

# SYSTEMS THINKING



FOTO: FELIX FRIEDMANN

## WHY PAIR CLADDING MATERIAL WITH SMART FIXING SYSTEMS?

Design materials like HPL, fibre cement, terra cotta or metal satisfy all desires with regard to colour, finish and shape, and connected with a smart fixing system to a rear-ventilated facade, unlimited architectural possibilities are generated.

### **For the complex rainscreen cladding an intelligent attachment system has to meet multiple challenges.**

It must provide the optimal fastening solution

- for any kind of cladding material and
- for any design requirements.

At the same time, it must be

- economical,
- safe,
- and have a long life performance.

Apart from that, it must

- take into account the project environment's specific static requirements and
- comply with the relevant local construction regulations and standards.

## SYSTEMS THINKING IS OUR MISSION

WHILE...

- architects are focused on the design of the building,
- cladding material manufacturers on the characteristics of their material and the production of the panels,
- the installers on an efficient fixing,

**... WE HAVE THE WHOLE RAINSCREEN CLADDING SYSTEM IN MIND.**

**We provide products and services to meet the entire spectrum of market requirements.**

## ALLFACE SUPPORT

During the planning and bidding stage, our services comprise

- planning details on all our fixing systems,
- templates for invitations to tender, as well as
- solution suggestions for the optimal fixing system.

### **During the implementation stage, we guarantee the best possible project realisation through our products and services by**

- object-specific material amounts and cost calculation,
- static tests, structural analyses,
- installation planning,
- comprehensive training of installers,
- high-quality products and short delivery times thanks to flexible in-house fabrication

Our technical expertise and specific application know-how, our quality products and our flexibility when it comes to delivery times make up our range of services.

As a system partner to the international facade industry, we co-operate with renowned market players, and our global network assists us in our comprehensive market approach.

# SERVICES DURING THE PLANNING STAGE

## PLANNING DETAILS

For every Allface fixing system, planning details are available, either in paper form or for download (.dwg, .dxf, .pdf). The planning details cover the most important structural connections such as e.g. foundation, attic, windowsill, reveal, corner solutions, etc.

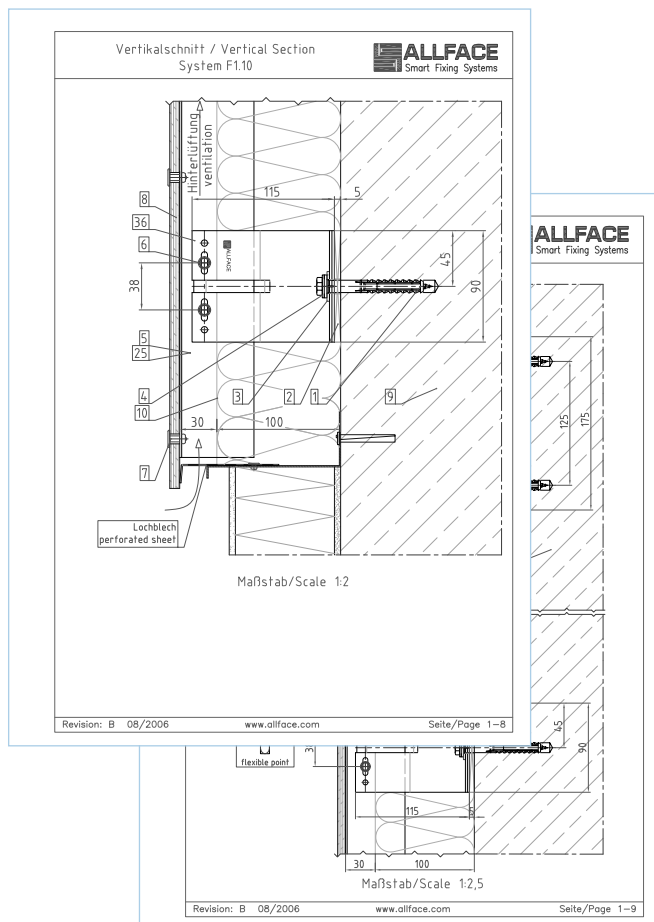
Please visit us at our Website [www.allface.com](http://www.allface.com) » Downloads.

## SOLUTION SUGGESTIONS FOR THE OPTIMAL FIXING SYSTEM

The architect defines the facade design in view of cladding material, format, type of attachment and visible or concealed fixing.

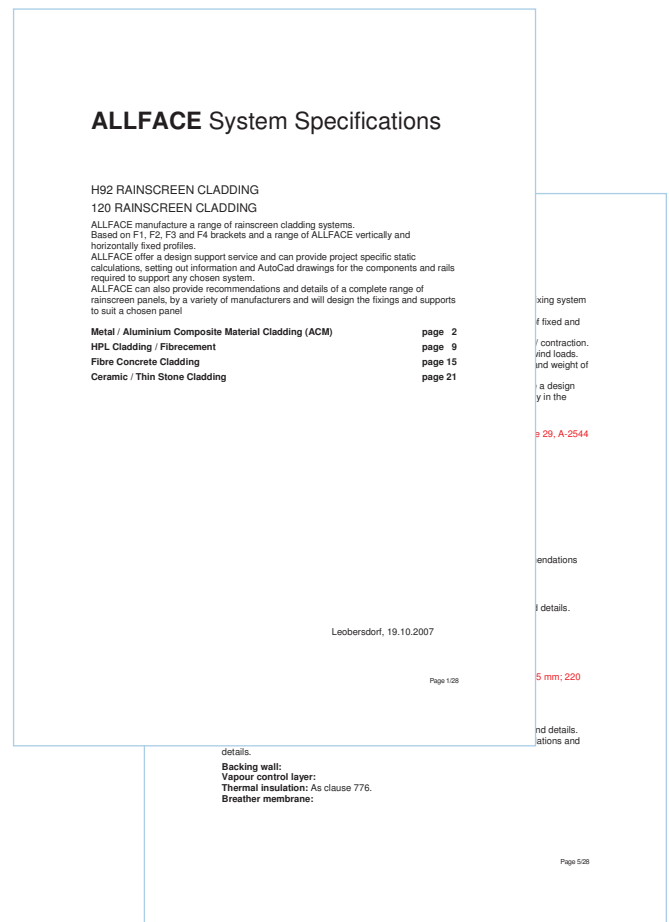
Then, if needed we are delighted to advise on the best possible attachment solution and suggest a customised, economically optimised fixing model.

## CAD DRAWING, DETAIL OF A STANDARD VISIBLE FIXING



## SYSTEM SPECIFICATIONS

To simplify the administrative work for architects, we provide specification templates as downloads for every fixing system. See [www.allface.com](http://www.allface.com) » Downloads.



# SERVICES DURING PROJECT IMPLEMENTATION

## OBJECT-SPECIFIC MATERIAL AMOUNTS AND COST CALCULATION

Our team of engineers is happy to assist our customers in submitting an offer.

Being experts, they are capable of providing precise cost estimates without having to calculate the project in full detail.

The resulting recommended price usually differs only marginally from the actual values. As they are based on the final plans, the ultimate figures cannot be calculated until the contract has been awarded.


## Project Info and Plans as a Basis

Starting point for the targeted quantities and costs are the project specifications that you give us by completing a project info form. Together with the elevations and vertical sections, the info form provides the basis for all further calculations.

The project info form is also available for download at [www.allface.com](http://www.allface.com) » Downloads.

## PROJECT INFO FORM

PROJECT-INFO



ALLFACE Smart Fixing Systems  
ALLFACE Bauelemente-Technologie GmbH & Co KG  
 Tel. +49(0)271 9502-10 Fax +49(0)271 9502-10

**1. Project data**

project name: Georgetown office street: Gardaustrat 18  
 city: 81417 Lexington country: \_\_\_\_\_

facade area: ca. 100 m<sup>2</sup>  new building  old building / renovation

building height: 4 m windows:  general area 0,65 kWh/m<sup>2</sup>  
 storey height: 4 m  surrounding area: 1 kWh/m<sup>2</sup>  
 window height: 3,25 m

facade plans available:  yes  no  section  floor plan  details  
 elevation

deadline: start of planning: 05/2008  
 start of installation: 08/2008  
 tender price: 01.06.2008

**2. Facade element**

Fiberglass  GRC  FFL  Ceramic/Thin Stone  Metal  
 Render  Terracotta  Composite Material  Timber

thickness of panels: 8 mm weight of panels: 12 kg/m<sup>2</sup>  
 size of panels: acc. plans mm

installation:  vertical / postfall  horizontal / landscape

**3. Fixing of Facade element**

rivet  screw  clamp  \_\_\_\_\_  
 concealed  adhesive system  undercut panel anchor  hang on system

**4. Wall condition**

concrete class C25/20  cracked  uncracked  
 gas concrete  vertically perforated brick  timber  steel  lime sand brick  
 solid brick  \_\_\_\_\_  
 type of anchor: \_\_\_\_\_ cert. pullout of anchor: \_\_\_\_\_ kN/m<sup>2</sup>

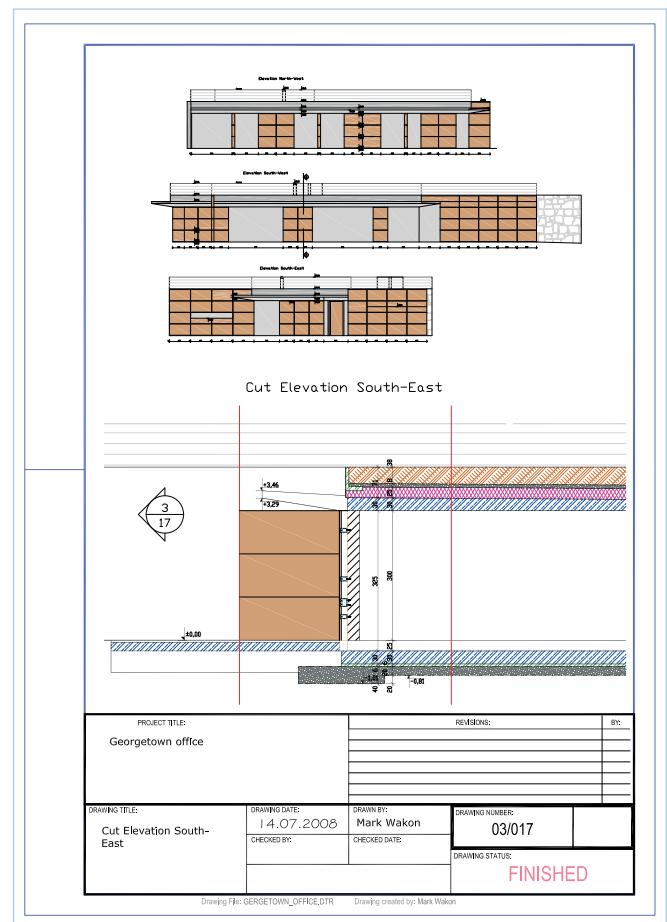
**5. Facadesetup**

frustration: 120 mm  wall distance: \_\_\_\_\_ mm  
 windfall necessary  horizontal joints opened  
 horizontal joints closed

**6. Enquiry from**

name: ABC Facades street: Hildstrat 109  
 city: 98417 Lexington phone: +49634758  
 fax: \_\_\_\_\_ email: mark.wakon@abof.com

## ELEVATION AND VERTICAL SECTION



# SERVICES DURING PROJECT IMPLEMENTATION

## Determining the Representative Area

A characteristic section of the project facade is chosen to represent the entire project and used as a basis to calculate quantity structure and costs of the total project.

## Structural Analysis, Definition of the Fixing System and Graphic Representation through Installation Plan

Based on the essential project information, such as wall condition, pull-out values, cladding material, size, weight of panels, climatic conditions etc., our engineers carry out the required static analyses and determine the fixing system that suits the project best.

Then they devise a plan for the representative project section, which features all the individual system components such as profiles, wall brackets, the distances from one another, etc.

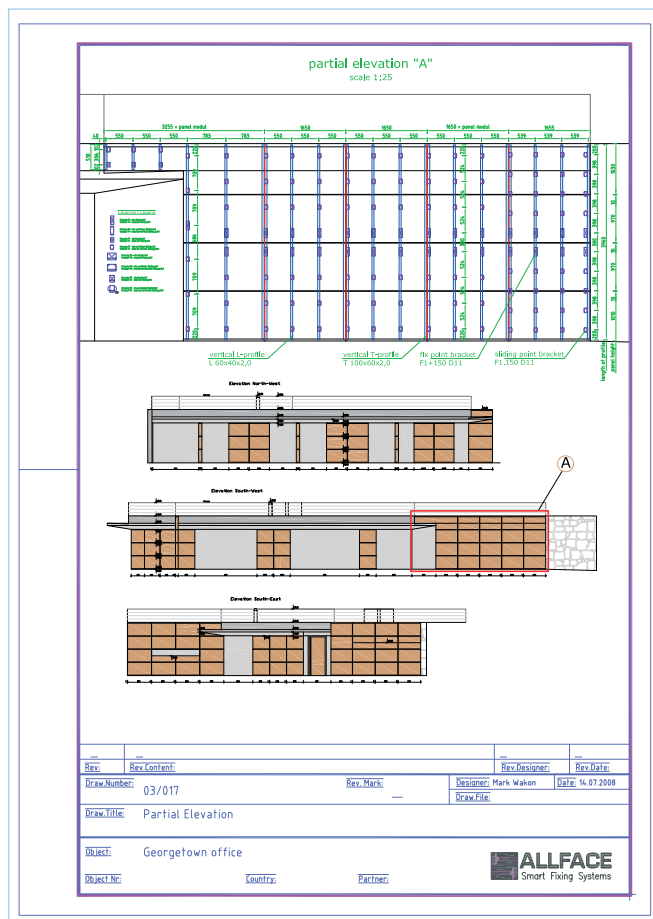
## Material Quantities- and Cost Calculation

The installation plan shows the exact quantity of system parts required for the representative area.

By dividing this amount by the area's number of square meters, we arrive at the amount of parts needed and the costs for one single representative square meter.

After that, the bid price calculation for the material is very simple. All the customer has to do is multiply the costs by the size of the whole project and add margin and installation cost.

## REPRESENTATIVE AREA AND INSTALLATION PLAN



## QUANTITY AND COST FOR ONE SQUARE METER

Offer No. AN0800691

Project: Georgetown office, Gardenstreet 18, 984178 Lexington

Cladding material:	HPL	wall condition concrete	C25/20
Allface system:	F1.10	insulation thickness	120mm
Area in m <sup>2</sup> :	100	cavity space	150mm

HPL panels 8mm thickness, landscape placed

wind load centre area +0,62 kN / -0,65 kN

wind load corner area +0,62 kN / -0,81 kN

The figures / m<sup>2</sup> below are results of calculation on partial elevations. The overall figures may vary +/-10%.

No	Article No.	Description	Quantity/ m <sup>2</sup>	Unit	Price/U nit	Price/ m <sup>2</sup>
1	I-F1	Insulator pad, suitable for bracket F1, dimension: 65x90x5mm, material: PVC	2,11	PCS	0,62	1,31
2	F1.150D11	bracket F1, material EN AW 6060.T68, 1 fixing hole 22/11mm, height 90mm, depth 150mm	2,11	PCS	2,46	5,19
3	I+F1	Insulator pad, suitable for bracket F1+, dimension: 65x175x5mm, material: PVC	0,43	PCS	0,74	0,32
4	F1+150D11	bracket F1, material EN AW 6060.T68, 2 fixing holes 22/11mm, height 175mm, depth 150mm	0,43	PCS	3,39	1,46
5	D-SKT1000600.VZ	galvanized hexagon head screw, width across flat 13mm, especially for concrete wall	2,97	PCS	0,37	1,10
6	S-SKT0480190.A2	self drilling screw 4,8x19 with hexagon head, width across flat 8mm, material A2,	5,94	PCS	0,22	1,31
7	A-L04006020	L-profile 40/60/2,0mm, material EN AW 6060.T68, length 6.000 mm	1,89	RM	4,15	7,84
8	A-T10006020	T-profile 100/60/2,0mm, material EN AW 6060.T68, length 6.000 mm	0,69	RM	7,07	4,88
9	N-50180140L.AN	Alu/Stainless steel rivet 5,0x18,0mm, head 14,00mm, grip range 9-12,5mm, coloured	7,00	PCS	0,38	2,66
<b>TOTAL / m<sup>2</sup></b>						<b>26,06</b>

# SERVICES DURING PROJECT IMPLEMENTATION

## STATIC ANALYSIS

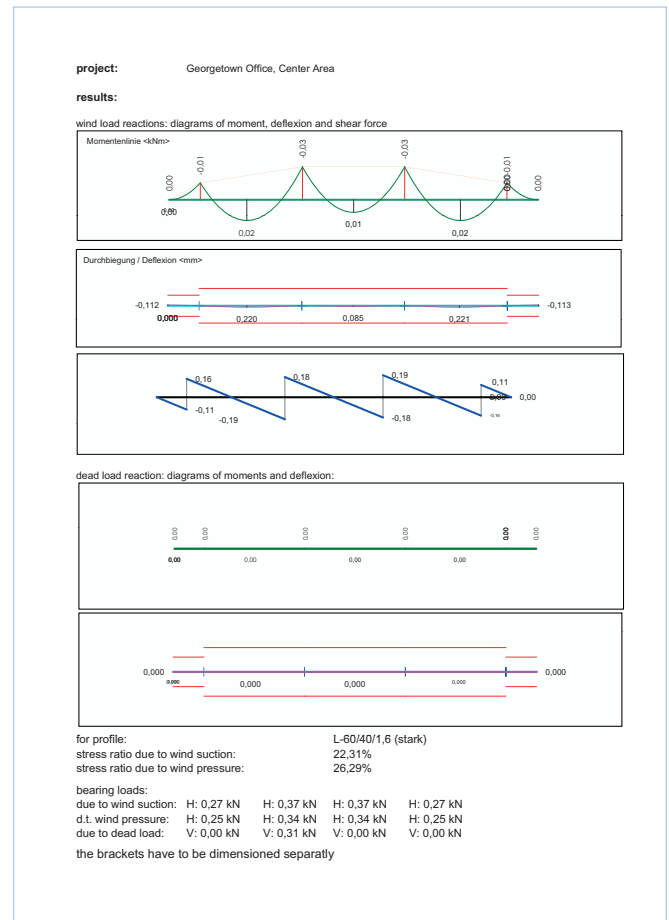
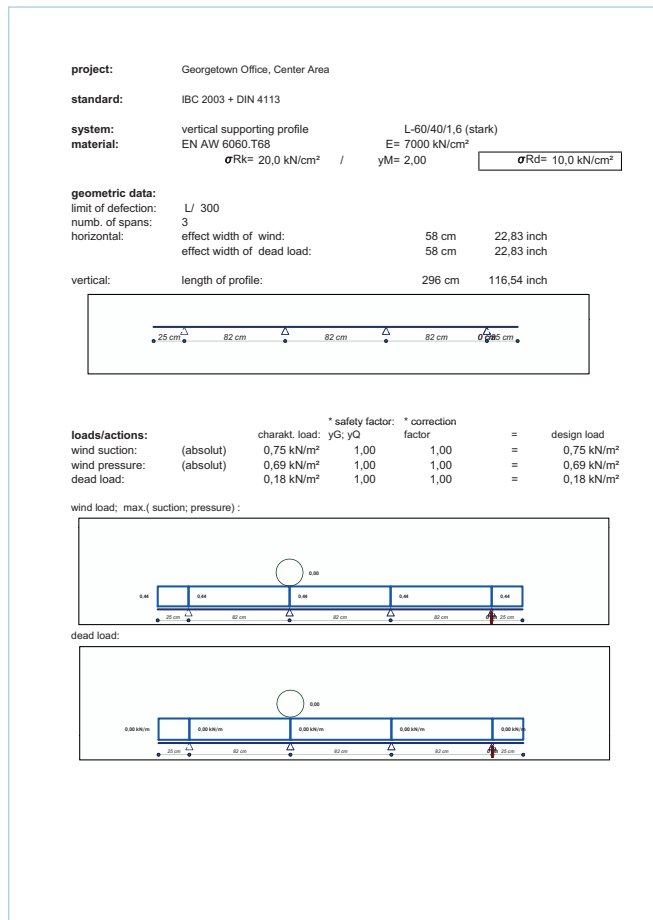
Very frequently, our engineers are requested to carry out static analysis, especially required by the authorities for proof of safety of public buildings.

Structural analyses on the stability and safety of the fixing system for a rainscreen cladding are very extensive and therefore only provided on customer request and against reimbursement of costs.

The static analysis is based on the chosen fixing system's basic statics (system statics) and has to consider

- all variables that have an impact on the object, such as wind, ground, format, weight of the facade element, etc. (object statics) and take into account
- the relevant country-specific rules and regulations.

## DETAIL OF STRUCTURAL ANALYSES CONCERNING DEFLECTION OF THE SUPPORTING L- AND C-PROFILES



# SERVICES DURING PROJECT IMPLEMENTATION

## INSTALLATION DRAWINGS

Installation drawings provided on customer request are a secure basis for efficient installation and reliable project implementation. They help as well to detect and correct any mistakes early on, already before installation. As the drawings are very extensive they are not free of charge and only provided on customer request.

The plans drawn by Allface, however, can only refer to plan dimensions, as natural dimensions cannot be incorporated.

## INSTALLATION PLAN

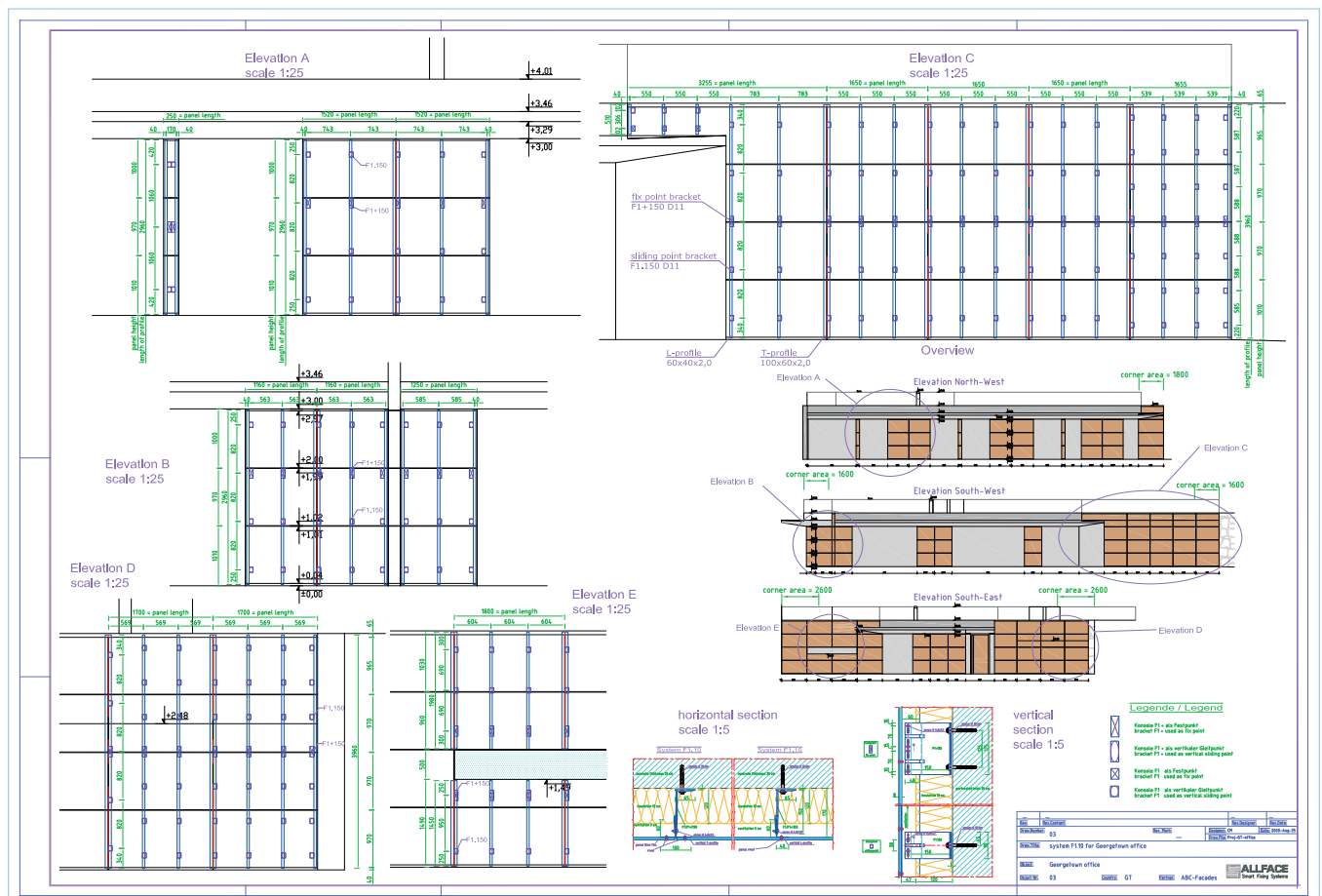




FOTO: OTTO HAINZL - WWW.AUGMENT.AT



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