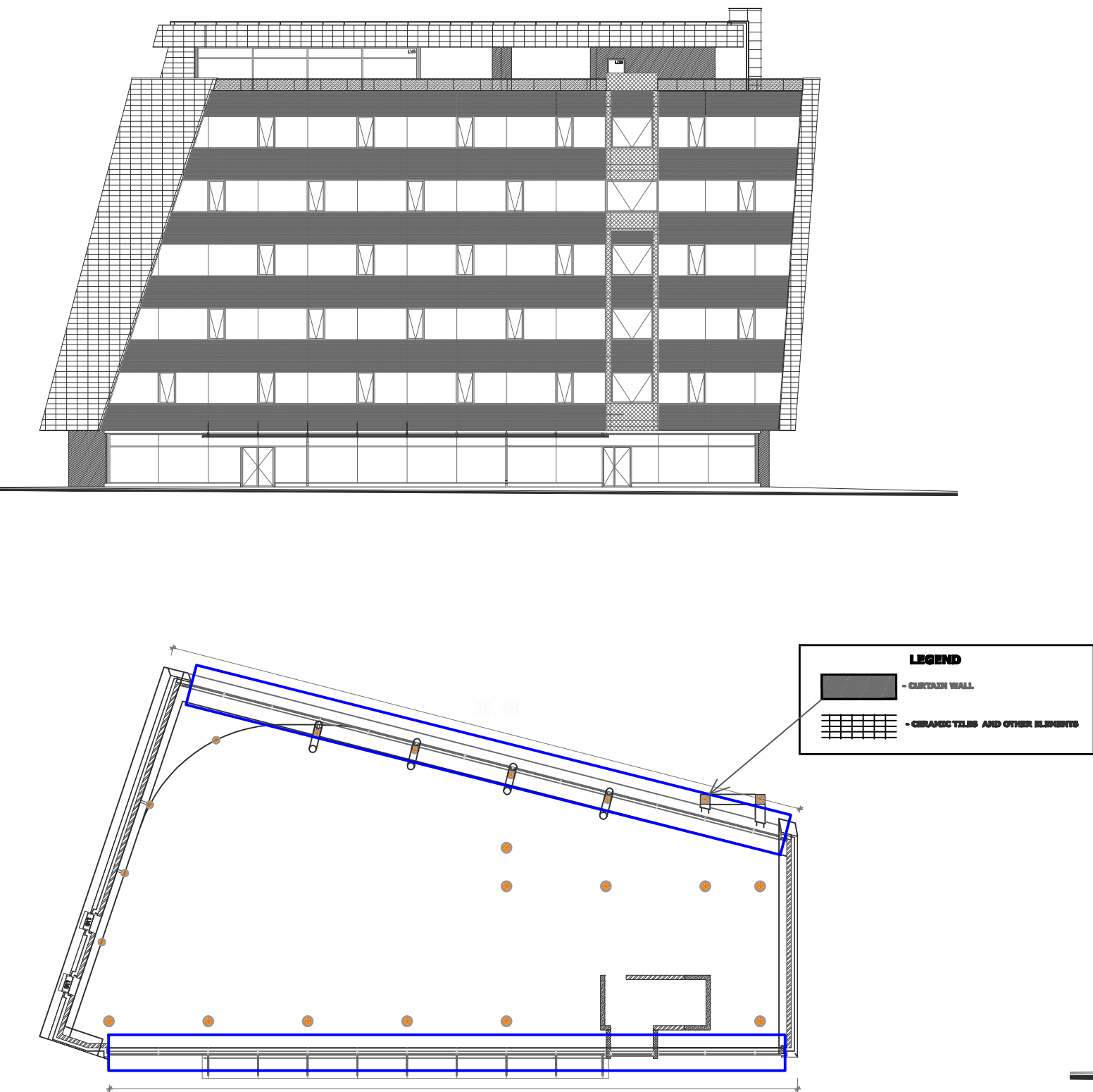
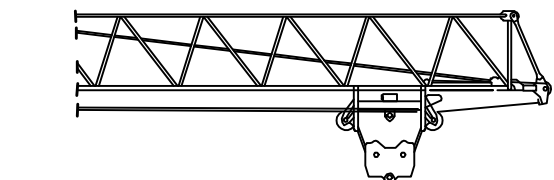
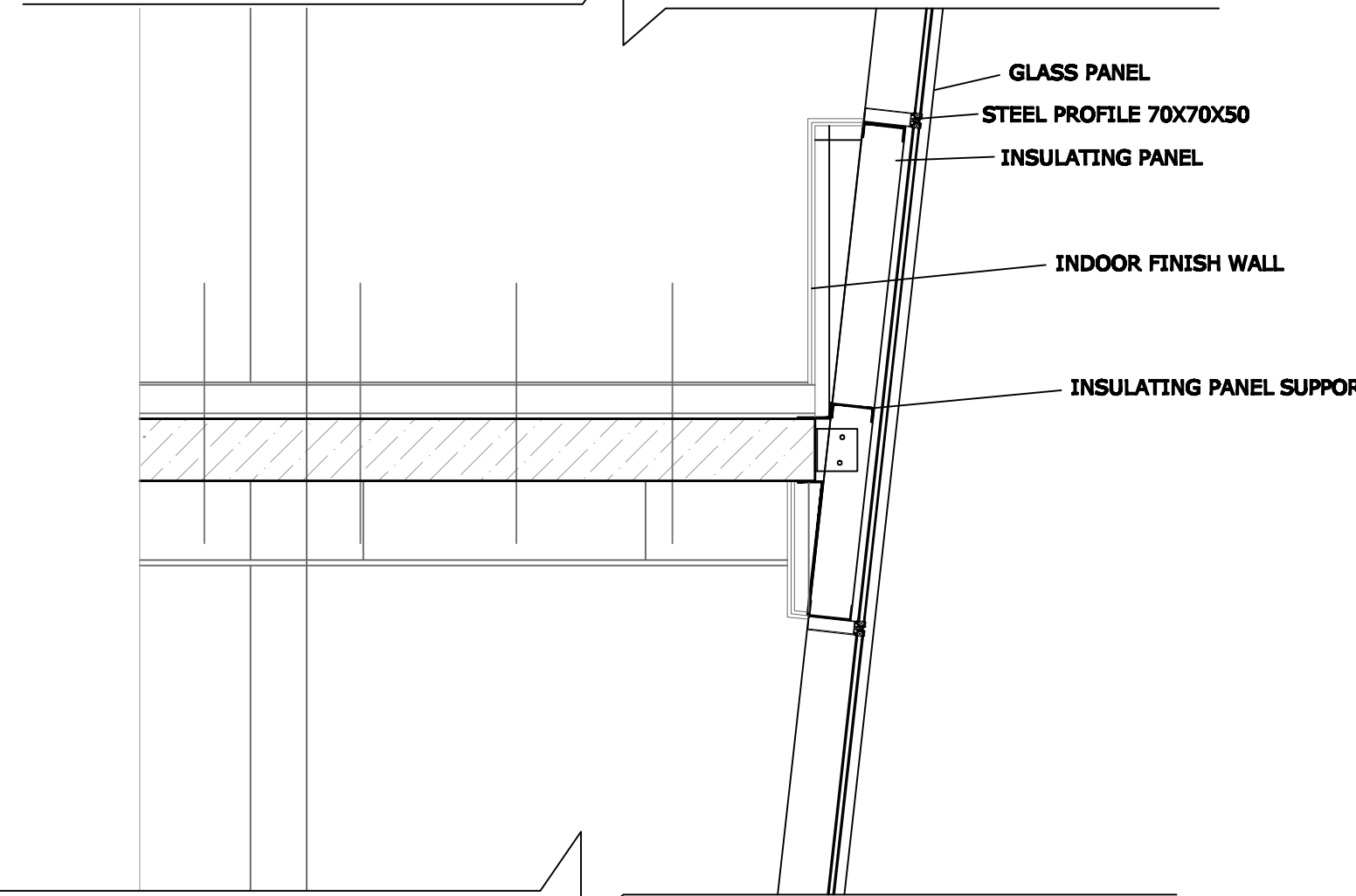


CURTAIN WALL INSTALLATION-TECHNOLOGICAL CARD

1 SLAB WORKS LOCATION



7 CURTAIN WALL DETAIL



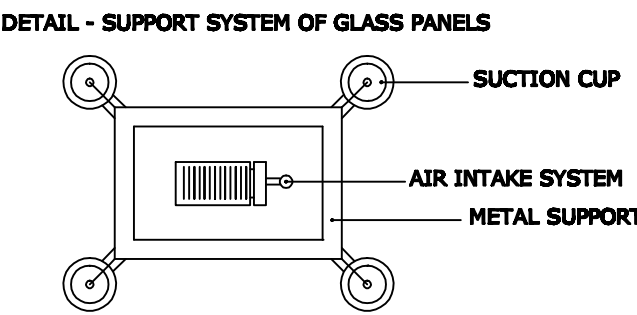
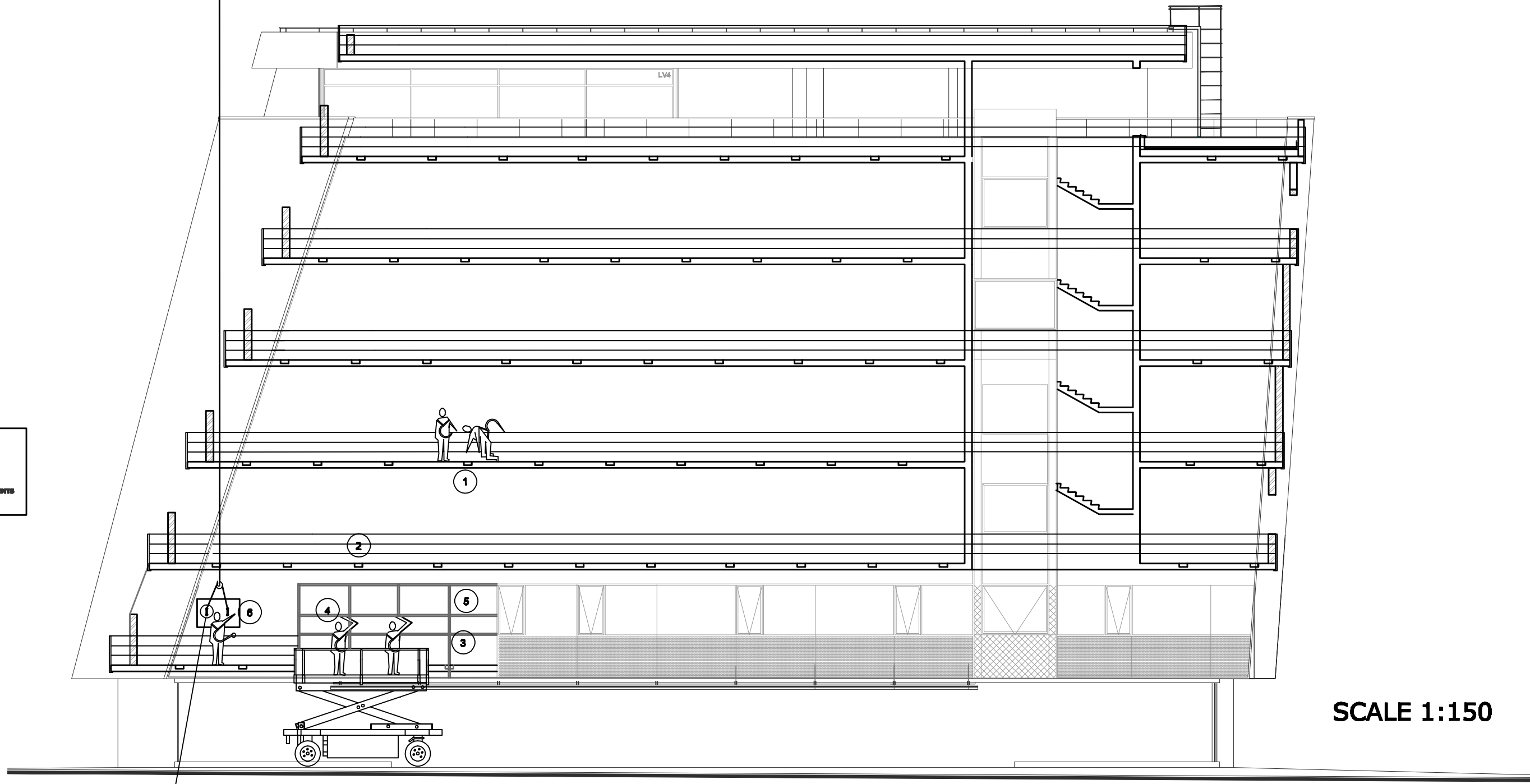
2.1 GENERAL DESCRIPTION OF WORKS

Curtain wall is a term used to describe the facade of a building that bears no burden in the building. These loads are transferred to the main building structure through connections on the ground or in the columns of the building. A curtain wall is designed to resist air and water infiltration, seismic forces and their own loading forces.

The curtain wall is a front light mullion and transom that looks incredibly light and thin. Either vertically or horizontally, only a few millimeters are visible both from within and from without.

The curtain wall is constituted by a combination of elements of aluminum, a wide variety of glazing generally transparent and opaque areas, made of filler members which may be of different materials such as wood, composite panel, glass, plastics, etc..

3.1 CURTAIN WALL INSTALATION PROCESS



6 QUALITY CONTROL

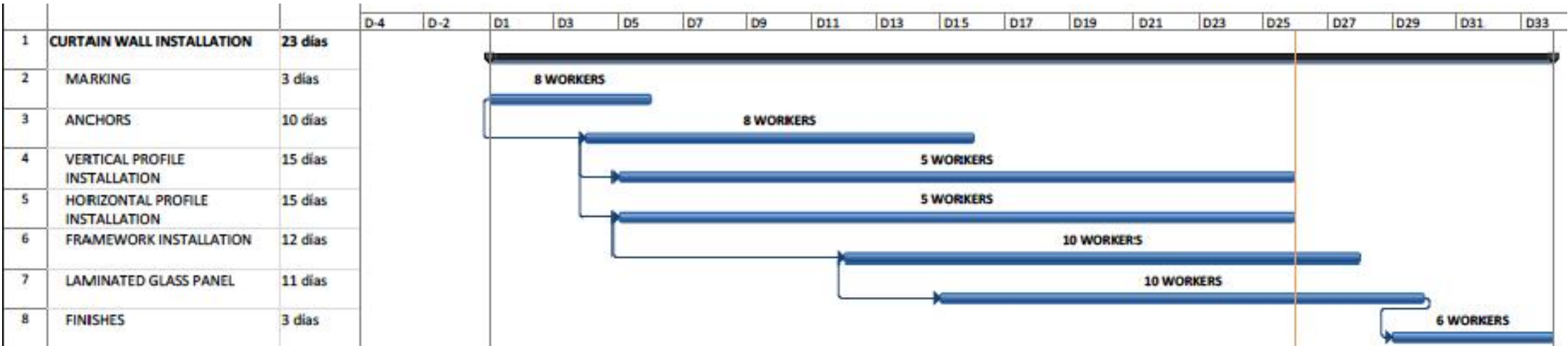
DURING THE EXECUTION OF THE WORKS WILL TAKE PLACE THE FOLLOWING CONTROLS:

1. CHECK THE FLOORS OF THE FACADE.
2. CHECK DIMENSIONAL ANCHORS.
3. CHECK STILES AND RAILS.
4. CHECK THE WELDS ON THE ANCHORS.
5. CHECK SEALED INSULATION.
6. GLAZING AND / OR GLASS.
7. CHECK FASTENERS FINAL.
8. AUCTIONS UPPER AND LOWER FLOORS.
9. WE MUST CHECKS ALL MATERIALS USED.

TOLERANCES FOR ALUMINUM PROFILES.

1. 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.
2. 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.
3. 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.
4. MAXIMUM TORQUE TOLERANCES.
FOR 12.5 <Ø <600 mm. (CIRCUMSCRIBED CIRCLE DIAMETER);
TOL: 0.010 TO 0.140 mm / MM WIDTH.
5. TOLERANCE OF ANGLES.
FOR 1.6 <H <5,
TOL: 2 ° TO 1 °.

3.2 ORGANIZATIONS OF WORKS



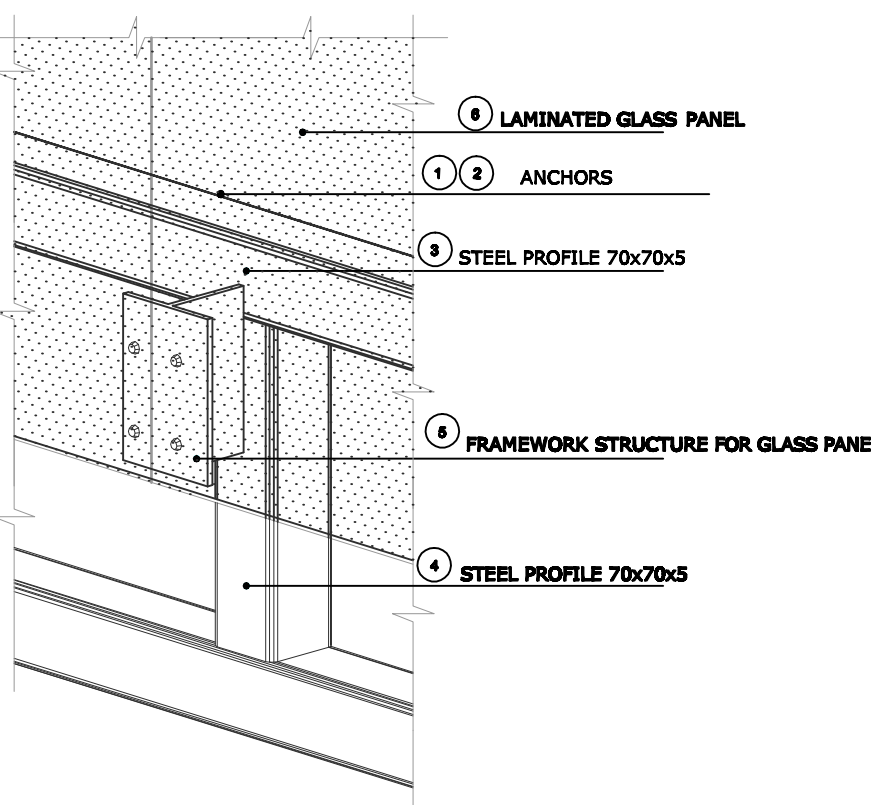
2.2 GENERAL CONSTRUCTIVE PROCESS

- 1) LAYOUT OF THE STRUCTURE.
- 2) PLACEMENT GRID SUPPORT: UPRIGHT AND CROSSBARS.
- 3) PLACEMENT OF THE BLIND AND TRANSPARENT CRYSTALS.
- 4) FINISHES AND INSULATION.

1)SELF-SUPPORTING GRID:

It begins with the status of self-supporting aluminum grid that will host the panels, windows, doors and workable elements. Fixing the Uprights

The uprights are attached to the primary structure of the play and dominate over the horizontal cross. Assemble horizontally considering a certain amount of uprights as appropriate. At the top of the uprights is three-dimensional anchoring which allows corrections + - 20 mm. The anchors have an element of EPDM at 80 ° Shore as an element of thermal break with anti also housed in the upper guiding elements and assembly for mounting to the next higher, with a distance between them of 10 mm, which allows it to absorb expansion and movements of different types. Are also cast aluminum brackets which are fixed to corresponding studs. These works are repeated floor by floor, making intermediate checks to ensure no diversion plumb within a tolerance of + - 2%.



2)GLAZING:

We distinguish two types of filling:
-Blind zones
-Visible Zone.

Blind Zones Formed by an insulating layer and a monolithic glass

In this case the panels are placed centered from the outside of the building by means of a system of splines. Begin by placing the reeds inside, positioning the panel with EPDM shims and securing support through other external splines. Then apply perimeter sealing seams. The sealant is placed at a temperature above 0 ° C prior to placement checking for grease, rust, moisture or dust.

The entire panel is joined to the uprights by caps placed under pressure and angular matching screw union with the horizontal profiles of the panel.

The monolithic glass plate bearing the same outer face of the insulating glazing vision, so that before installing other reeds are placed provided with EPDM gaskets in the hollows of rebate (in uprights and crossbars).

Then place the glass in the hole making perfect contact against the weatherstripping under pressure, and secured with two wedges of EPDM or silicone cured at 65 ° or 70 ° Shore of width equal to the thickness of the glass, with length less than 50 mm L/10 and the ends of the bottom side (L: length thereof).

To start closing the gaps, fixed with temporary staples. The final subject is effected by placing staples and thermal threaded screw heads stiles and rails, clamps and bridges are machined to achieve the same pressure between the outside and rebate funds, thus avoiding the introduction of air or leaks (Venturi effect).

Then comes the seals to ensure sealing in the meetings between the staples, before putting the lids and remove the labels affixed to the outside plant.

Zones Formed by Double Glazing Vision (Insulation):

Place the insulating volume in the gap between the grid of mullions and transoms making contact around the perimeter, having previously placed joints in them. Then takes place by means of centering wedges in the same manner as with the monolithic glass.

The placement process, fasteners with ties, weatherstripping and sealing is effected just as the monolithic glass.

3) ISOLATION AND PLANT AUCTION:

To effect the closing of the curtain wall with the slabs, the bottom is achieved by performing the clamping moldings rock wool filling the space between the front of the slab and the curtain wall. This allows a good thermal insulation, acoustic and prevents drafts and in case of fire, the probable spread of the flames.

At the top, the top is made of sheet molded Sendzimir type, which not only cover the anchorage of the floor but also make the mass support leveling screeds constitute the soils and support the final finish .

Anchors:
The main structure has fixing bases provided to effect the necessary anchoring of the auxiliary structure.

Sealing:
The curtain wall should consist of elements for ensuring its tightness (thermal, acoustic), although this function can also fulfill a cladding of traditional work.

Condensation:
In the auxiliary structure and the closure elements should be provided a water disposal system in the possible case of condensation, hence, the amount of the auxiliary structure must have a system thermal break.

Preliminary tasks:
While running the floors primary structure are the basis for anchoring the structure of aluminum, empotrándolas, ensuring that they are plumb and level. Before beginning work it is found that the plants are clean, removing waste materials or forms that would have been.

Stakeout:
It should first check with tape measure and level the situation of the songs of the floor and the pillars on the basis of the axes of the work.

He checked the alignments, levels and weights, leaving as witness a stakeout batten used to mark level, facing and boot shafts supporting aluminum grid. Is eliminated by fixing the first floor of the grid curtain walls.

8 TECHNICAL - ECONOMIC INDICATORS

- 1) QUANTITY OF WORKS 681.27m² X 2 FACADES = 1362m²
- 2) INSTALLATION COST 280437.98€ / 966108.85 LITAS
- 3) DURATION OF WORKS 29 DAYS
- 4) WAGE CARPENTRY OFFICIAL 1907 X 21.69 = 41374.97€ / 142563.79 LITAS
REGULAR ASSITANT OF CAPENTRY 2997 X 18.51 = 55485.35€ / 191147.04 LITAS

4 HUMAN SAFETY

PROTECTIONS FOR WORKERS:

- GUARDRAILS
- NETS
- LIFELINES
- WORK AREA MUST BE CLEAN AND TIDY TO PREVENT FALLS TO WORKERS AT THE SAME LEVEL
- WORK CLOTHES : FULL DIVER INSTEAD OF TWO PIECES OF TROUSERS AND SHIRT
- GLOVES
- SAFETY SHOES AND SOCK TOE METAL
- WELDING SHIELD (SCREEN IS BETTER HARNESS WHICH HOLDS THE HAND)
- OCCASIONALLY HEARING PROTECTION
- LEATHER APRON
- IN TASKS THAT REQUIRE PROTECTION GOGGLES
- IF PERFORMING WELDING OF LEAD WILL PROVIDE A SUITABLE FILTER MAS
- HELMET
- SAFETY HARNESS ANCHORED TO THE FIXED PART OF THE STRUCTURE

5 MECHANICS-MATERIALS AND TOOLS

NUM	NAME	UNITS	QUANTITY
1	MACHINES		
2	MATERIALS		
3	TOOLS		

NAME AND SURNAME	SIGNATURE	DATE	VILNIUS GEDIMINAS TECHNICAL UNIVERSITY			
STUDENT	Borja Estelle Casado					
SUPERVISOR	Jonas Saperas					
HEAD OF DEPARTMENT						
			CURTAIN WALL INSTALLATION TECHNOLOGICAL CARD		Department of Construction Technology and Management	