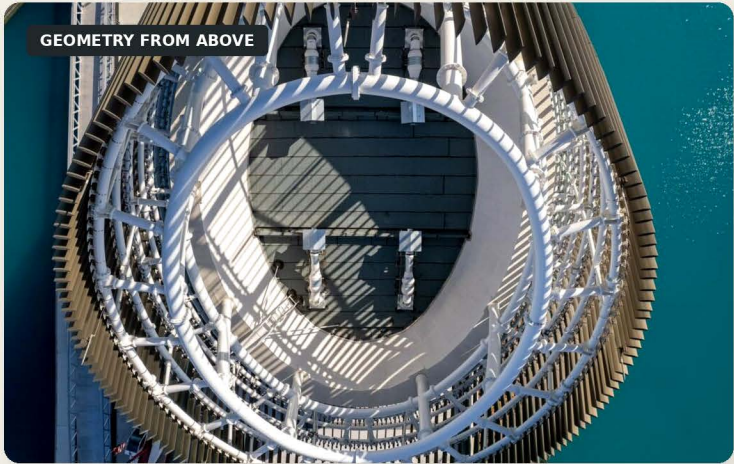


A SCULPTURAL ENVELOPE AT THE WATER'S EDGE

Ayia Napa Marina Event Center — architecture, engineering and construction in one distinctive form



COMPLETED ARCHITECTURE



GEOMETRY FROM ABOVE

FAÇADE AS IDENTITY

FORM. LIGHT. MOVEMENT.

The inclined glazed envelope is wrapped by a continuous field of vertical fins that filters the Mediterranean light and reinforces the building's dynamic silhouette. Its apparent simplicity depends on the precise integration of geometry, structure, glazing and bespoke support details.

CURVED

GLAZED ENVELOPE

VERTICAL

ARCHITECTURAL FINS

ONE SYSTEM

COORDINATED DELIVERY

THE ENVELOPE FROM THE INSIDE OUT

Structure, curtain wall and solar-control elements resolved as one continuous architectural system



GEOMETRIC OVERVIEW

RADIAL GEOMETRY

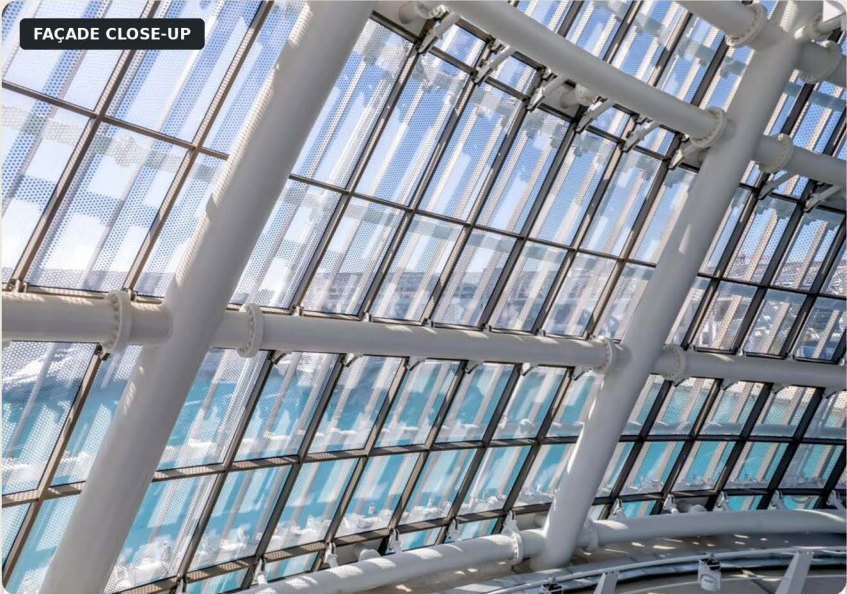
The façade follows the elliptical form through a coordinated ring of structural members, mullions and external fins.



INTERIOR SPATIAL VIEW

INTERIOR TRANSPARENCY

The curved glazed wall brings daylight and views into the event hall while preserving the continuity of the envelope.



FAÇADE CLOSE-UP

LAYERED SOLAR CONTROL

Screened glazing and external fins modulate daylight, glare and outward views across the curved elevation.

SCULPTURAL PERFORMANCE

GEOMETRY MADE BUILDABLE

The architectural identity emerges from the coordination of curved steel, curtain wall framing and a dense field of fins. The façade contractor translates this geometry into repeatable components, controlled interfaces and an executable installation sequence.

CURVED

GEOMETRY

LAYERED

SOLAR CONTROL

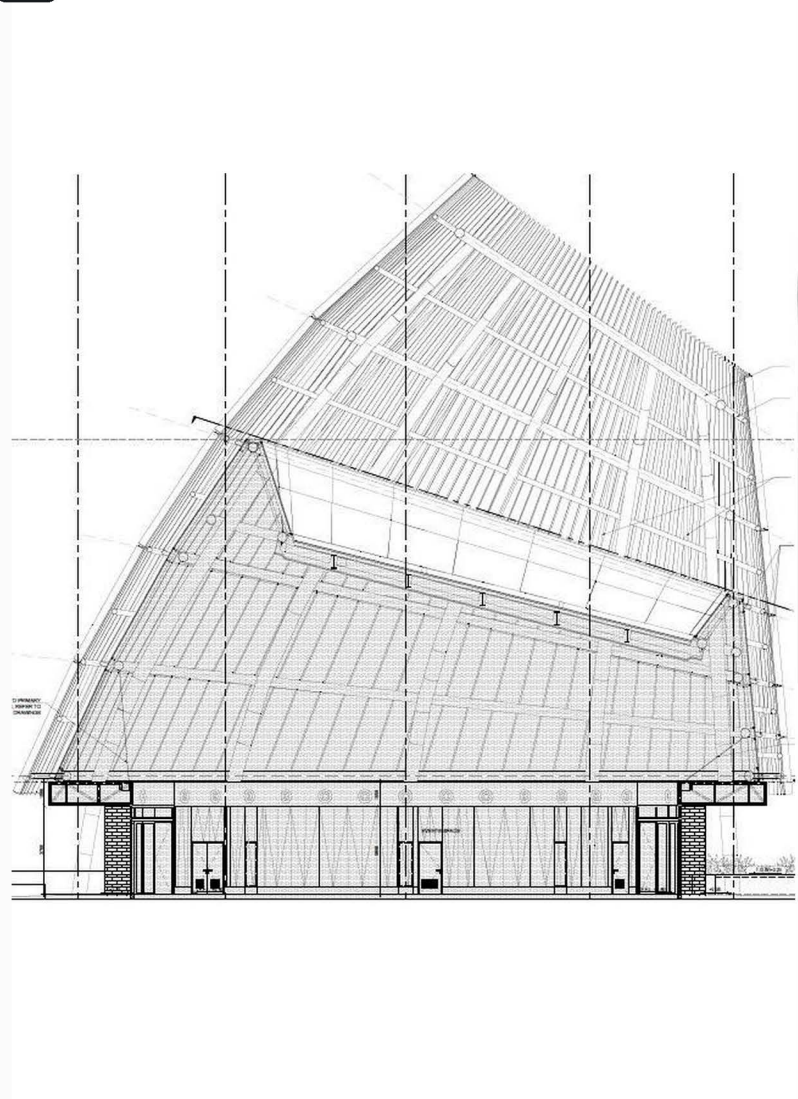
COORDINATED

STRUCTURE + ENVELOPE

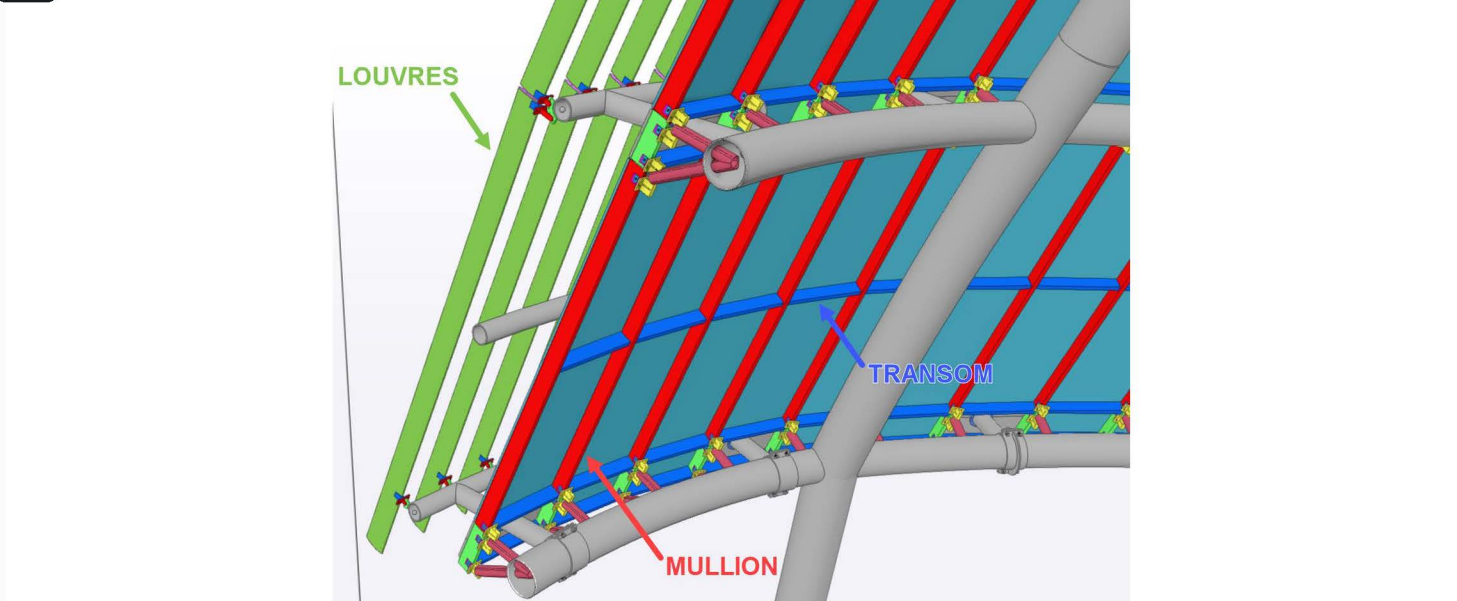
FAÇADE SYSTEM OVERVIEW

Event Center • Ayia Napa Marina, Cyprus

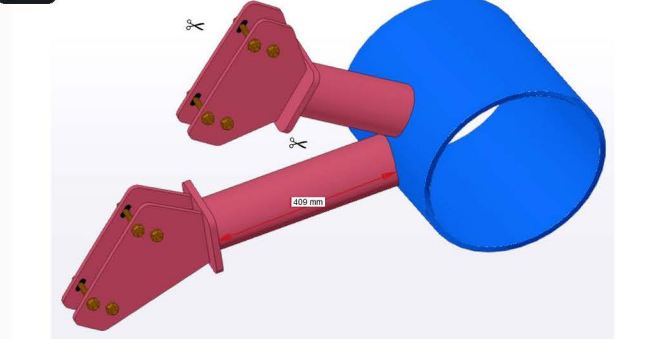
01 OVERALL GEOMETRY



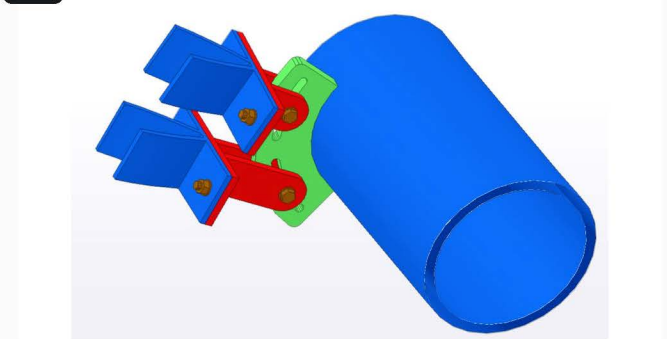
02 CURTAIN-WALL LOGIC



03 MULLION SUPPORT



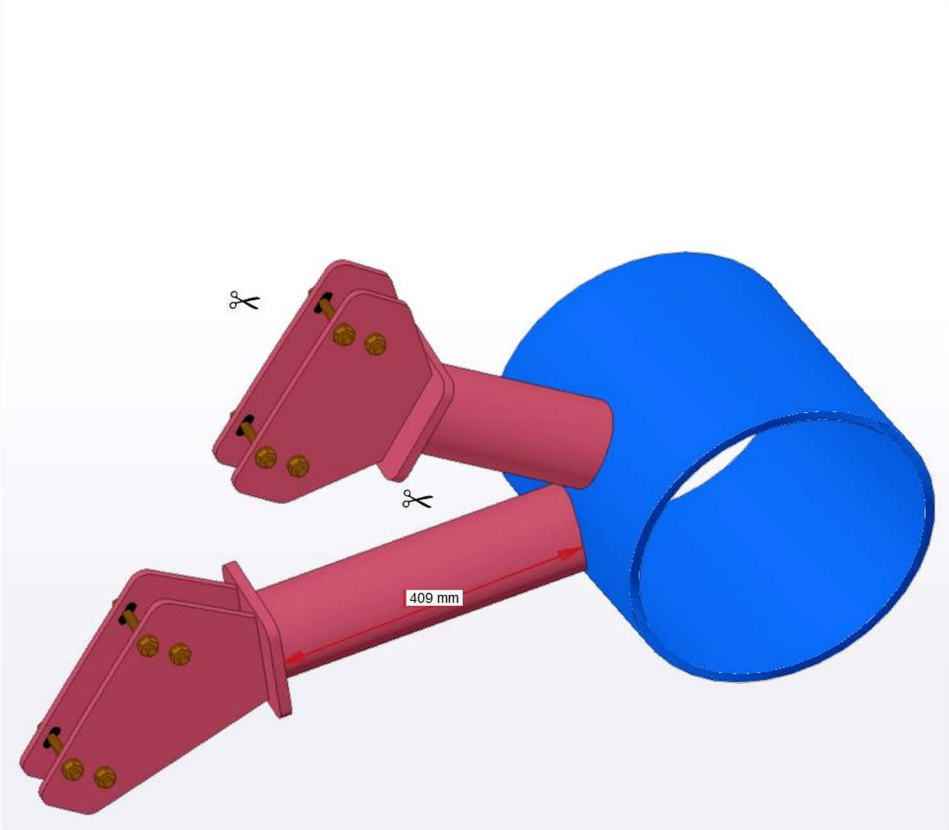
04 LOUVRE SUPPORT



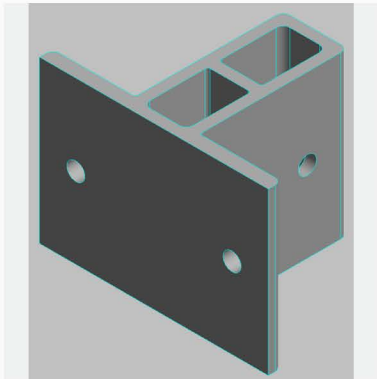
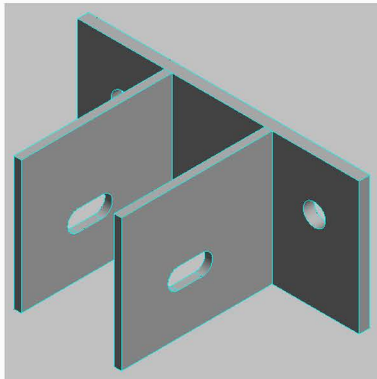
CUSTOM MULLION CONNECTION

From support geometry to component verification

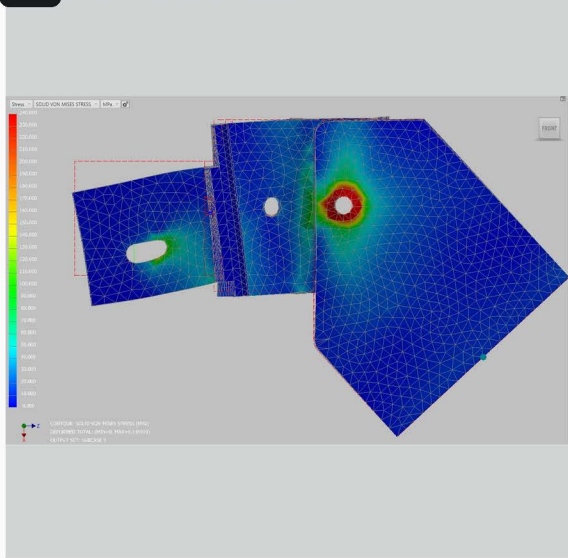
01 SUPPORT GEOMETRY



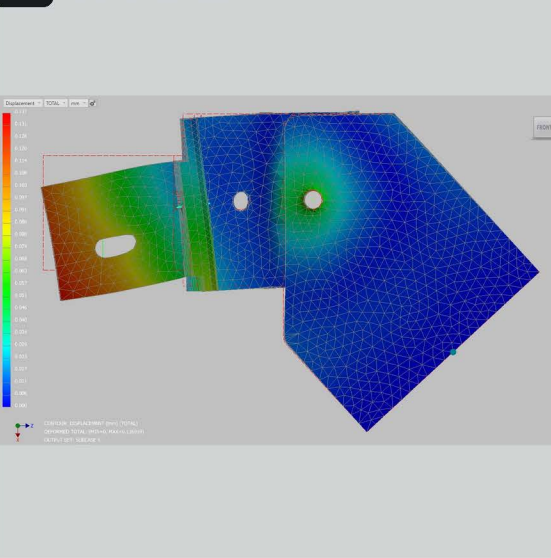
02 BESPOKE COMPONENTS



03 VON MISES STRESS



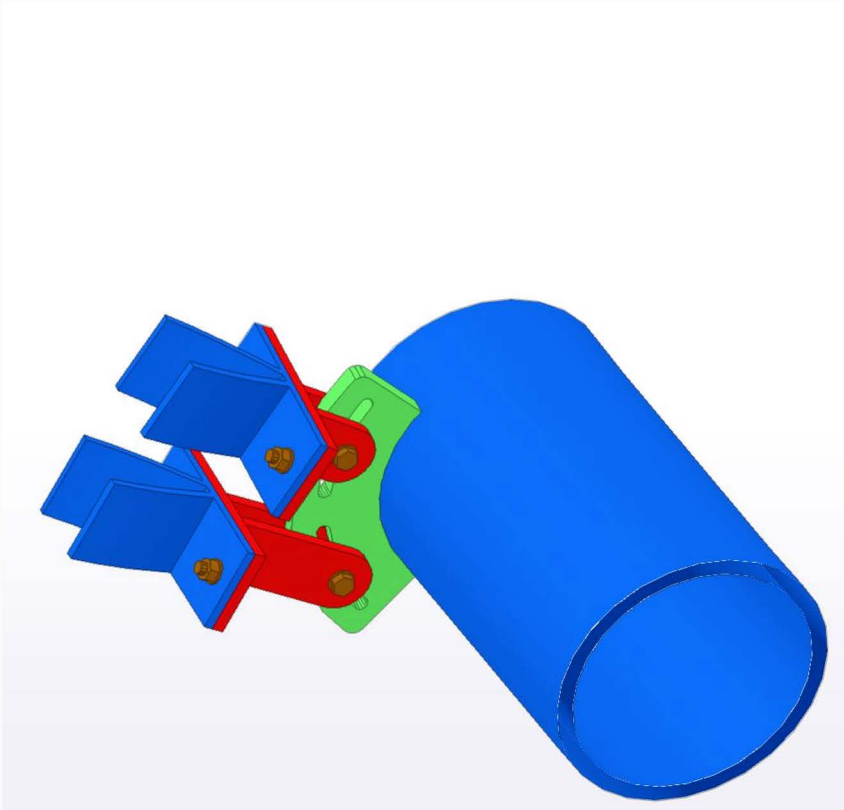
04 DISPLACEMENT



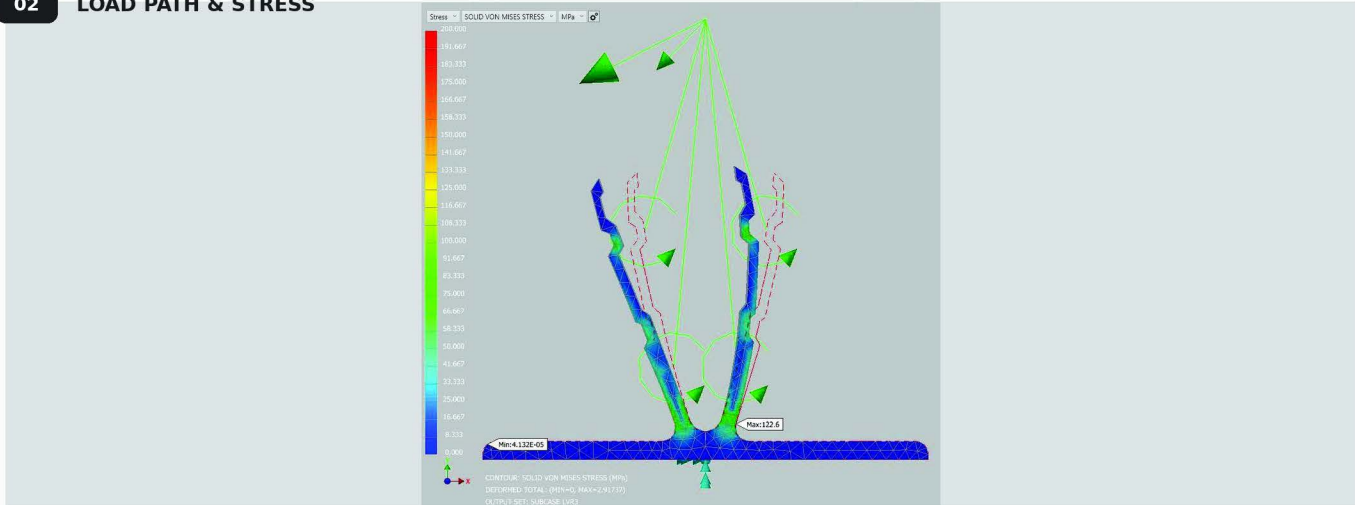
LOUVRE SUPPORT VERIFICATION

Load path • stress distribution • connection detail

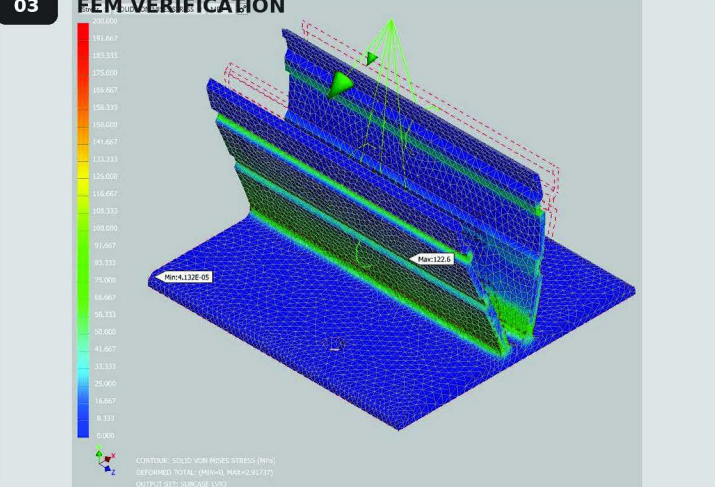
01 SUPPORT ASSEMBLY



02 LOAD PATH & STRESS



03 FEM VERIFICATION



04 FIXING DETAIL

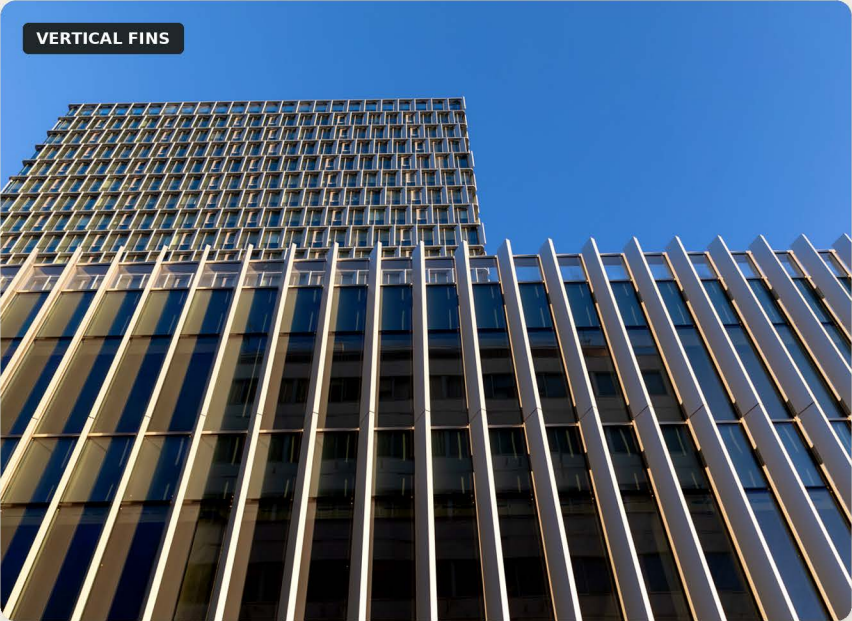


A NEW ENVELOPE FOR A CITY LANDMARK

The completed tower - vertical rhythm, depth and precise repetition



URBAN CONTEXT



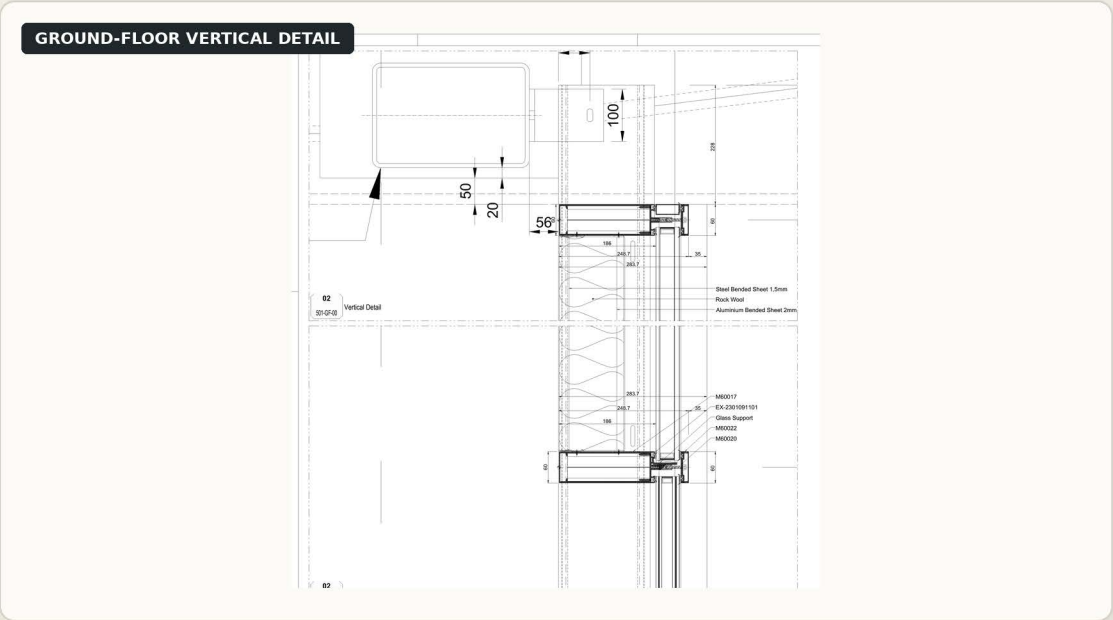
VERTICAL FINS



TOWER GRID

DEPTH CREATES THE ELEVATION

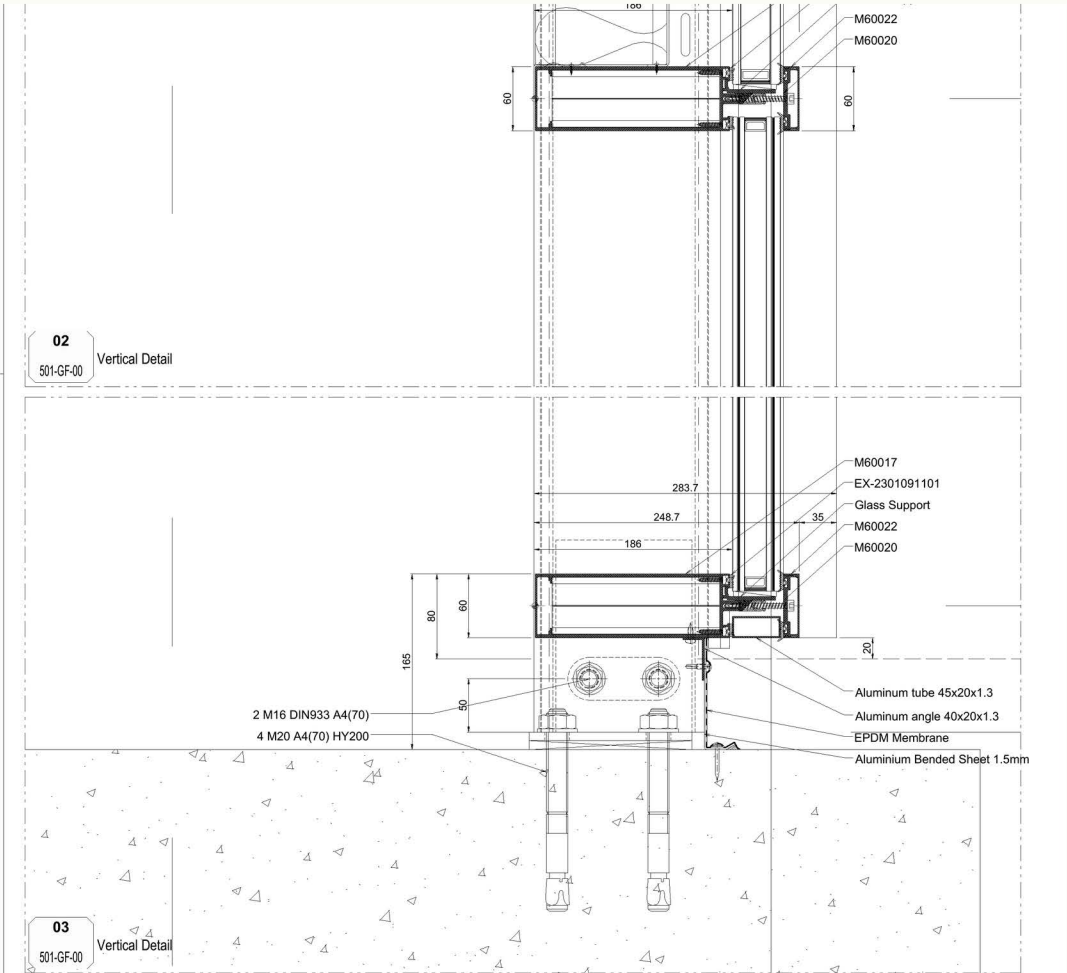
Projecting fins, recessed glazing and the controlled rhythm of EWS 201 / EWS 301



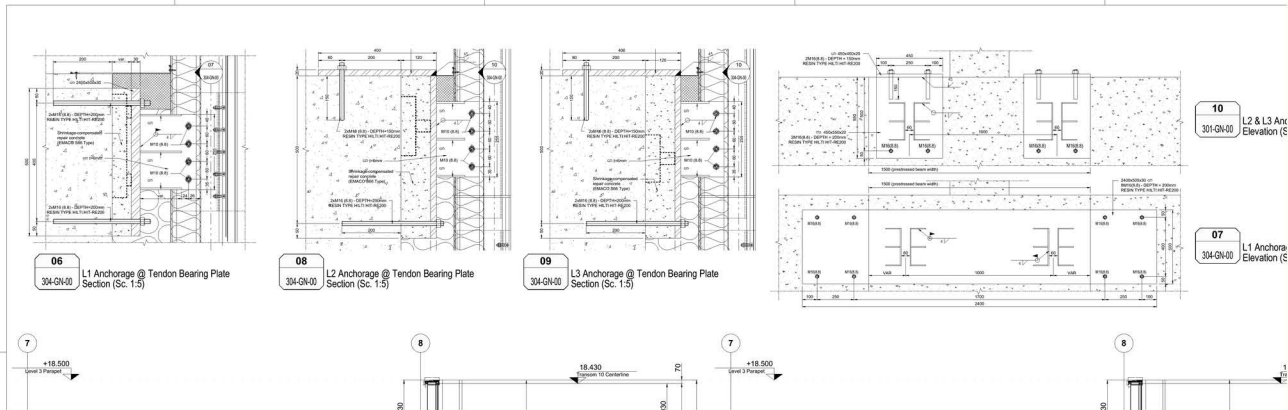
THE GRID ENDS AT THE ANCHOR

Floor-by-floor reactions resolved through brackets, bearing plates and mullion connections

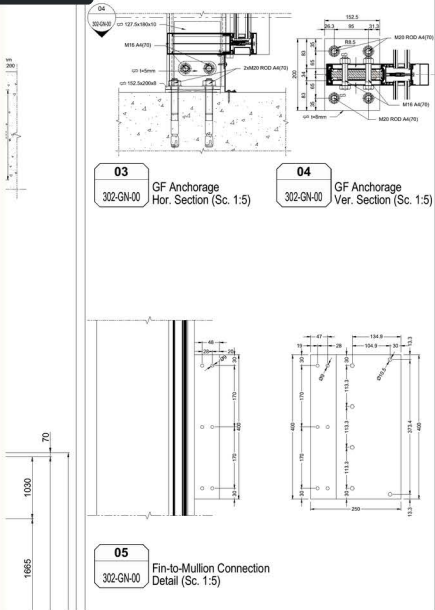
GROUND-FLOOR BASE ANCHORAGE



L1-L3 @ TENDON BEARING PLATE



GF ANCHORAGE



INTERFACE CONTROL

LOAD PATH, MADE EXPLICIT

The apparent simplicity of the vertical grid depends on distinct anchorage conditions at each floor. Brackets, bearing plates and mullion connections carry the façade geometry back to the primary structure.

- GF
- L1
- L2
- L3

A LANDMARK ON THE LIMASSOL SKYLINE

The Ritz-Carlton Residences — a high-rise envelope defined by precision, contrast and coastal light



FULL FAÇADE RESPONSIBILITY

ONE CONTRACTOR. COMPLETE ENVELOPE.

TechnikAL was the single façade contractor for the construction of the complete building envelope — coordinating curtain wall systems, ACP cladding, glass installation, windows, doors and their critical interfaces.

CW

CURTAIN WALL

ACP

ARCHITECTURAL CLADDING

FULL INSTALL

GLASS · WINDOWS · DOORS

THE ENVELOPE AT EVERY SCALE

From the entrance and podium to the tower elevations, balconies and crown



GROUND-LEVEL EXPRESSION

ARRIVAL EXPERIENCE

Full-height glazing, entrance doors and the cantilevered canopy connect the tower envelope to the public realm.



TOWER IN CONTEXT

INTEGRATED FAÇADE DELIVERY

COORDINATED FROM BASE TO CROWN

At high-rise scale, performance is won at the interfaces: curtain wall, solid cladding, balcony zones, opening units, waterproofing and lighting. Engineering and execution remain connected through one controlled delivery chain.



ENVELOPE CLOSE-UP

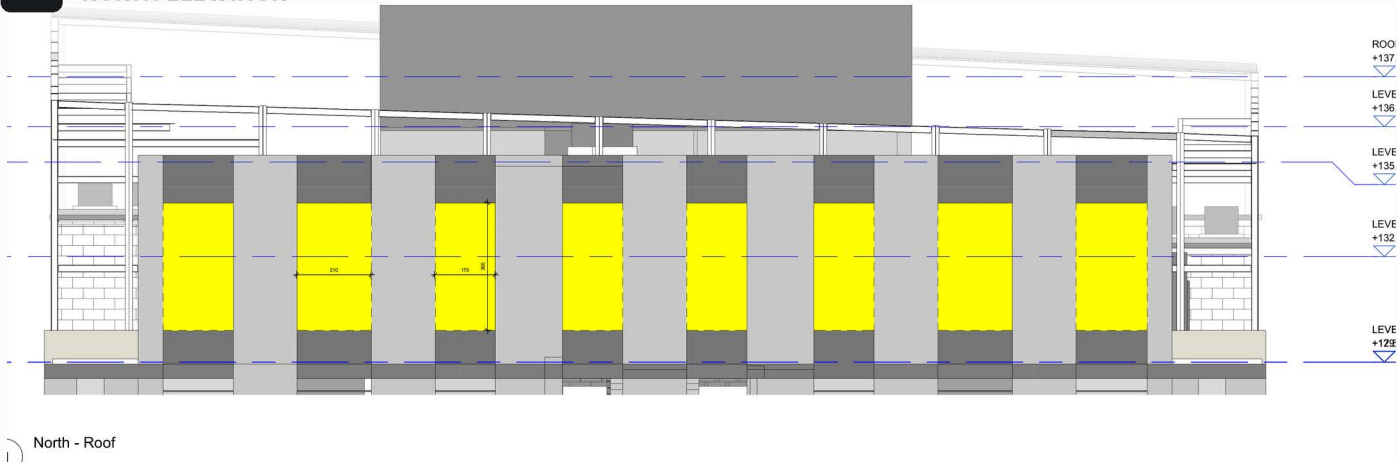
CURTAIN WALL PRECISION

The close view reveals the disciplined grid of glazed modules, opening units, balcony interfaces and soffit transitions.

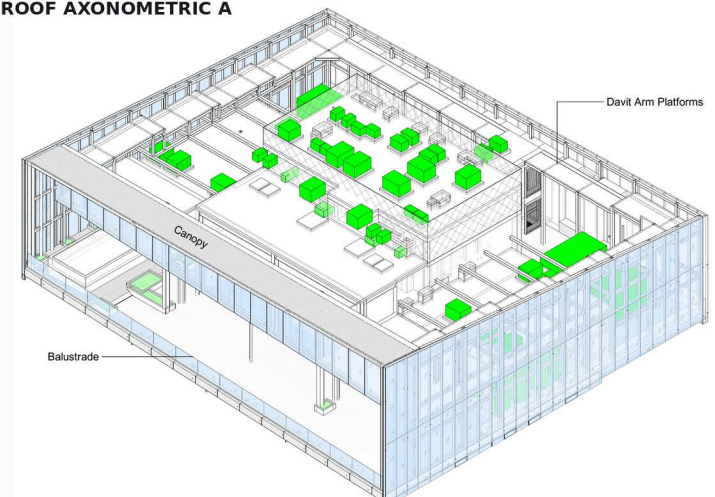
ROOF-TOP ENVELOPE COORDINATION

Crown elevations • façade perimeter • maintenance-access interfaces

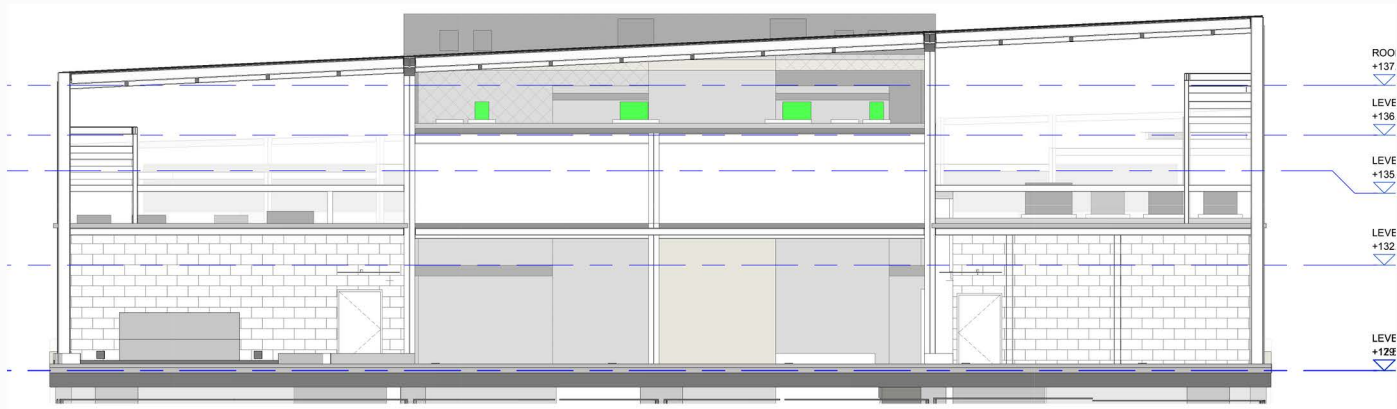
01 NORTH ELEVATION



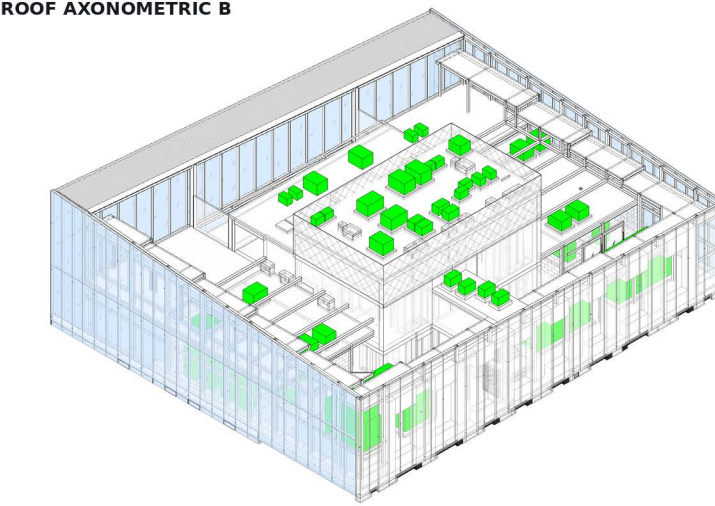
03 ROOF AXONOMETRIC A



02 SOUTH ELEVATION

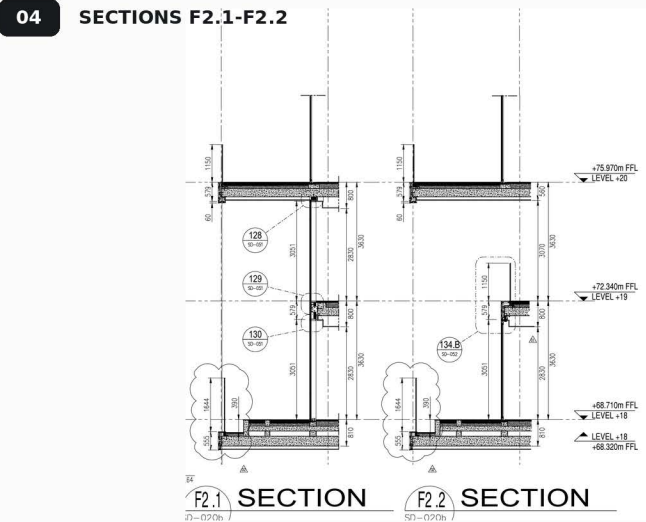
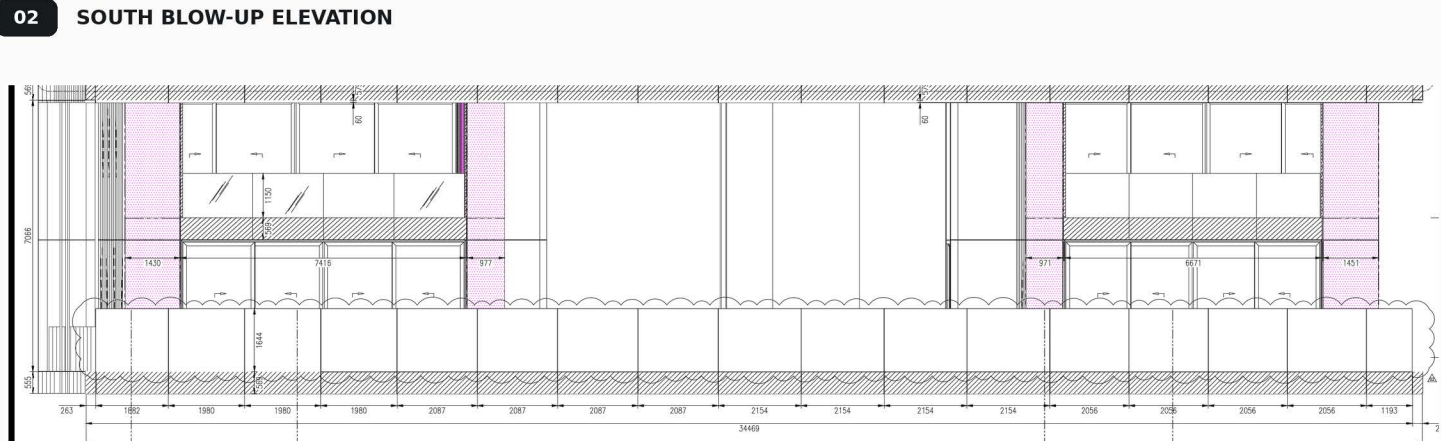
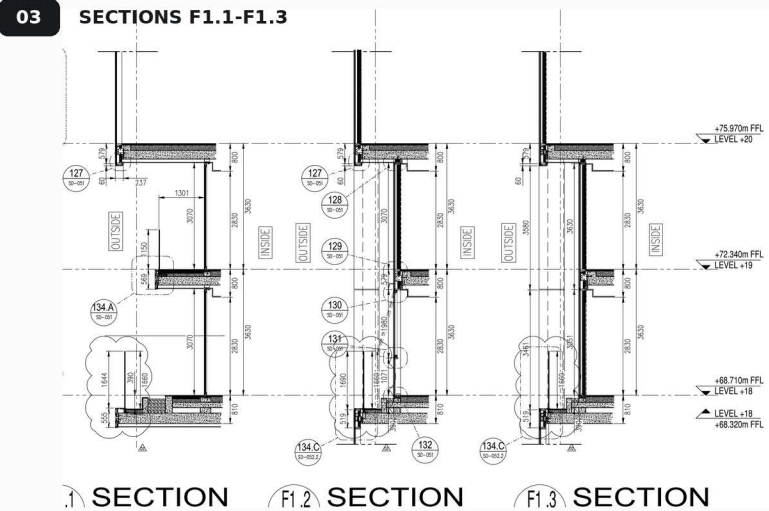
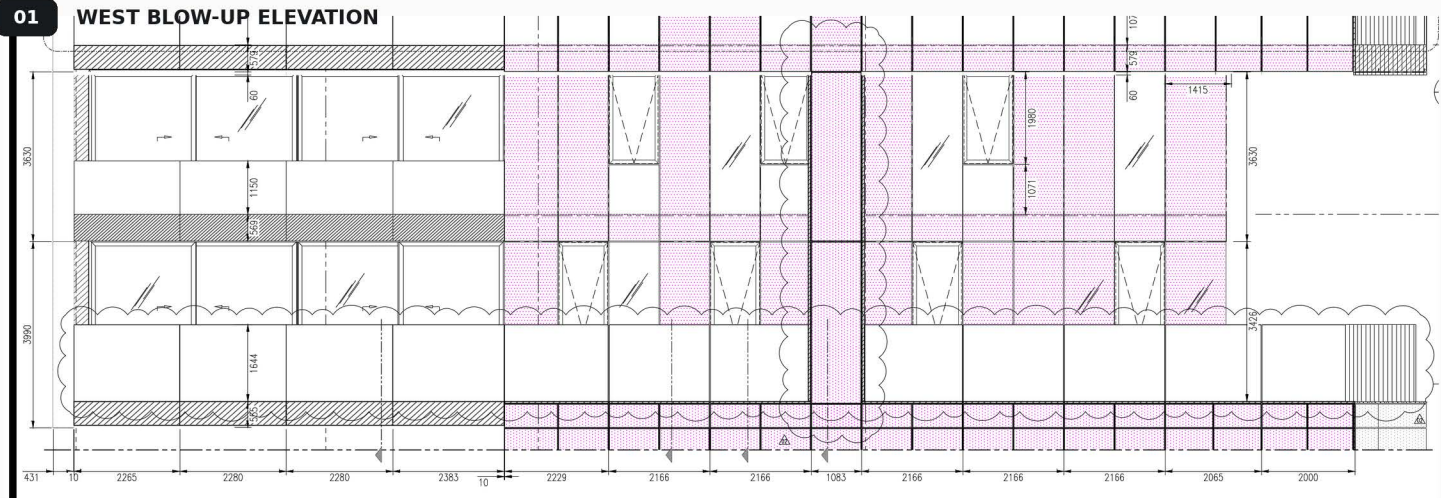


04 ROOF AXONOMETRIC B



UPPER-FLOOR ENVELOPE INTERFACES

Blow-up elevations and vertical sections • Levels 18-20



ENGINEERING ACROSS SCALES

Riviera Tower — connecting the global tower model with repeatable balcony and balustrade assemblies

ARCHITECTURAL VISION



A VERTICAL LANDSCAPE

The tower's distinctive silhouette is shaped by repeated balcony plates, planted edges and precise vertical alignment maintained across the full height of the building.

COORDINATED TOWER MODEL



GLOBAL COORDINATION

Floor repetition, vertical alignment and structural context establish the framework for façade development.

INTEGRATED FAÇADE ENGINEERING

FROM MODEL TO BUILDABLE DETAIL

The architectural rhythm is resolved through one continuous workflow — from global geometry to supports, rails, glass restraint and slab-edge interfaces. Every digital decision must end as a repeatable, manufacturable and installable assembly.

GLOBAL

GEOMETRY

SYSTEM

REPEATABLE LOGIC

DETAIL

VERIFIED INTERFACE

ASSEMBLY DEVELOPMENT



BALUSTRADE SUPPORT STRATEGY

A coordinated sequence of supports transfers façade loads to the slab while preserving the continuous architectural line.

COMPONENT INTERFACE

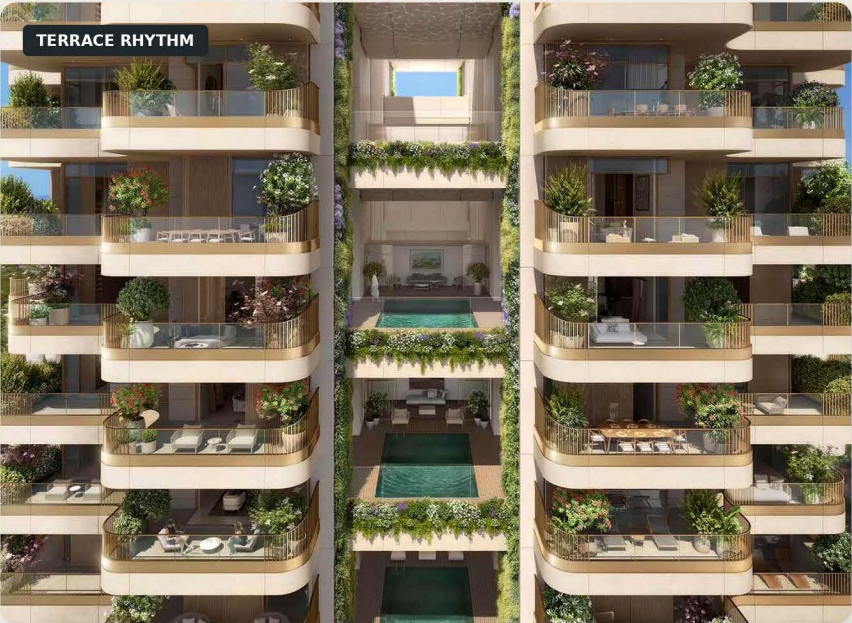
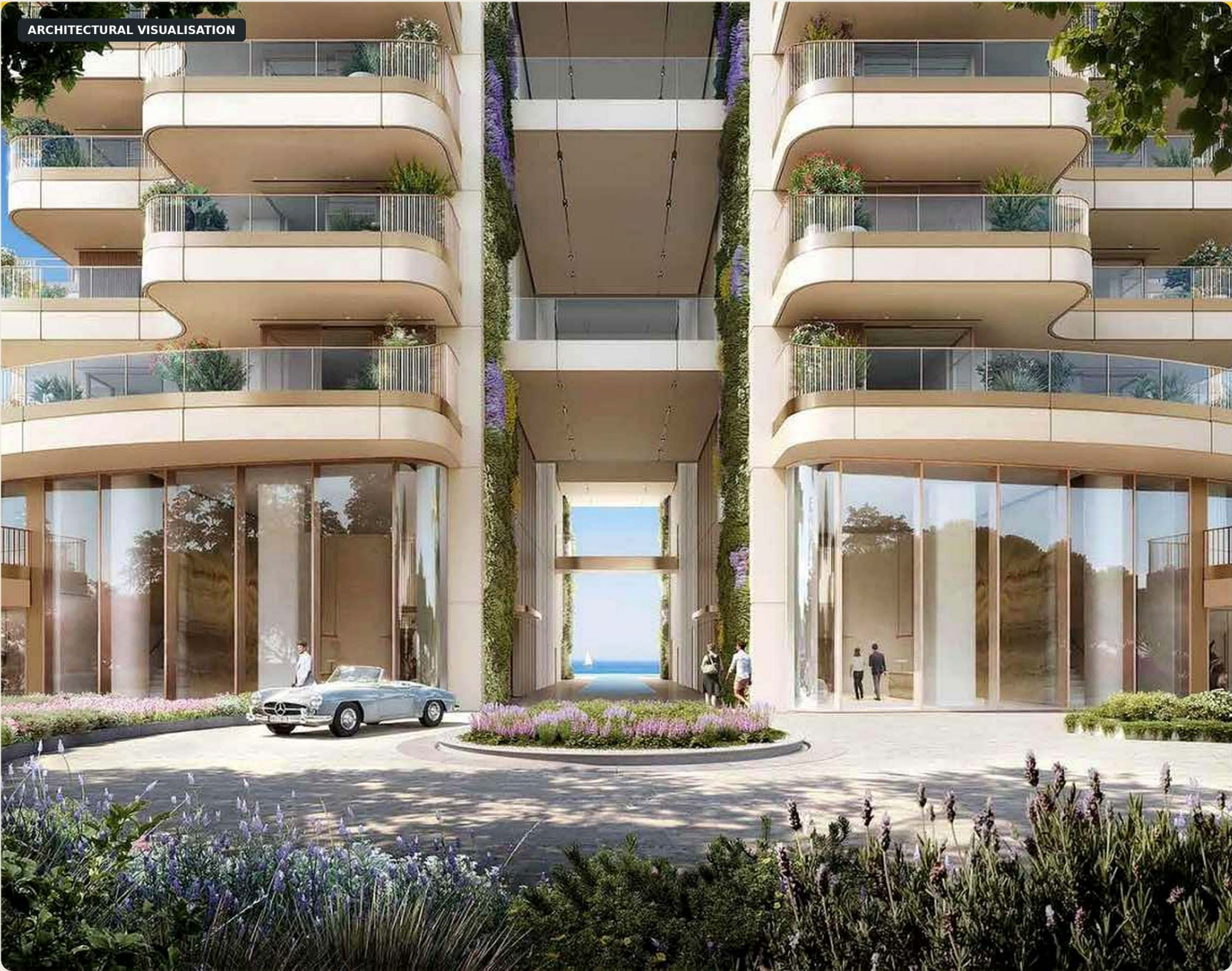


GLASS BASE INTERFACE

The local assembly resolves glass restraint, aluminium profiles, gaskets and edge tolerances at the balcony line.

A LIVING FAÇADE, ENGINEERED AS A SYSTEM

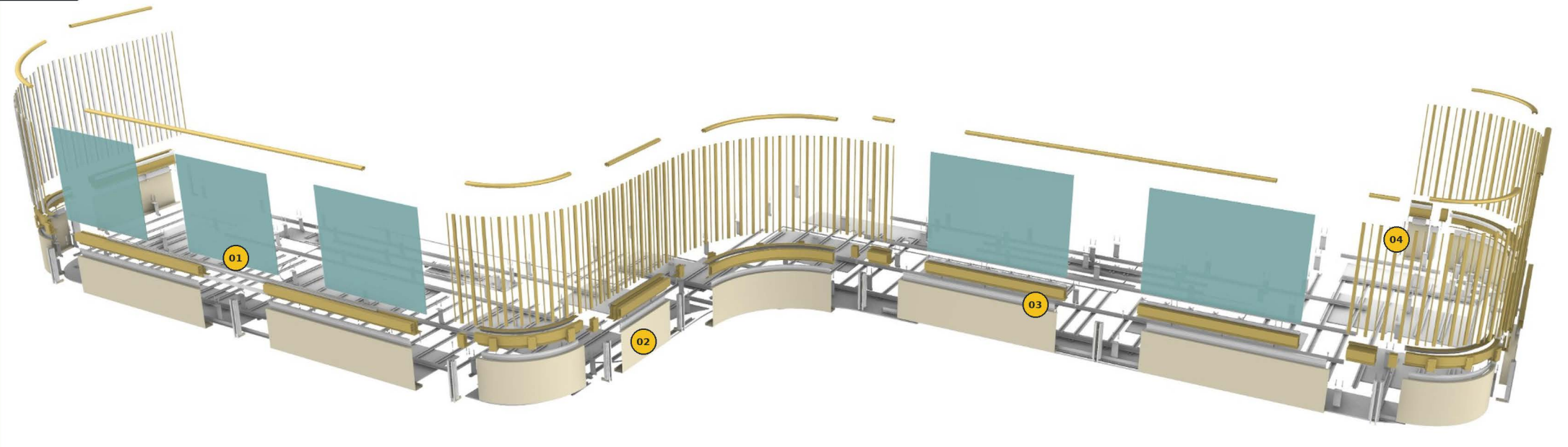
Arrival, terraces and interior-exterior continuity within the tower's layered envelope



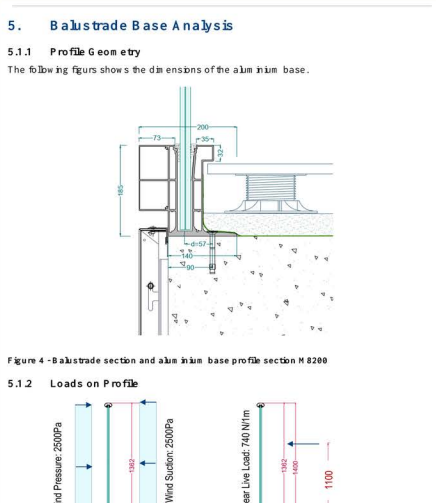
THE BALCONY AS A FAÇADE ASSEMBLY

Balustrades, curved fascias, linings and support frames resolved in one coordinated 3D model

COORDINATED 3D ASSEMBLY



BAL-103 BASE GEOMETRY



COORDINATED INTERFACES

- 01 GLASS BALUSTRADE
Panel, base shoe and top-edge geometry
- 02 CURVED FASCIA
Visible cladding edge and soffit return
- 03 SECONDARY FRAME
Continuous support below the balcony edge
- 04 METAL BALUSTRADE
Vertical railing zones and curved transitions

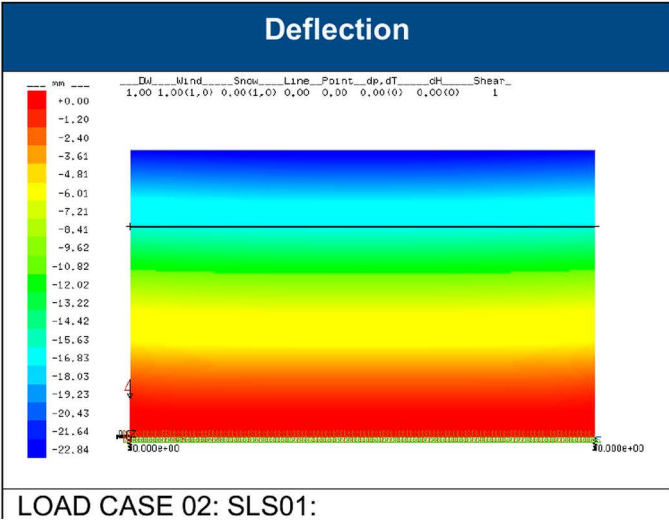
GLASS, READ AS A RESPONSE FIELD

BAL-102 verified through serviceability deflection and ultimate stress contour analysis

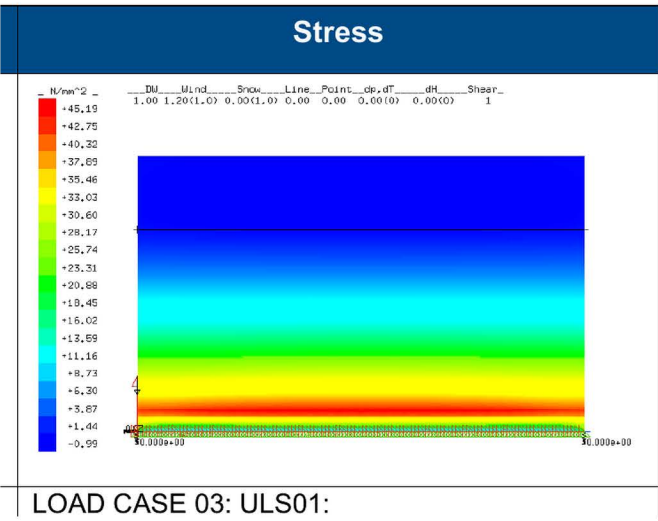
BAL-102 · APPROVED CALCULATION

4.8.2 / 4.5 kPa

DEFLECTION · SLS01



STRESS · ULS01



1.0 DEAD + 1.0 WIND

w = 22.84 mm

LIMIT 23.50 mm

PASS



1.35 DEAD + 1.2 WIND

$\sigma = 45.19 \text{ N/mm}^2$

LIMIT 87.5 N/mm²

PASS



TRANSPARENT THRESHOLD



4.5 KPA DESIGN CASE

DEFLECTION AND STRESS — BOTH VERIFIED

The glass is read as a full response field rather than a single value. The governing contour plots show where deformation and stress concentrate, while the documented checks confirm compliance with the report criteria.

22.84 mm

DEFLECTION < 23.50 MM

45.19

N/MM² < 87.5

FROM PROFILE FEA TO CONCRETE ANCHORAGE

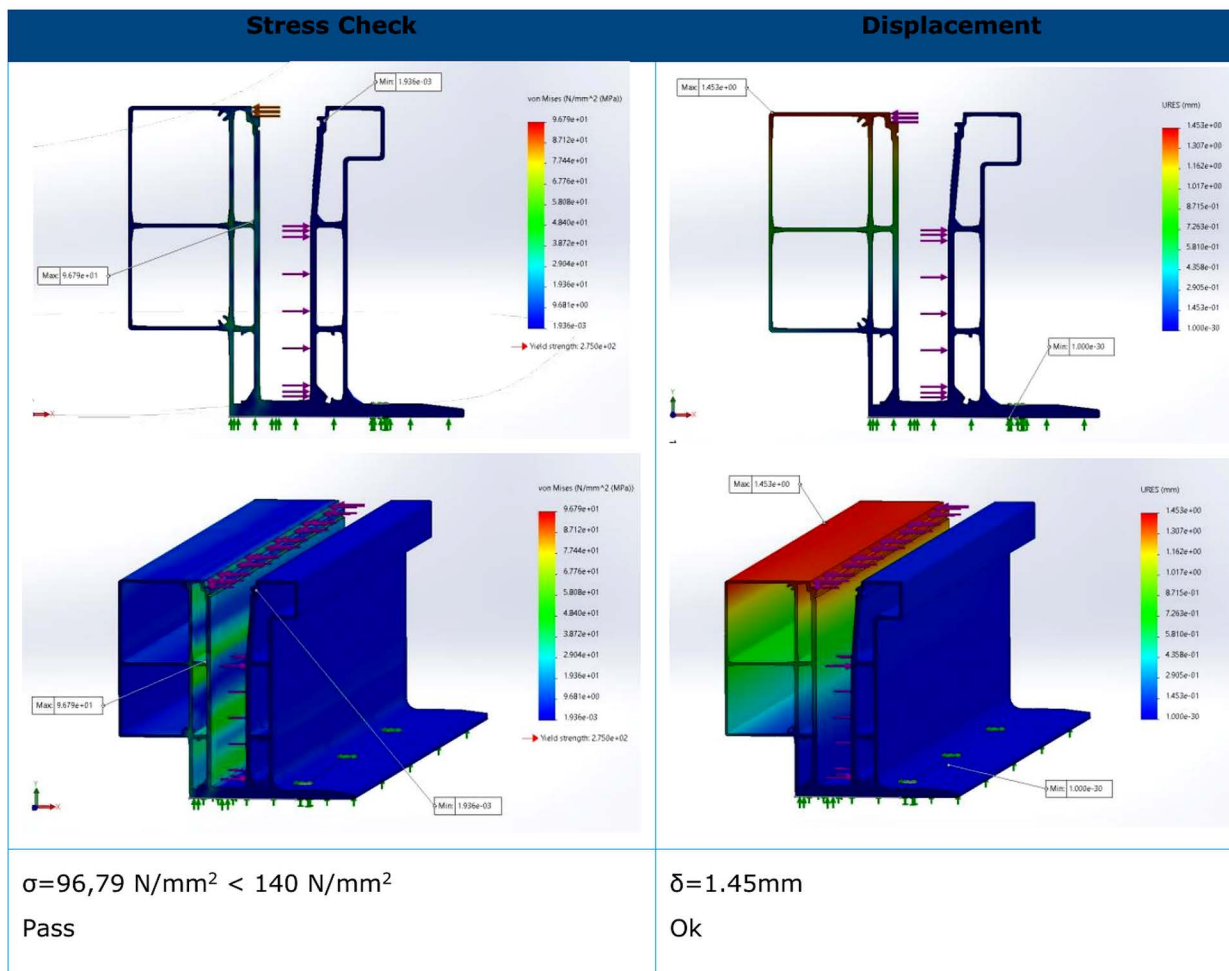
Local stresses, displacement and support reactions carried through to the final fixing check

BAL-103 · PROFILE FEA

5.1.5 Base Stress Analysis Results

The stress analysis for the custom aluminium profile has been carried out by using Solidworks 2020 software and the table below summarises the results. The base was modelled for a length of 1m and fixed supported at every 330mm.

Table 10: Stress Analysis Results Summary



BAL-102 · ANCHOR VERIFICATION

$$= \gamma_s M_1 d$$

0.65

$$V_x \text{ [kN]} = \gamma \cdot s H_1 \cdot d$$

0.79

The following figure shows the analysis has been carried out for the fixings.

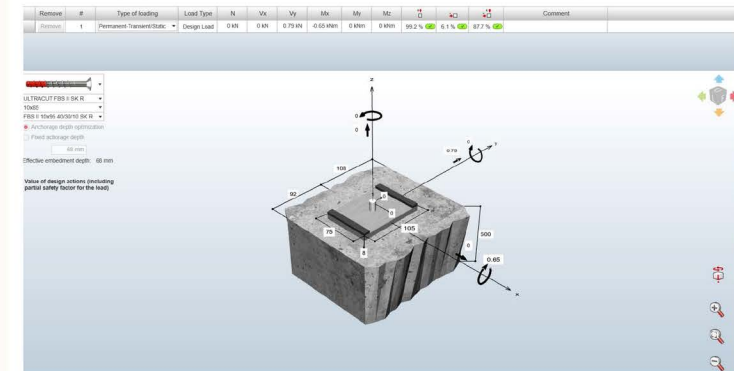


Figure 9 – Results from anchor analysis by FiXPerience.

Hence, Ultracut FBS II 10x95 40/30/10 SK A4 with an overall utilization 87.7% is proposed.

REACTION TO FIXING

THE LAST INTERFACE CLOSES THE LOAD PATH

Finite-element analysis establishes the local stress and displacement of the custom aluminium base. The resulting reactions then become the input to the anchor verification in concrete.

96.79
N/MM² < 140

1.45 mm
PROFILE DISPLACEMENT

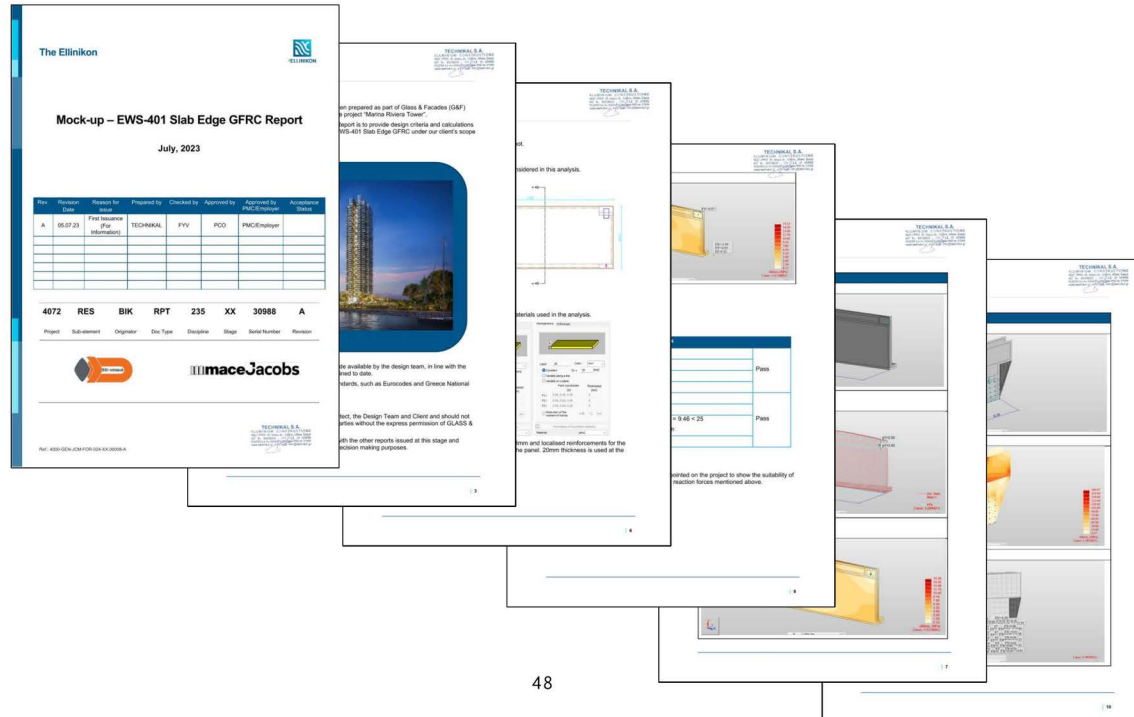
87.7%
ANCHOR UTILISATION

FROM CALCULATION TO FULL-SCALE VALIDATION

Engineering records, physical mock-up testing and an approved evidence trail for EWS-401

DESIGN CALCULATION RECORD

Design Calculation



PHYSICAL TEST SPECIMEN



APPROVED TEST RESULT

Project/Ref:	24-004135-PF05-07
Items:	EN 12179 2005-08
	Customising: Resistance to wind load
Test equipment:	EPM010E348 - Windrow and facade test rig
Test specimen:	Fal Façade Cladding
Test specimen Ref:	24-004135-PF02
Date of test:	19/12/2024
Test engineer in charge:	Sotomayor Alexandros
Test engineer:	Solísachs Ismael

Implementation of tests

Observations

There have been no 'failing' deviations from the test method specified in the standard basis.

The Thermal accordance with EN 12179:2005-08. The test specimen is not within the scope of the standard.

Actual conditions

Temperature 20.5 °C Air humidity 37.6 % Air pressure 1005 hPa

The ambient conditions are in accordance with the standard basis requirements.

Measurement Data Results

Application of positive and negative test pressures at 150% design load for a period of 15 ± 5 s.

Design load:

Positive wind pressure	Test pressure
$P_{w,ED} \text{ (Pa)}$	4560

Negative wind pressure

Test pressure
$P_{w,ED} \text{ (Pa)}$
4500

Increased load (design load + 1,5)

Positive wind pressure	Test pressure
$P_{w,ED} \text{ (Pa)}$	6750

Negative wind pressure

Test pressure
$P_{w,ED} \text{ (Pa)}$
6750

Result:

Safety test passed up to +4750 Pa and -4750 Pa, respectively.

No remaining damage could be detected on the frame members, fittings, brackets or end/anchors. Neither have any visible gaskets displaced.

EWS-401 · IFT ROSENHEIM

DESIGN LOAD, SAFETY LOAD, PHYSICAL EVIDENCE

The flat fascia cladding was assessed through full-scale wind and impact testing. The approved report records the design pressure cycle and confirms the safety test at 150% of the design wind load, with no remaining damage to frame members, infill, brackets, anchorages or seals.

±4.5 kPa

DESIGN WIND LOAD

±6.75 kPa

SAFETY TEST

PASS

WIND SAFETY RESULT

ARCHITECTURE IN DIALOGUE WITH LANDSCAPE

A shared architectural vision for the new hospitals in Thessaloniki, Komotini and Sparta



SNF GLOBAL HEALTH INITIATIVE

ONE VISION. THREE PLACES.

Across three distinct settings, the building envelope translates a common design ambition into constructible, durable and high-performance façade systems.

THESSALONIKI
UNIVERSITY PEDIATRIC HOSPITAL

KOMOTINI
GENERAL HOSPITAL

SPARTA
GENERAL HOSPITAL

THREE SITES. ONE DELIVERY STANDARD.

Construction progress across the SNF hospitals programme



SITE PROGRESS 01

STRUCTURE IN PROGRESS

The programme advances simultaneously across different geographies and site conditions.



SITE PROGRESS 02

PROGRAMME AT SCALE

Engineering and procurement decisions must remain aligned with the pace of the structural works.



SITE PROGRESS 03

ENVELOPE TAKING SHAPE

The façade package becomes visible as structure, interfaces and installation sequences converge.

BUILDING IN PARALLEL

ONE COORDINATED DELIVERY CHAIN

Three active construction fronts require engineering, procurement, manufacturing, logistics and installation to move as one integrated operation — with the same standards of quality and control at every site.

3

HOSPITAL SITES

20,000+ m²

FAÇADE SYSTEMS

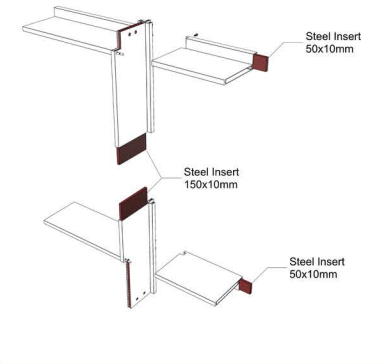
ONE TEAM

INTEGRATED DELIVERY

FROM CONCEPT TO VERIFIED CONNECTION

Reinforcement strategy, assembled geometry, section development and structural verification in one traceable sequence

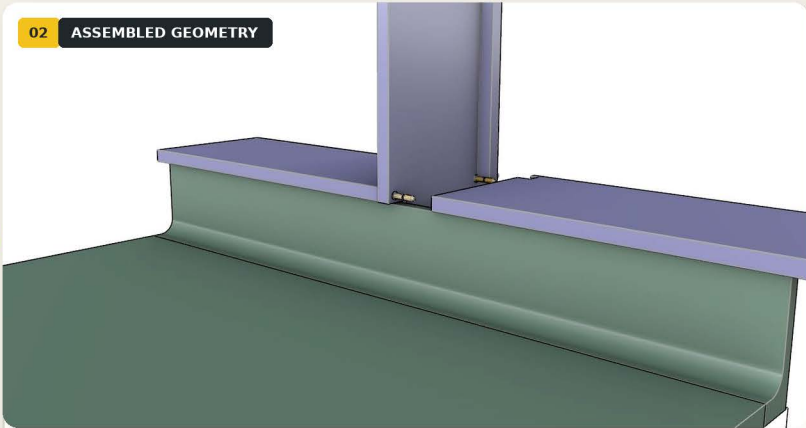
01 REINFORCEMENT STRATEGY



STEEL INSERTS INTRODUCED

Local steel inserts strengthen the profile ends and establish the required load-transfer zones.

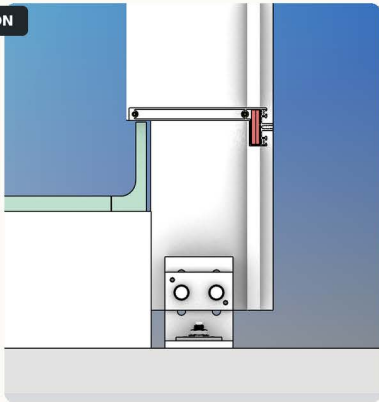
02 ASSEMBLED GEOMETRY



THE CONNECTION IN 3D

The model coordinates the vertical member, supporting plate and adjoining horizontal components.

03 SECTION RESOLUTION



INTERFACE MADE EXPLICIT

The section confirms the local relationship between profile, fixing, support and surrounding build-up.

04 STRUCTURAL VERIFICATION

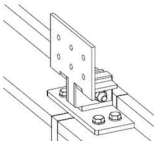
STRUCTURAL LOGIC, VERIFIED

Load paths translated into connection, fastener, bearing, weld and anchor checks

TOP CONNECTION ASSEMBLY

An intermediate T-shaped steel element is placed between the two side plates and connected through a single M10 bolt, forming the hinge mechanism of the connection. The thickness of the intermediate T-element is also taken as 8 mm.

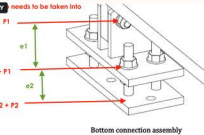
The connection between the T-element and the aluminum façade component is achieved through four countersunk M10 bolts. The overall load path is from the aluminum element to the T-element, through the M10 hinge bolt to the side plates, and finally to the front plate and the timber support through the wood screws.



Top connection assembly

5

BOTTOM CONNECTION ASSEMBLY



Bottom connection assembly

10

FORCE TRANSFER & VERIFICATION



DESIGN VERIFICATION

FROM LOAD TO FIXING

The calculation chain follows the transferred façade actions through steel plates, bolts and threaded rods to the final anchorage—making every interface explicit and checkable.

TRACEABLE DESIGN VERIFICATION

ONE CONTINUOUS ENGINEERING CHAIN

The sequence moves from component reinforcement to the assembled 3D connection, from section resolution to the final calculation report. Every design intent is linked to a load path, every load path to a fixing, and every fixing to a verified capacity.

01

REINFORCE
LOCAL CAPACITY

02

ASSEMBLE
3D GEOMETRY

03

RESOLVE
SECTION INTERFACE

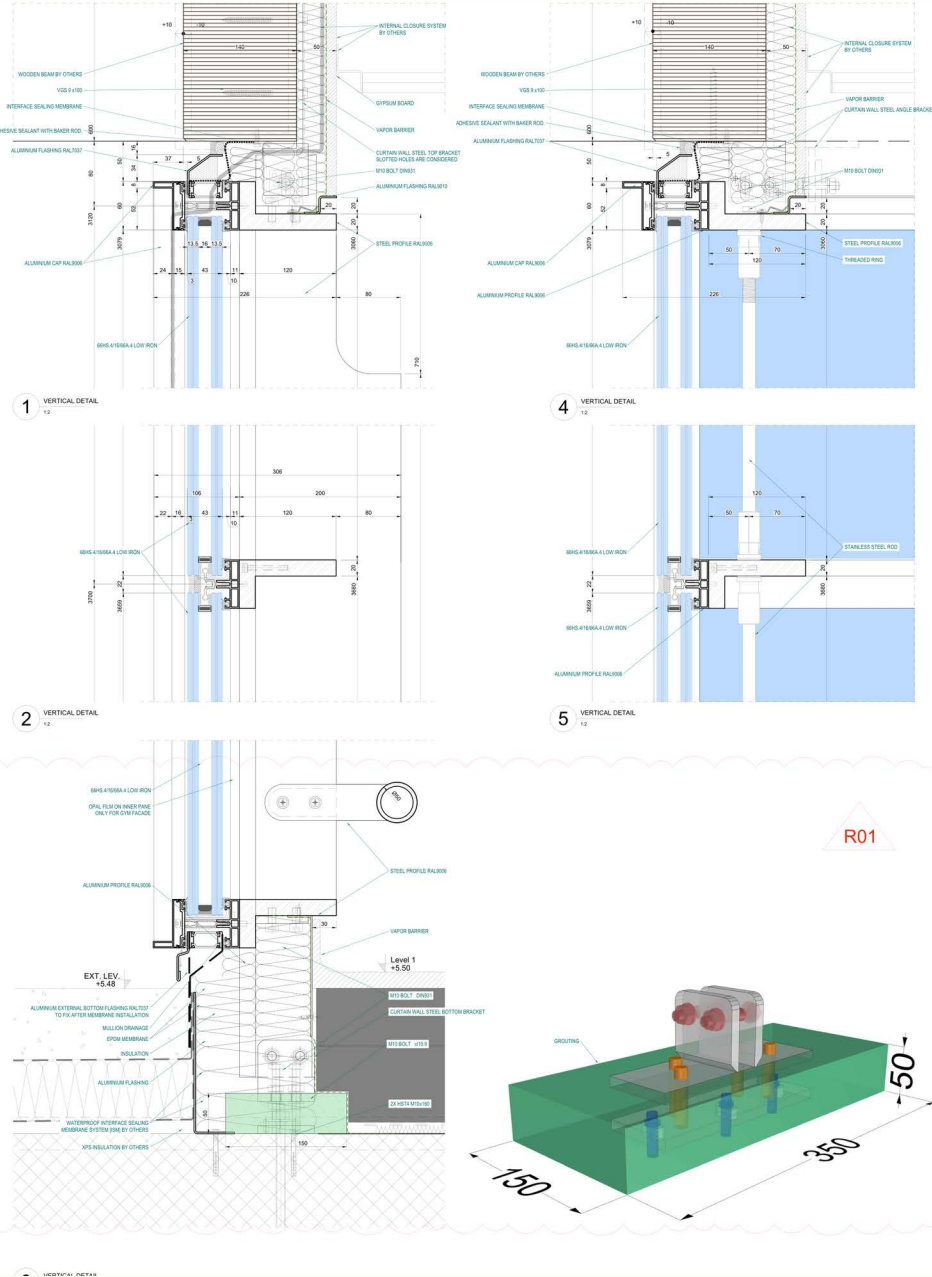
04

VERIFY
CALCULATION CHAIN

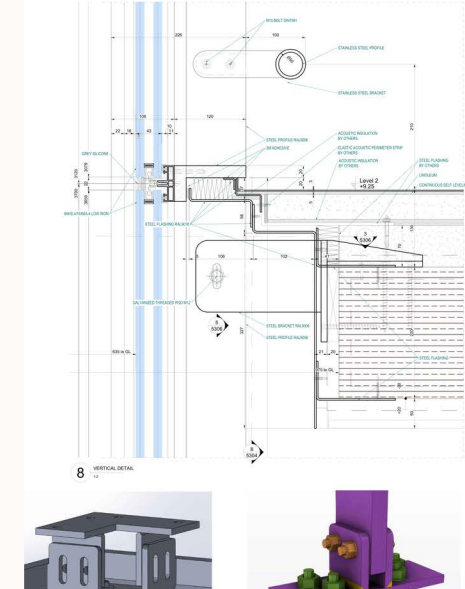
CONNECTIONS ENGINEERED TO BE BUILT

Bracket anchorage, grouting strategy and interface control

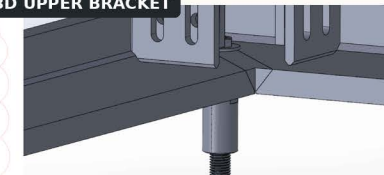
ENVELOPE SECTIONS



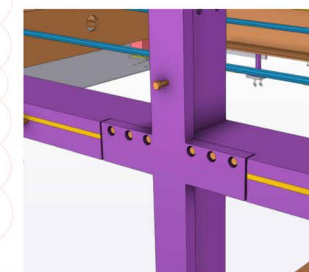
ANCHORAGE DETAIL



3D UPPER BRACKET

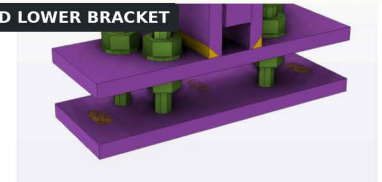


4A 3D UPPER BRACKET
1:2

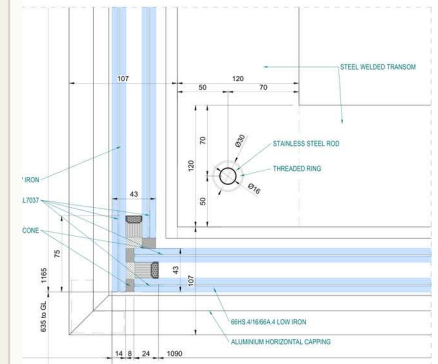


66HS-4/16/88A-4 LOW IRON
CERAMIC FRIT RAL7037 +
GREY SILICONE

3D LOWER BRACKET



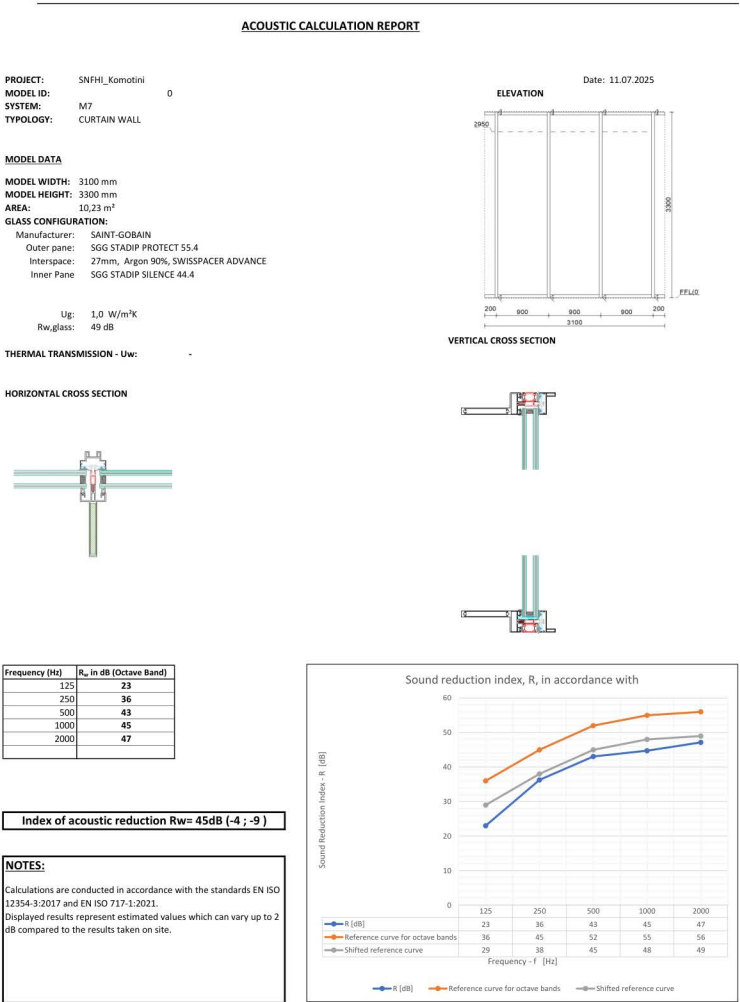
3A 3D LOWER BRACKET
1/2



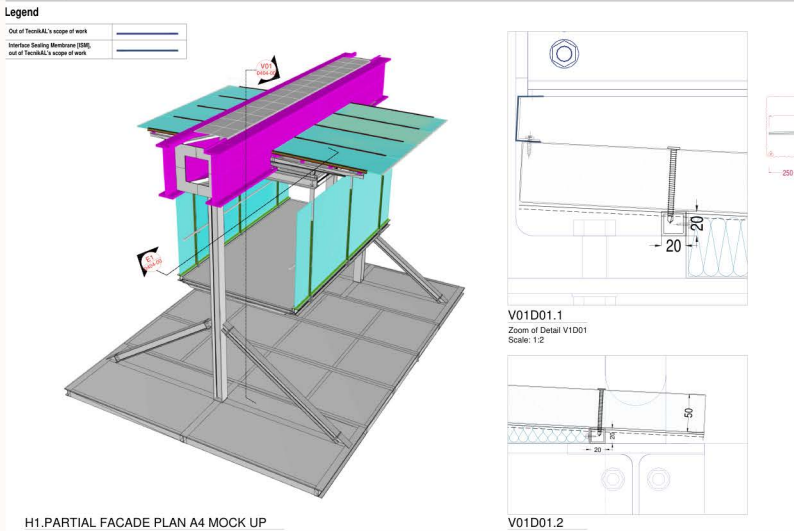
FROM CALCULATION TO FULL-SCALE TESTING

Acoustic modelling, representative prototypes and witnessed performance verification

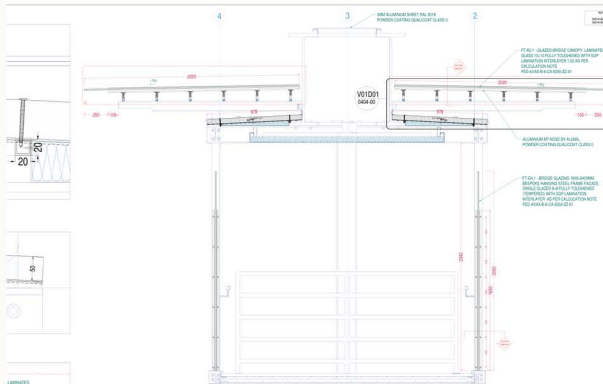
ACOUSTIC CALCULATION



FULL-SCALE CANOPY MOCK-UP



REPRESENTATIVE SECTION



CWCT TN 66/67

FRAGILITY TEST PLAN

Representative overhead-glazing prototypes are specified for witnessed soft-body, hard-body and retained-load testing, followed by inspection and formal reporting. Water resistance is separately verified by site hose testing.

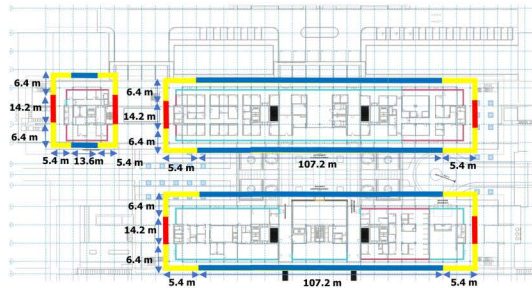
LOADS MAPPED TO THE BUILDING

Wind zoning, directionality and multiple design actions translated into analysis cases

PROJECT WIND ZONES



Considering combined action of wind load along X-X and Y-Y directions. The worst-case scenario is as follows.



XX Direction

-  Zone A -1.7 kN/m²
 Zone B -1.21 kN/m²
 Zone C -0.848 kN/m²
 Zone D 1.21 kN/m²

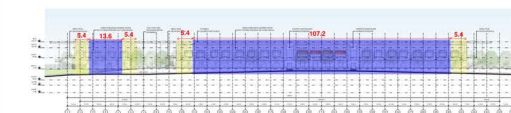
YY Direction

-  Zone A -1.7 kN/m²
 Zone B -1.21 kN/m²
 Zone C N/A
 Zone D 1.267 kN/m²

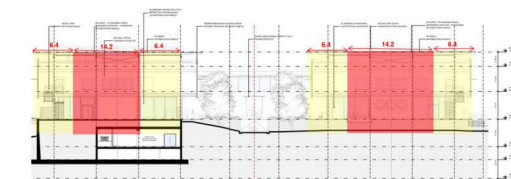
WIND ON ELEVATIONS



Wind load on elevation



Side elevation



Front elevation

- | | | | |
|---|---------------------------------|---|--------------------------------|
|  | Zone A -1.7 kN/m ² |  | Zone A -1.7 kN/m ² |
|  | Zone B -1.21 kN/m ² |  | Zone B -1.21 kN/m ² |
|  | Zone C -0.848 kN/m ² |  | Zone C N/A |
|  | Zone D 1.21 kN/m ² |  | Zone D 1.267 kN/m ² |

Funneling Effect:

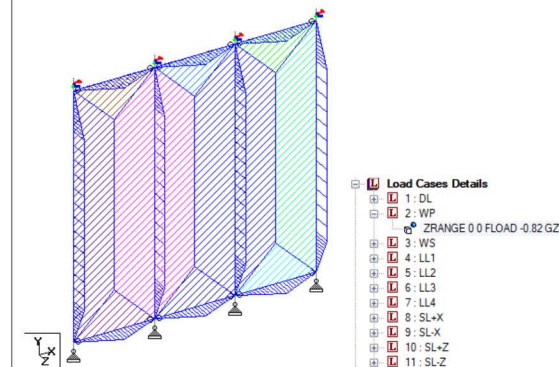
The National Annex does not support funneling effects. However, in order to facilitate your question we have utilised BS EN 1991-1-4 to consider funneling effect which states "Where the walls of two buildings face each other and the gap between them is less than e (smaller value

WIND PRESSURE ΕΠΙΧΕΙΡΗΣΙΑ

Template Reference Number GEN-HILL-B-6-FRM-0008-ZZ Rev 2

$$DL = 25 \times 0.022 \times 0.9 \times 2.8 / 2 = 0.693 \text{ kN applied at 150mm from the ends of the transom}$$

Loads Applied – Wind pressure load

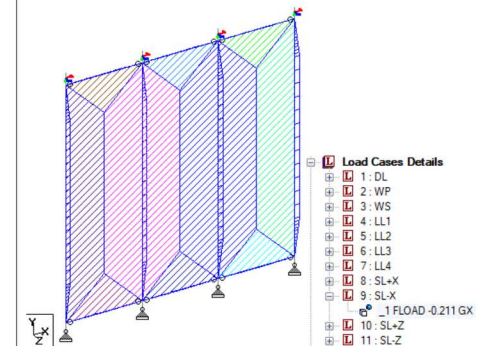


Loads Applied – Wind Suction load

SEISMIC ACTION

Template Reference Number GEN-HILL-B-6-FRM-0008-ZZ Rev 2

Loads Applied – Seismic load X-

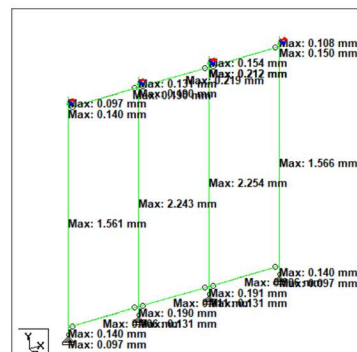


Seismic load = $0.384 \times 25 \times 0.022 = 0.211 \text{ kN/m}^2$ in negative X direction

EXACT DEFORMATION



Template Reference Number GEN-HILL-B-6-FRM-0008-ZZ Rev 2



In place deflection LC02: 1.00 Dead Load $\pm$ 1.00 Live Load?

DESIGN ACTIONS

NOT ONE LOAD CASE

The façade is checked through serviceability and ultimate combinations of dead, wind, barrier and seismic actions. Project-specific zoning converts the building geometry into traceable analysis inputs.

1.70
KN/M² MAX ZONE

1.50
KN/M BARRIER