

CURTAIN WALL - TECHNOLOGICAL CARD

1. GENERAL

In this technological card we will focus on analyzing installation of curtain wall. The surface of the facade corresponding to the curtain wall is 322,60m². This is the west facade and south facade. We can find tinted glazed and transparent glazed among which are the windows. This system is according all requirements of safety, noise and thermal. In addition we have modern solutions that exist. The curtain wall makes the building sophisticated and modern. And it is a perfect combination with the frame.

2. DESCRIPTION AND CONSTRUCTION SEQUENCE

The basics components of auxilliary estructure are metal sections:

-Non-standard profiles

Curtain wall is composed of:

- Glass
- EPDM gasket intercalaria J0815
- Interlayer KM806
- Beam profile
- Stud profile
- Wick
- Forged anchor
- Insulation: rock wool
- Thermal Break
- Italian window outer seal J0818
- Italian sheet board J0818
- Italian window frame FM835
- Italian FM 323 sheet
- Window safety part Italian KM 813
- Watertight seal between Dow Corning silicone crystals type 791 or 756

CONSTRUCTION SEQUENCE:

1. Transportation, storage and handling
2. Anchorage and connection provision
3. Connections stakeout
4. Installation arrangement
5. Placement of the uprights with the help of the crane
6. Glazing of the auxiliary structure with the help of the lifting platform
7. Final fixing and inspection

5. HUMAN SAFETY

The work will be carried out in accordance "with health and safety rules in construction request" .

1. Workers are allowed to work only with the knowledge of safety equipment.
2. Each worker must-use protective equipment (special clothing, footwear, gloves and respirators)
3. For welds, workers should wear gloves and goggles.
4. Unnecessary collection of materials and debris from the workplace.
5. Should be grounded electrical equipment.
6. Must be all electrica devices absolutely clean
7. All cables must be in perfect condition.

3. ORGANIZATION OF WORKS

| Id | Name of work | Duration | M2 | M3 |
|----|--|----------|---------------------------------------|---|
| 1 | Transportation, storage and handling | 1 day | 08 11 14 17 20 23 26 29 | 02 05 08 11 14 17 20 23 26 29 |
| 2 | Anchorage and connection provision | 1 day | | 01 04 07 10 13 16 |
| 3 | Connections stakeout | 1 day | | |
| 4 | Installation arrangement | 1 day | | |
| 5 | Placement of the uprights with the help of the crane | 11 days | | |
| 6 | Glazing of the auxiliary structure with the help of the lifting platform | 29 days | | |
| 7 | Final fixing and inspection | 1 day | | |
| 8 | | | | |
| 9 | Total number of days | 45 days | | |

6. MECHANICS, MATERIALS AND TOOLS

| num. | name | quantity |
|------|------------------------------------|----------|
| 1 | TOOLS: | |
| 1.1 | Levels H-10KL | 2 |
| 1.2 | Helmet | 4 |
| 1.3 | Security belts | 2 |
| 1.4 | Chemical cleaning detail and found | 2 |
| 1.5 | Chalk axes marked | 1 |
| 1.6 | Wrench | 2 |
| 2 | MECHANISMS | |
| 2.1 | Crane KS-5363 1st = 25m | 1 |
| 2.2 | Traverse TS-12, 5 weight 242kg | 2 |
| 2.3 | Hook and versatile sling | 2 |
| 3 | Structures and Materials | |
| 3.1 | NAME | |
| 3.2 | Construction | 2 |
| 3.3 | Auxiliar frame | 2 |
| 3.4 | Materials | 2 |
| 3.4 | Metal connectors | 2 |

4. QUALITY CONTROL AND ACCEPTANCE OF WORK

During the execution of the works will take place the following controls:

1. Check the dimensional anchors
2. Check stiles and rails
3. Check the welds on the anchors
4. Check sealed insulation
5. Check glazing
6. Check fasteners final
7. We must check all materials used

Tolerances for aluminium profiles:

-Allowable tolerances on wall thickness of hollow profiles. d less than or equal to 250, + - 2.3 mm maximum - minimum 0.38 mm. d less than or equal to 600, + - 2.3 mm maximum - minimum 0.65 mm.

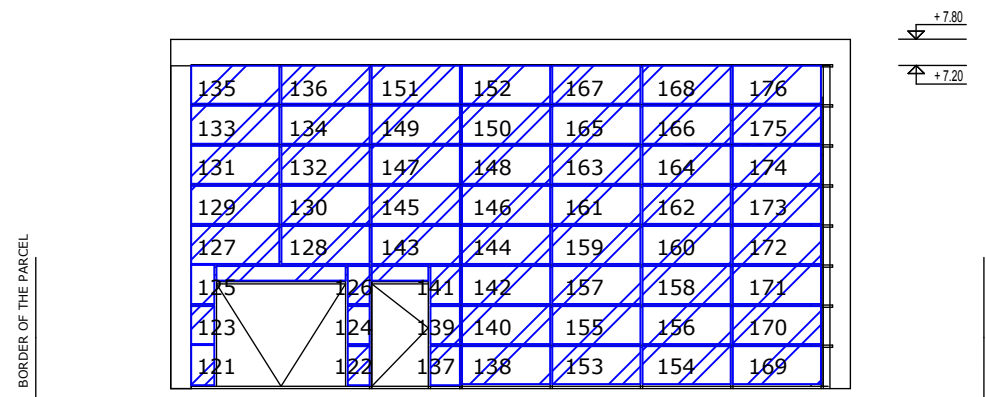
- Tolerances on fixed lengths. For 250 < Ø < 600 mm (diameter circumscribed circle) nominal lengths 2000 < l < 25000 mm. Tol: + 8/0 mm to + 40/0 mm.

- Flatness tolerances. For 50 < a < 600 mm. In sections open, tolerance: 0.20 to 2.4 mm. In hollow sections, tolerance: 0.30 to 3.6 mm.

- Maximum torque tolerances. For 12.5 < Ø < 600 mm. (circumscribed circle diameter) Tol: 0.010 to 0.140 mm / mm width.

- Tolerance of angles For 1.6 < h < 5. Tol: 2 ° to 1°.

ASSEMBLY SEQUENCE OF CURTAIN WALL IN WEST FACADE

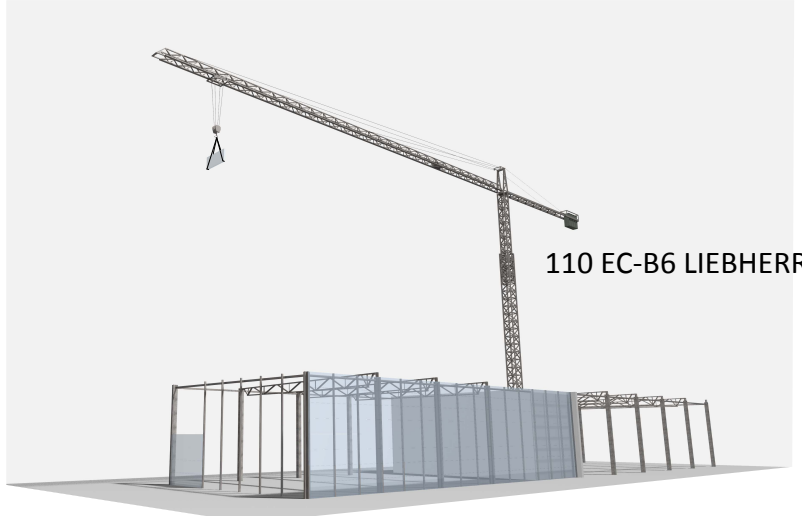


A, B, C, D see details

3D VIEW OF ASSEMBLY OF AUXILIARY FRAME



3D VIEW OF ASSEMBLY OF GLASS MODULES



SPECIFIC SAFETY FOR THIS WORK

The angle "a" formed by the slings will be less than 90 degrees. The crane hook will have safety lock.

Workers will use a lifting platform to do the assembling of curtain wall.

The distance between the lifting platform and the worksite will be less than 45 cm. The lift platform shall have railing around the perimeter.

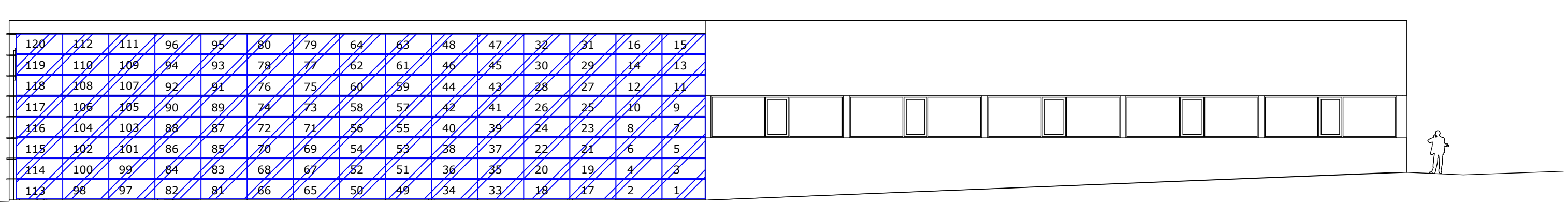
Workers will use safety harness.

Loads handled by the crane will be transported above the highest level of construction volume, and just lowering them when they are in the correct orientation

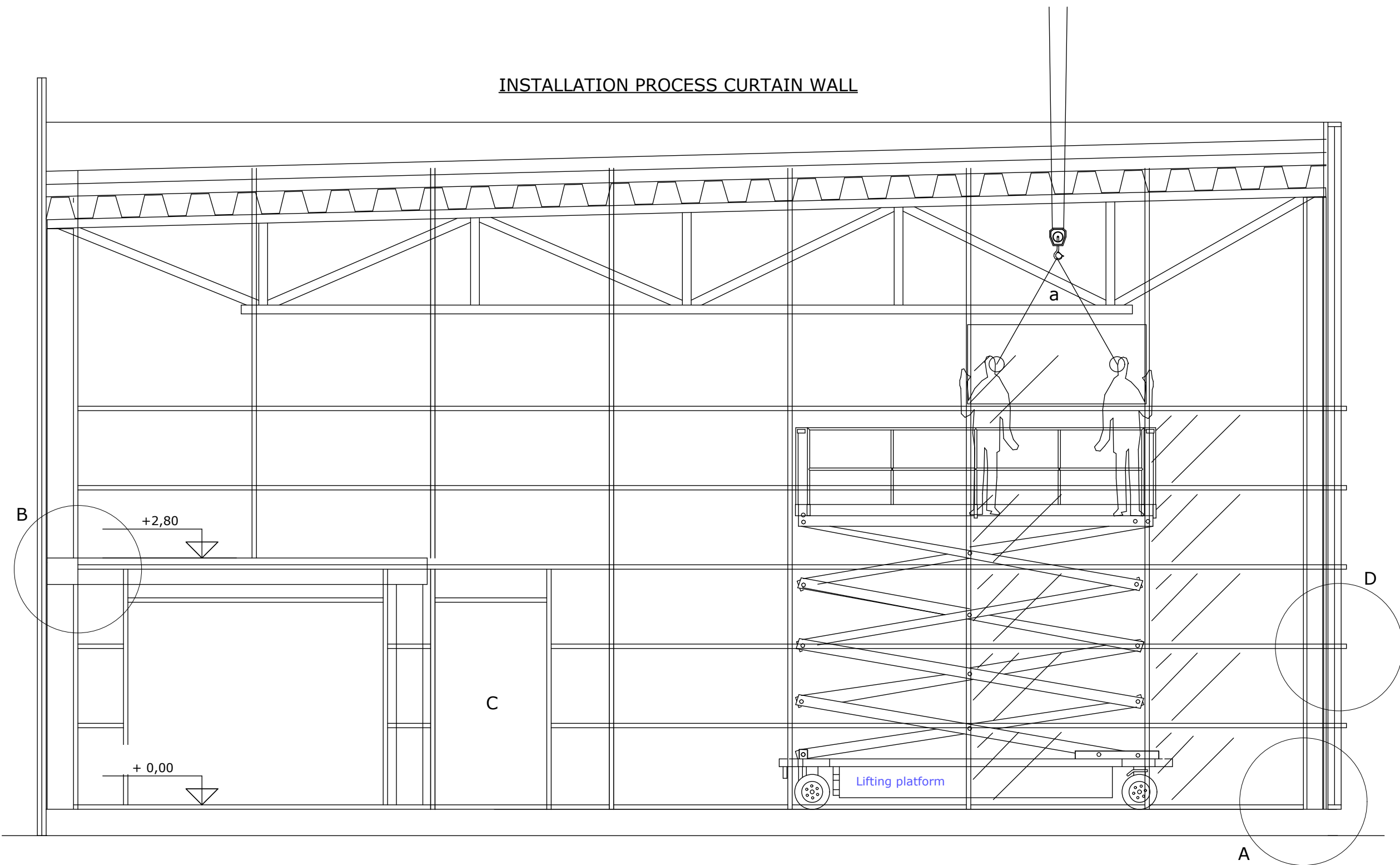
Windy slings will use to transport the glass modules.

The lifting platform will move as work progresses and when no one use it.

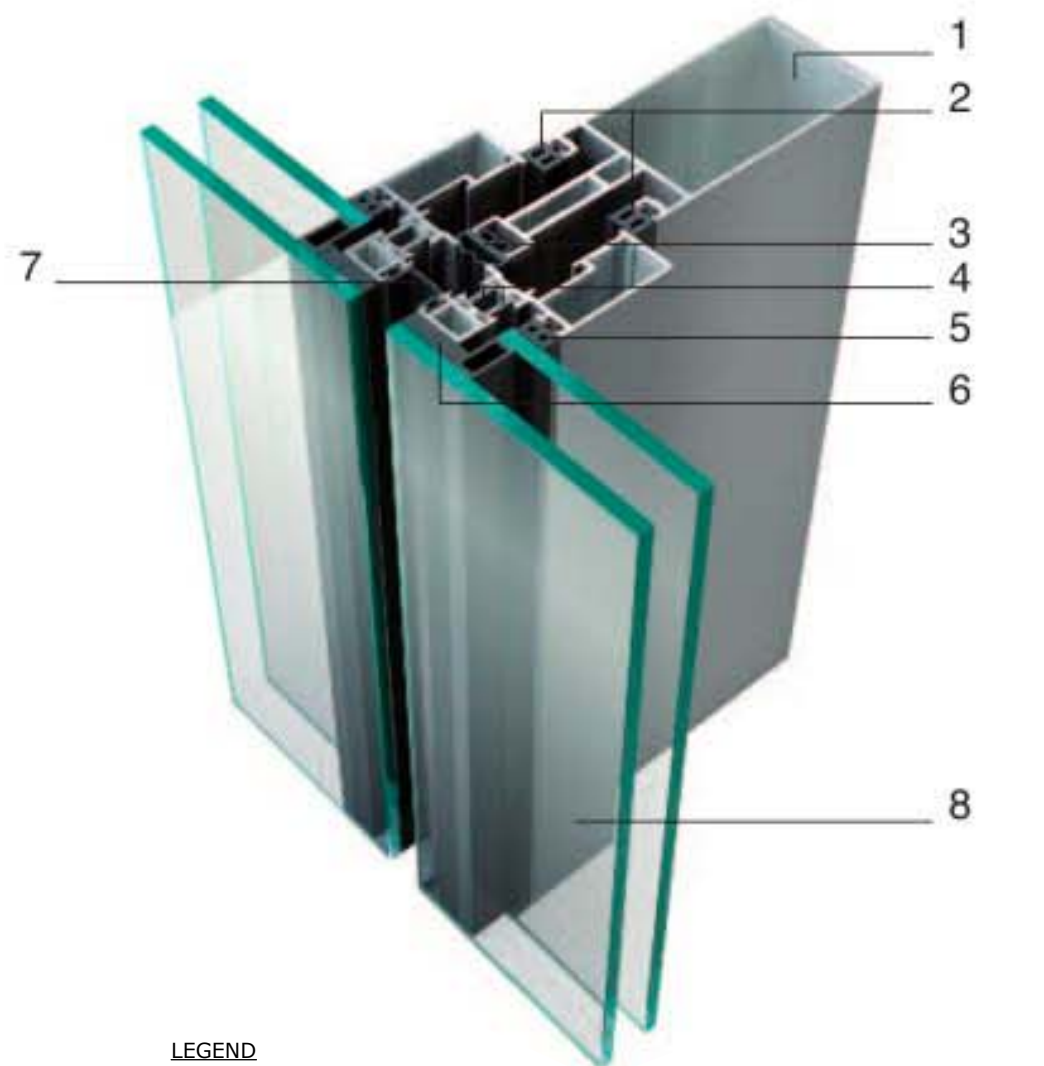
ASSEMBLY SEQUENCE OF CURTAIN WALL IN SOUTH FACADE



INSTALLATION PROCESS CURTAIN WALL



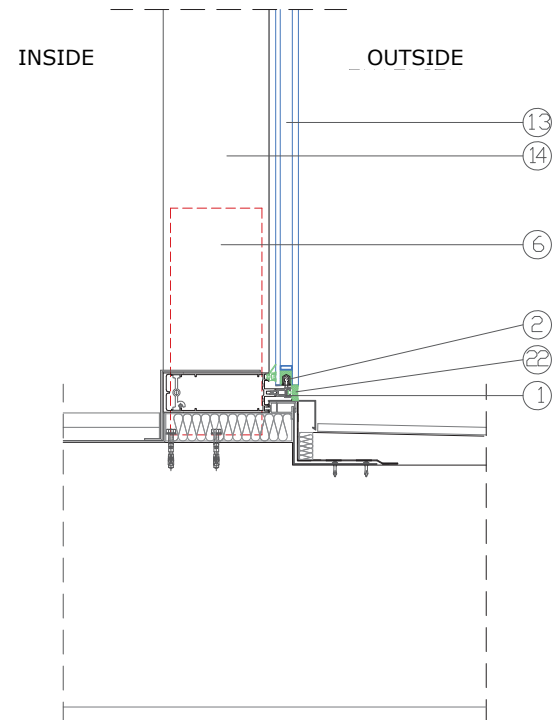
3D DETAIL



LEGEND

- 1.- Upright
- 2.- Internal joint
- 3.- Internal seal EPDM
- 4.- Thermal rod
- 5.- EPDM gasket for glass
- 6.- Structural sealant
- 7.- Round seals EPDM outer
- 8.- Insulated glazing

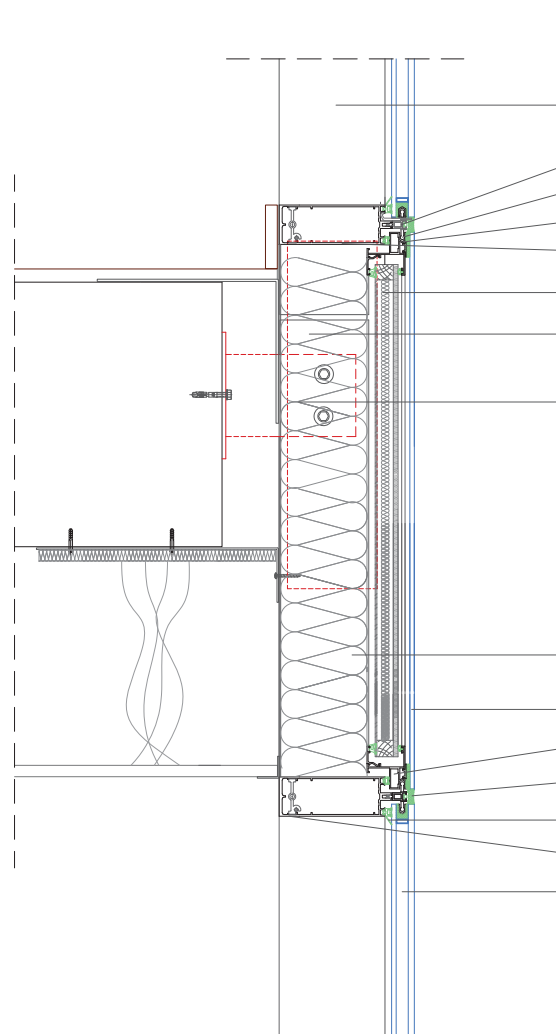
A. BOOT DETAIL



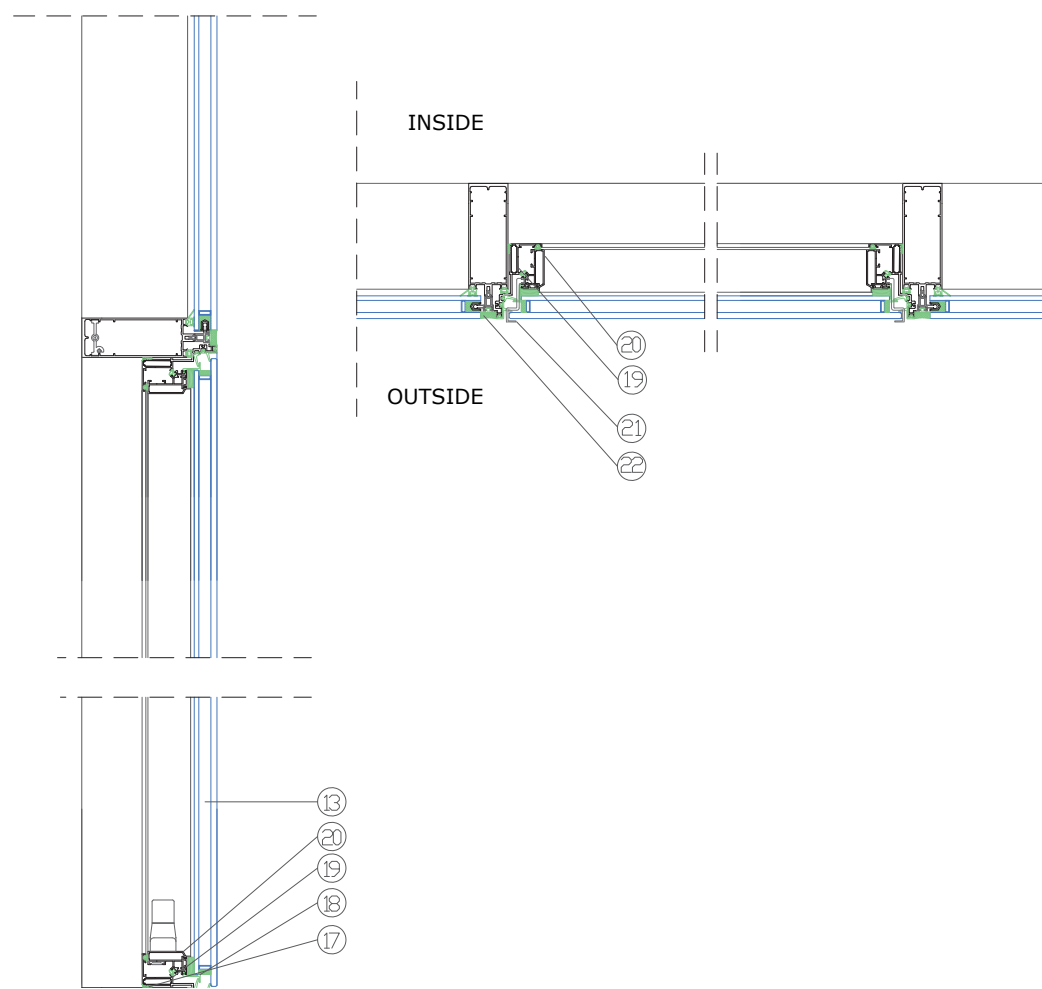
LEGEND

- 1.- EPDM gasket intercalaria J0815
- 2.- Staple 56KM807
- 3.- Interlayer KM806
- 4.- Beam profile
- 5.- Wick
- 6.- Forged anchor
- 7.- Insulation: rock wool
- 8.- Thermal Break
- 9.- Spandrel glass
- 10.- Profile FM830
- 11.- Beam profile
- 12.- Inner joint J0810
- 13.- Glass viewing area
- 14.- Stud profile
- 15.- 90472
- 16.- Italian window outer seal J0818
- 17.- J0117
- 18.- Italian sheet board J0818
- 19.- Italian window frame FM835
- 20.- Italian FM 323 sheet
- 21.- Window safety part Italian KM 813
- 22.- Watertight seal between Dow Corning silicone crystals type 791 or 756

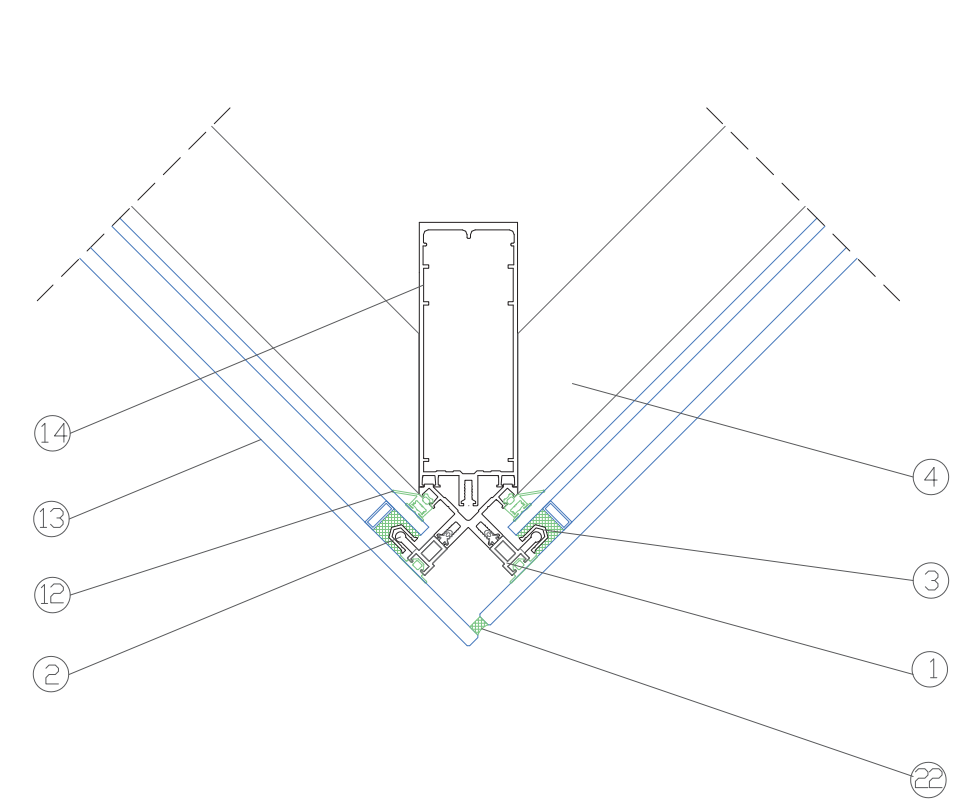
B. FORGING STEP DETAIL



C. DOOR DETAIL

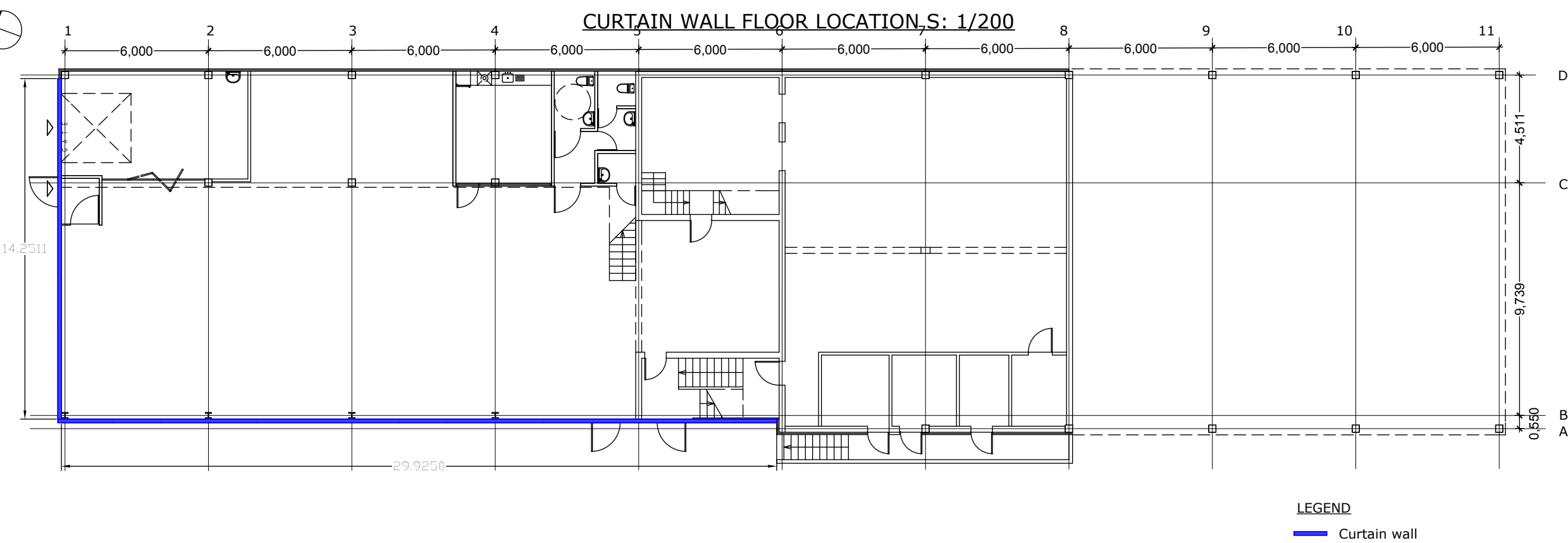


D. CORNER DETAIL



7. TECHNICAL - ECONOMICS INDICATORS

1. Quantity of works: 322,60 m²
2. Installation costs: 322,60 x 192,41 = 62.071,46 € or 214.146,55 Lit
3. Duration of works: 45 days
4. Wage: Official 1st carpentry = 30,37€/m² x 322,60 = 9.797,36 € Assistant carpentry = 40,72€/m² x 322,60 = 1.313,27€



LEGEND

— Curtain wall

| | Name and Surname | Signature | Date | VILNIUS GEDIMINAS TECHNICAL UNIVERSITY | |
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