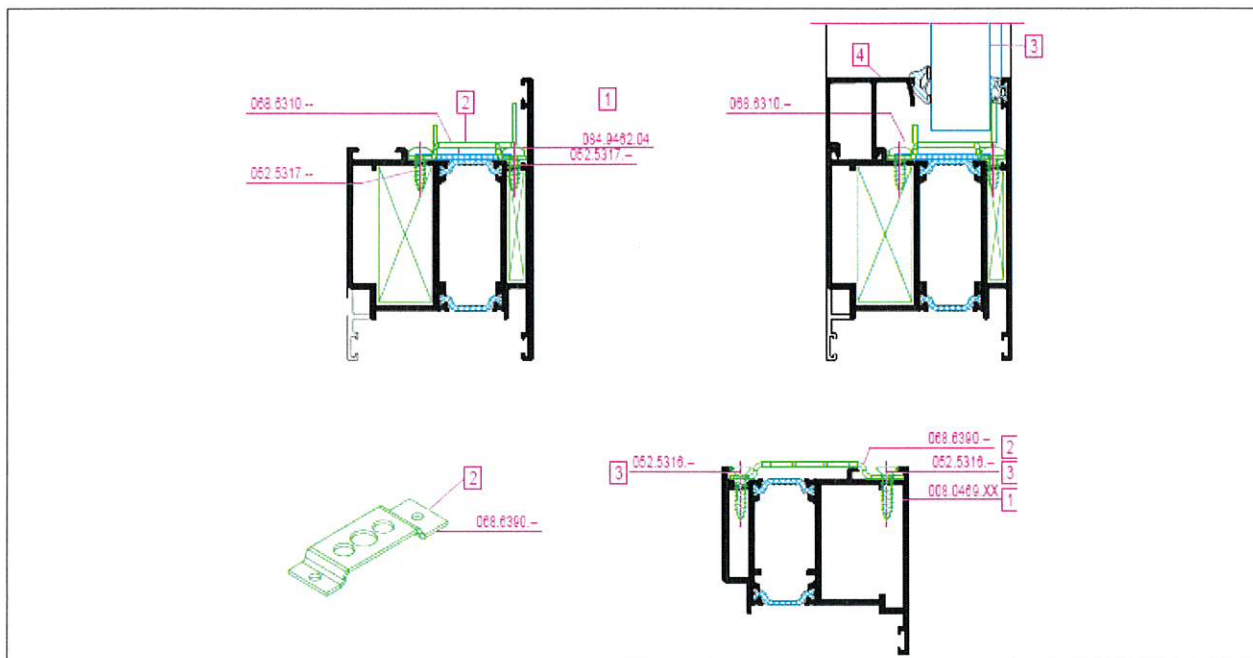


Drawing 18. View of single door section D – D, H - H cut

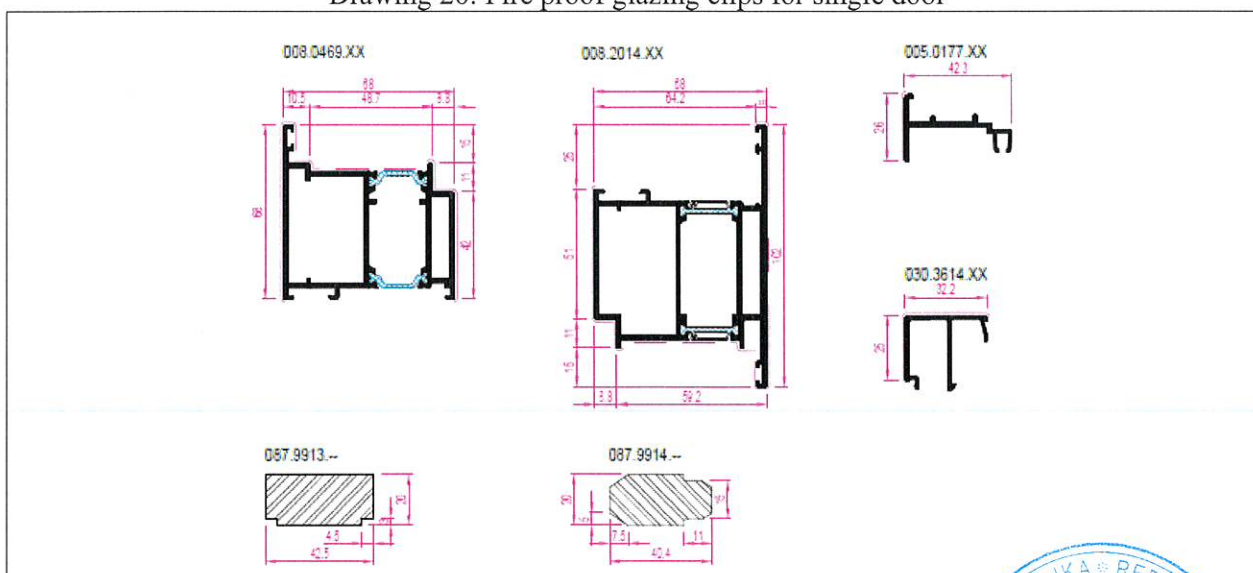


Drawing 19. Hardware for single door





Drawing 20. Fire proof glazing clips for single door



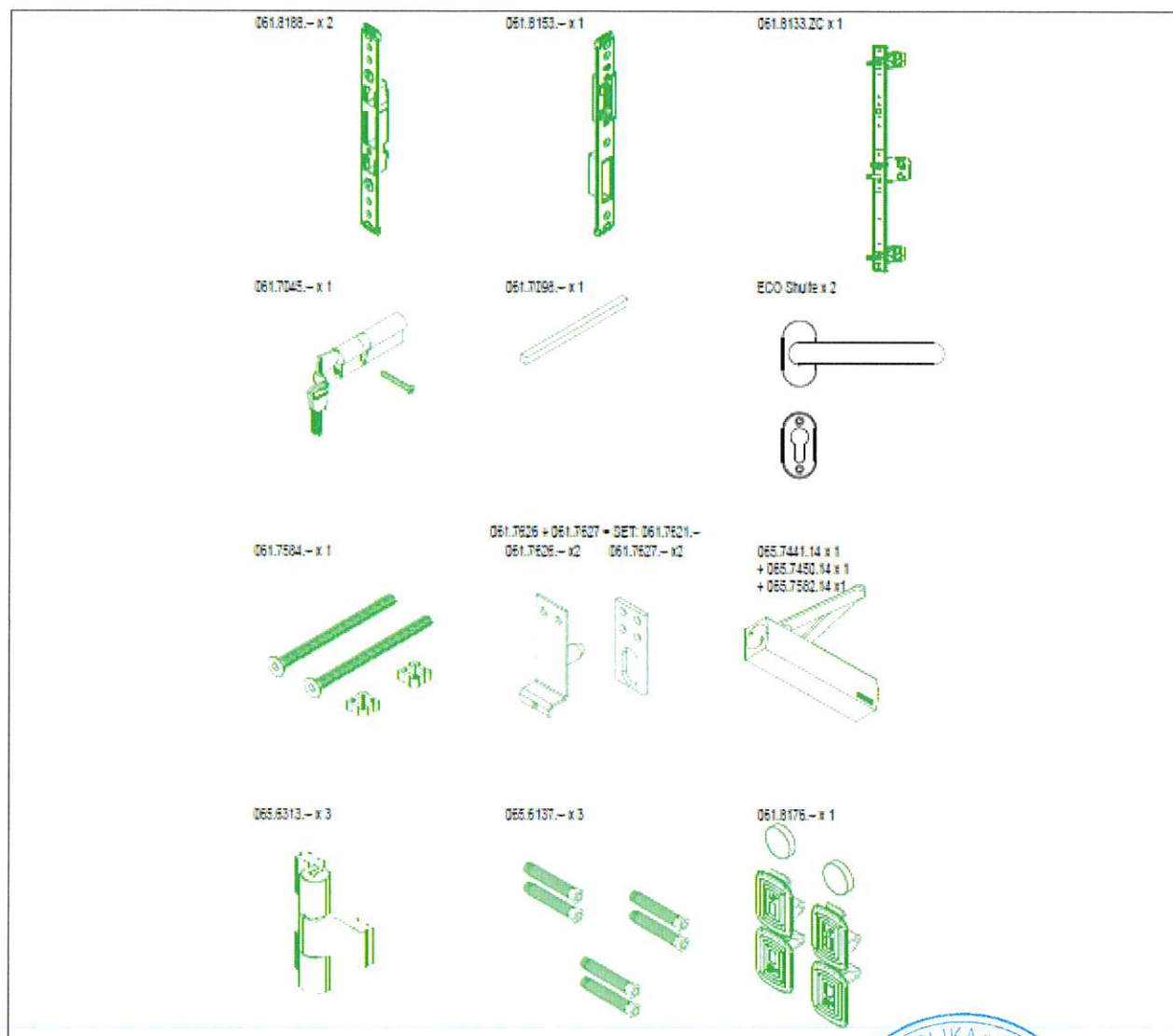
Drawing 21. Profile of single door





Drawing 22. Accessories 1 (single door)





Drawing 23. Accessories 2 (single door)

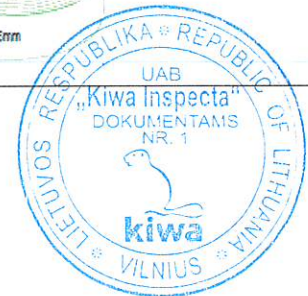


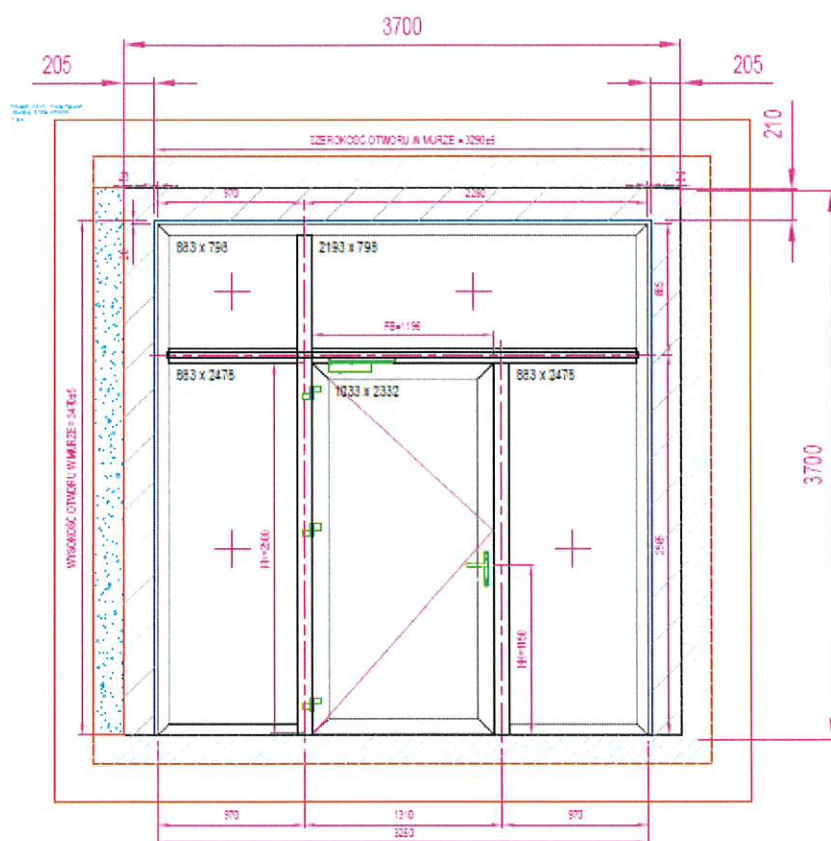
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090.8748.00		4	088.8310.-		34
090.8078.04		14000	052.5317.-		72
090.9114.04		7500	081.7828.-		2
090.9128.04		7500	052.5317.-		4
089.8550.-		2	052.5320.-		2
052.5318.-		4	081.7827.-		2
089.8552.-		2	052.5317.-		8
052.5318.-		4			
Fischer		10			
FFS 7,5 x 182					
Fischer		3			
FFS 7,5 x 152					
081.8188.-		2			
081.8178.-		1			
052.5318.-		8			
081.8153.-		1			
052.5318.-		3			
ECO Shute		2			
081.7045.-		1			
081.7098.-		1			
081.7594.-		1			
085.7441.14		1			
057.5711.-		5			
085.7450.14		1			
085.7582.14		1			
081.8133.ZC		1			
052.5318.-		13			
085.8313.-		3			
085.8137.-		3			
094.9093.-		1.5			
094.9101.XX		13			
094.9482.04		8000			
094.9484.04		14000			
094.9480.04		5340			
094.8952.-		13R.G. ...			
094.8953.-		13R.G. ...			
094.9081.-		0.5			
081.9141.04		1268			
052.5311.-		5			

			#	
008.2014.XX			2	2750
008.0480.XX			2	1310
			1	2808
			1	2808
			1	1408
005.0177.XX			1	1268
030.3814.XX			2	3546
			2	1158
087.9913.-			1	8500
087.9914.-			1	7500

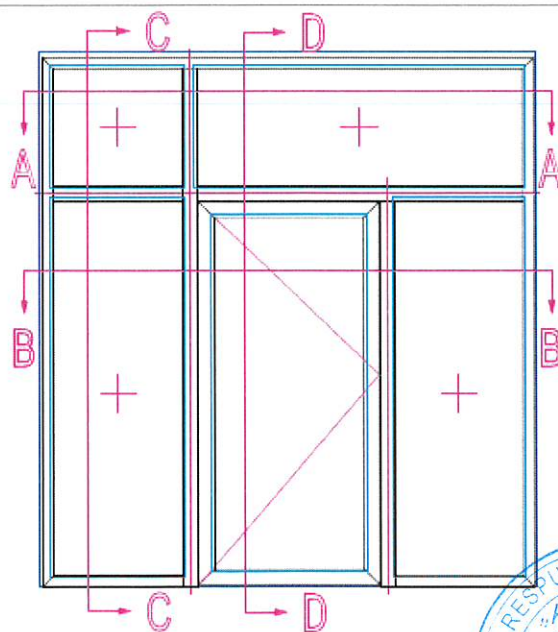
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084.8952.-				
084.8953.-				
081.9141.04				
084.9480.-				
084.9482.04				
084.9484.04				
25mm				
35mm				
45mm				

Drawing 24. List of materials for single door

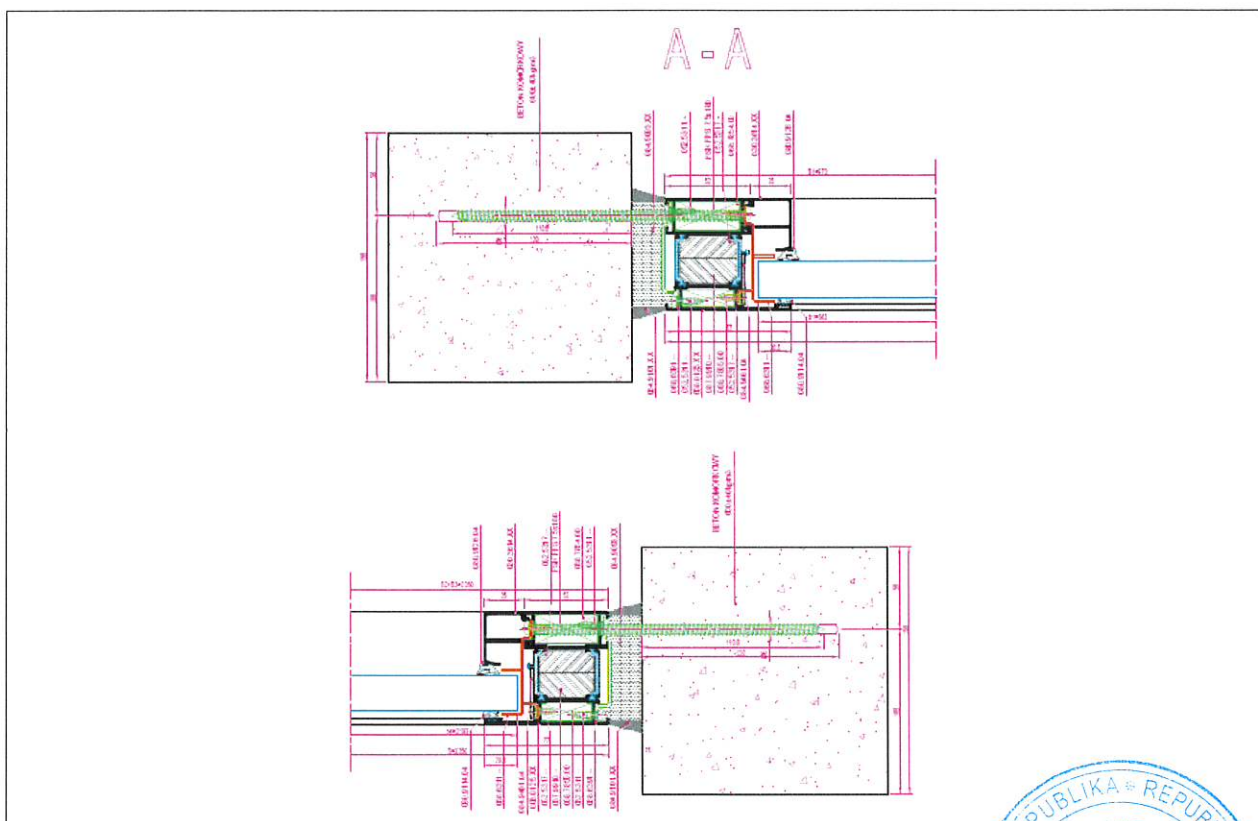




Drawing 25. View of construction with partitions

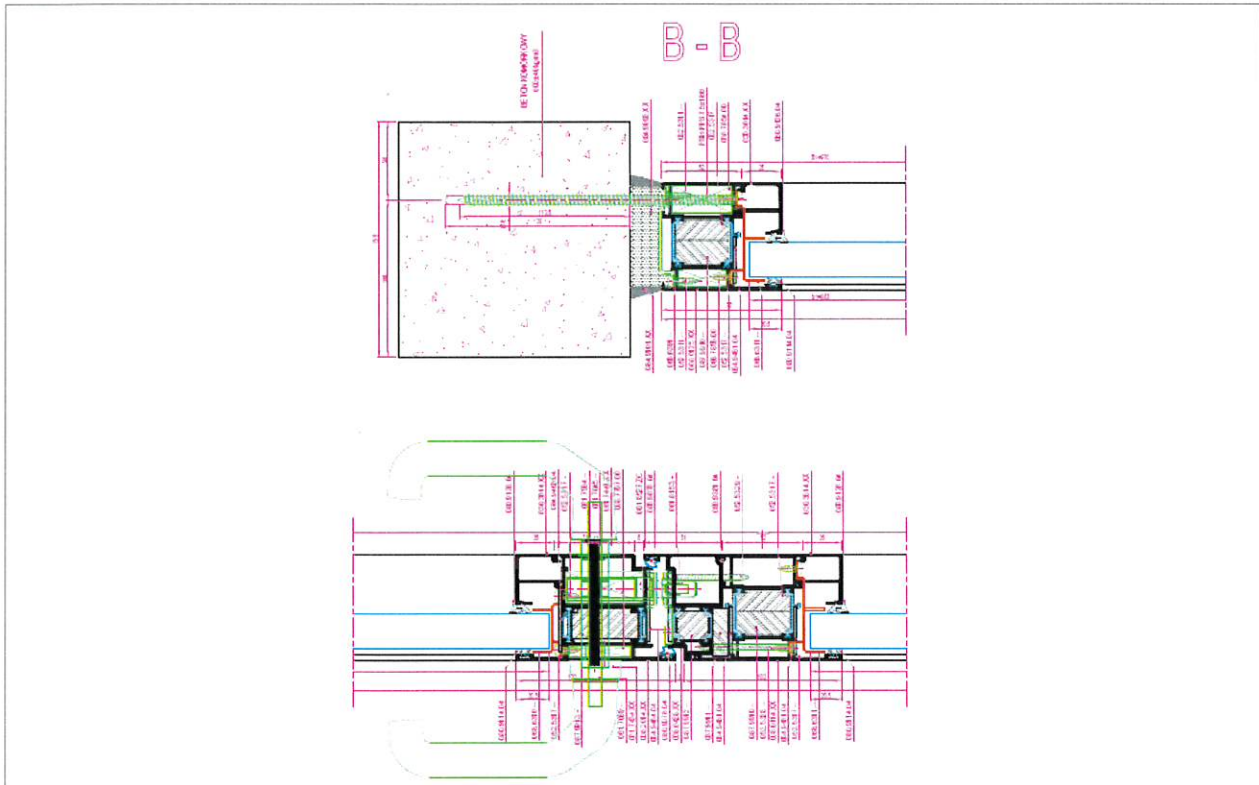


Drawing 26. View of partition cuts

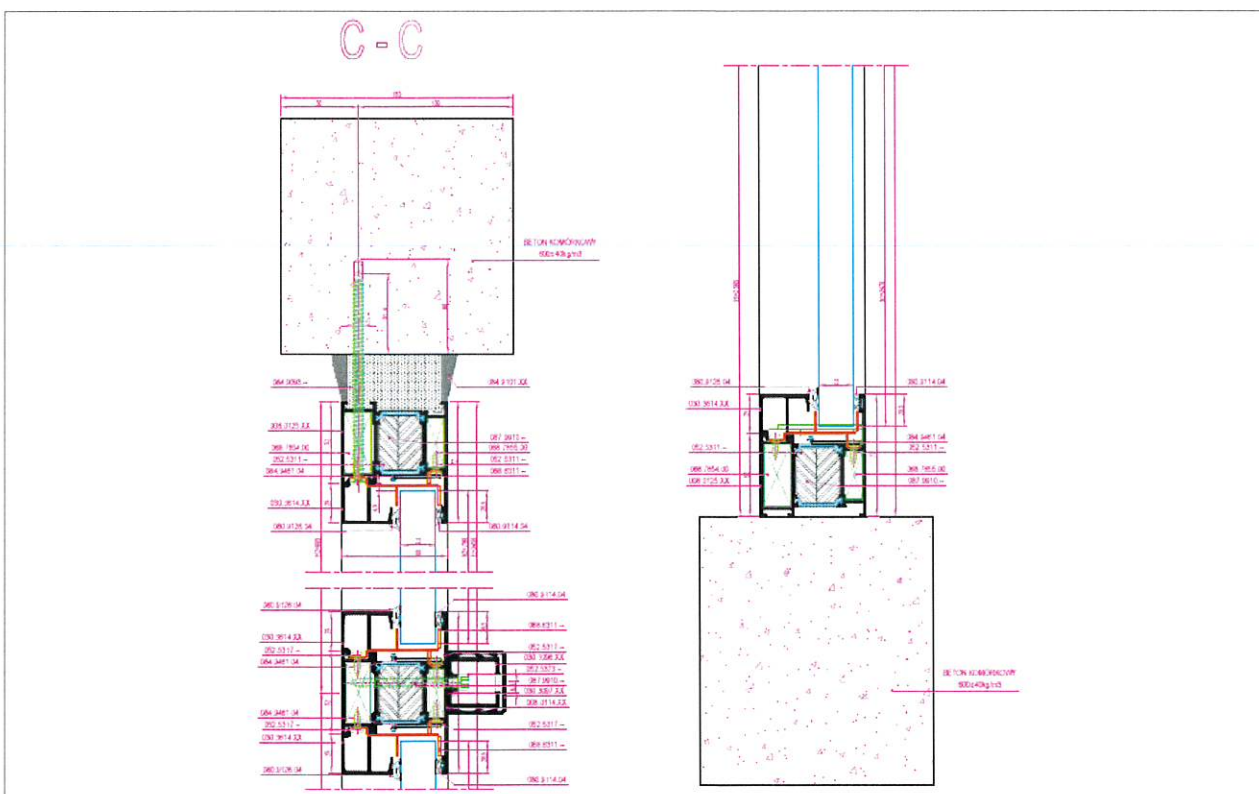


Drawing 27. View of partitions section A – A cut

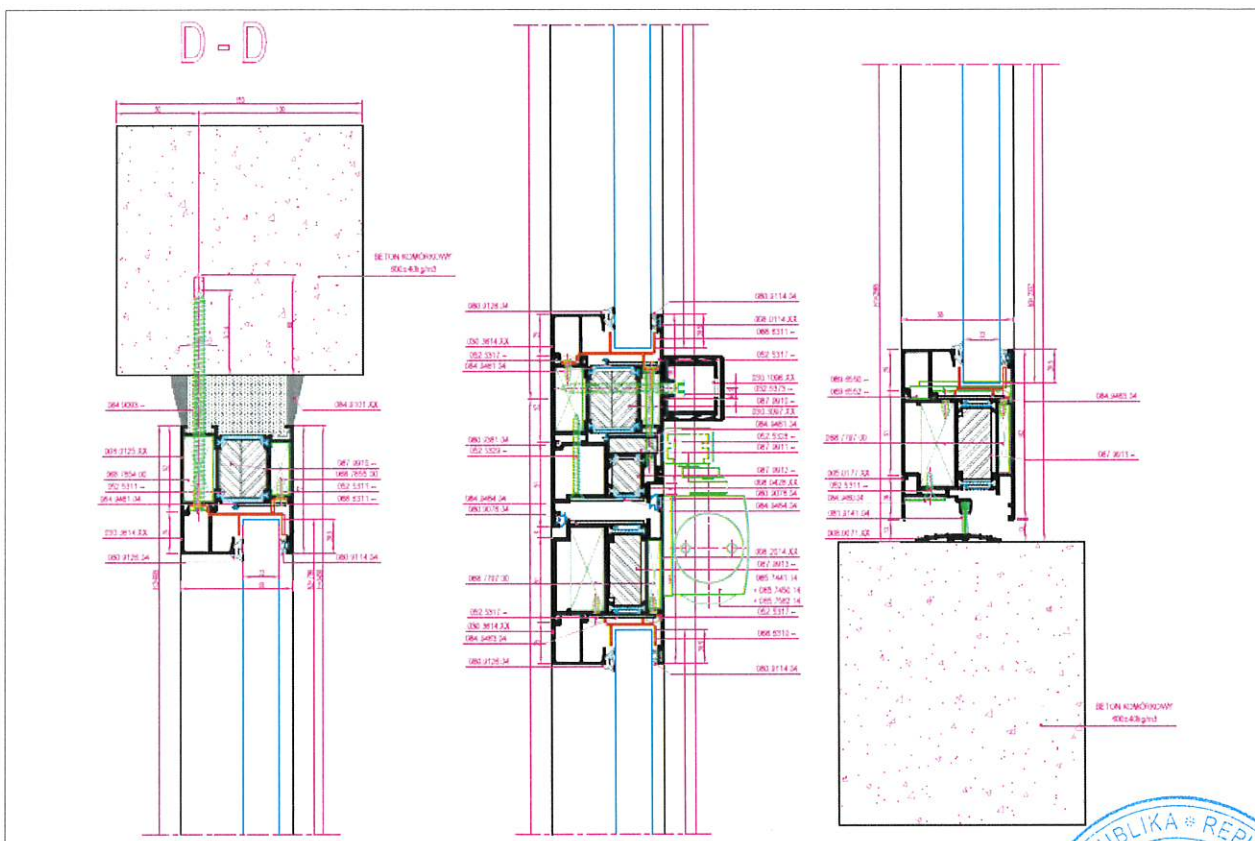




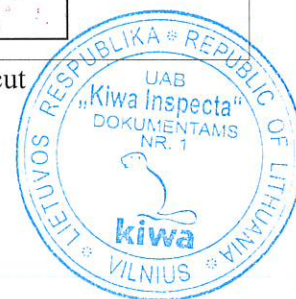
Drawing 28. View of construction with partitions section B – B cut

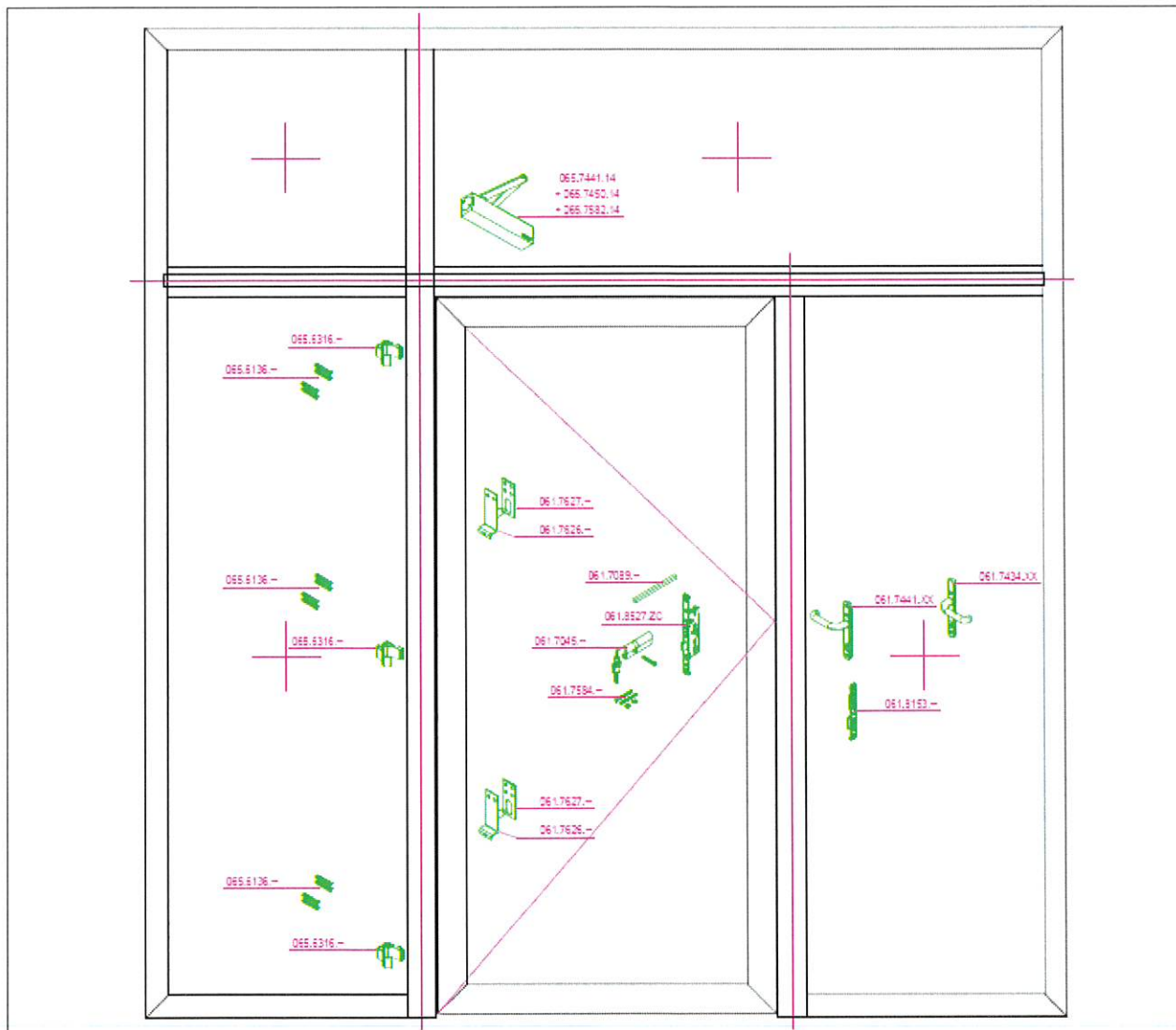


Drawing 29. View of construction with partitions section C – C cut

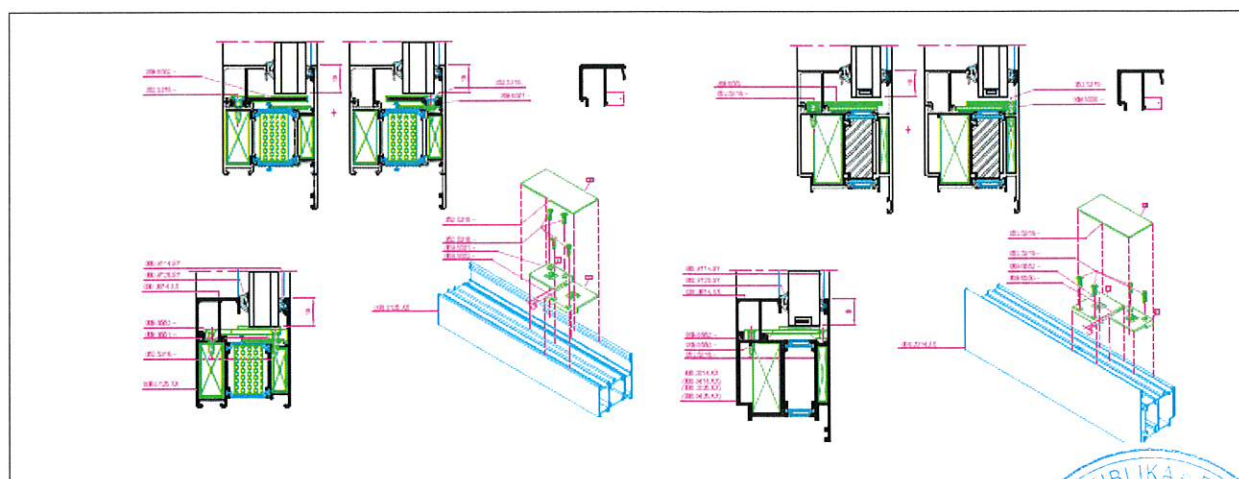


Drawing 30. View of construction with partitions section D – D cut.

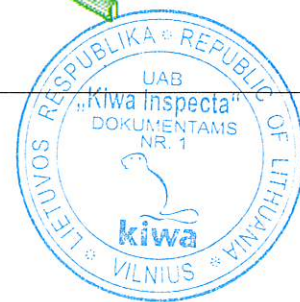




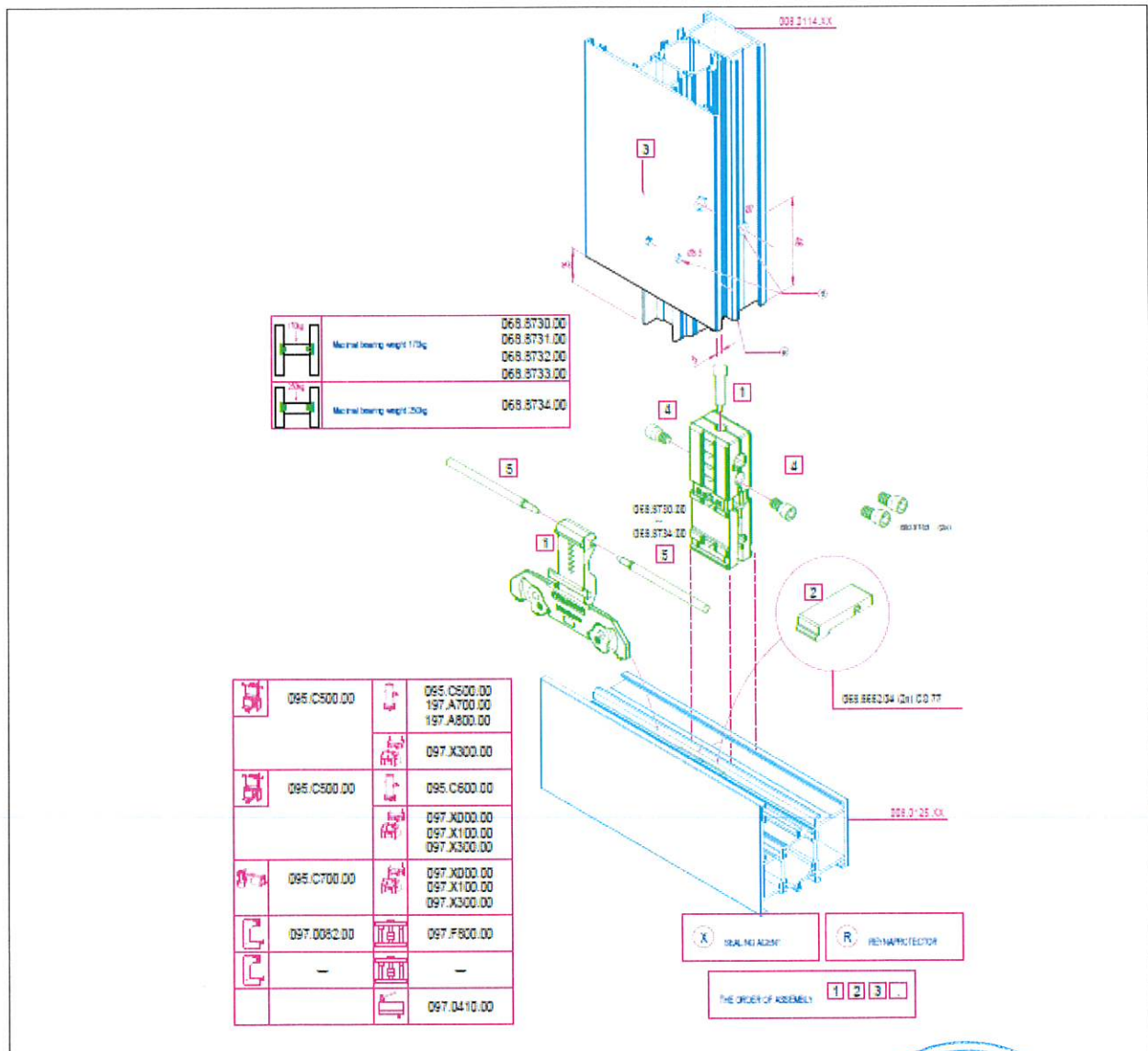
Drawing 31. Hardware for partition



Drawing 32. Fire proof glazing clips for partition



Drawing 33. Profile of partition 1



Drawing 34. Profile of partition 2

