

STONELAM SURFACES LLP

CLADDING SYSTEMS

STONELAM[®]
THE FINEST NATURAL FACADES

Table of Contents

Adhesive System: SFS -1. 2

DeadLoad System: SFS -2..... 5

Sliding System: SFS -3..... 8

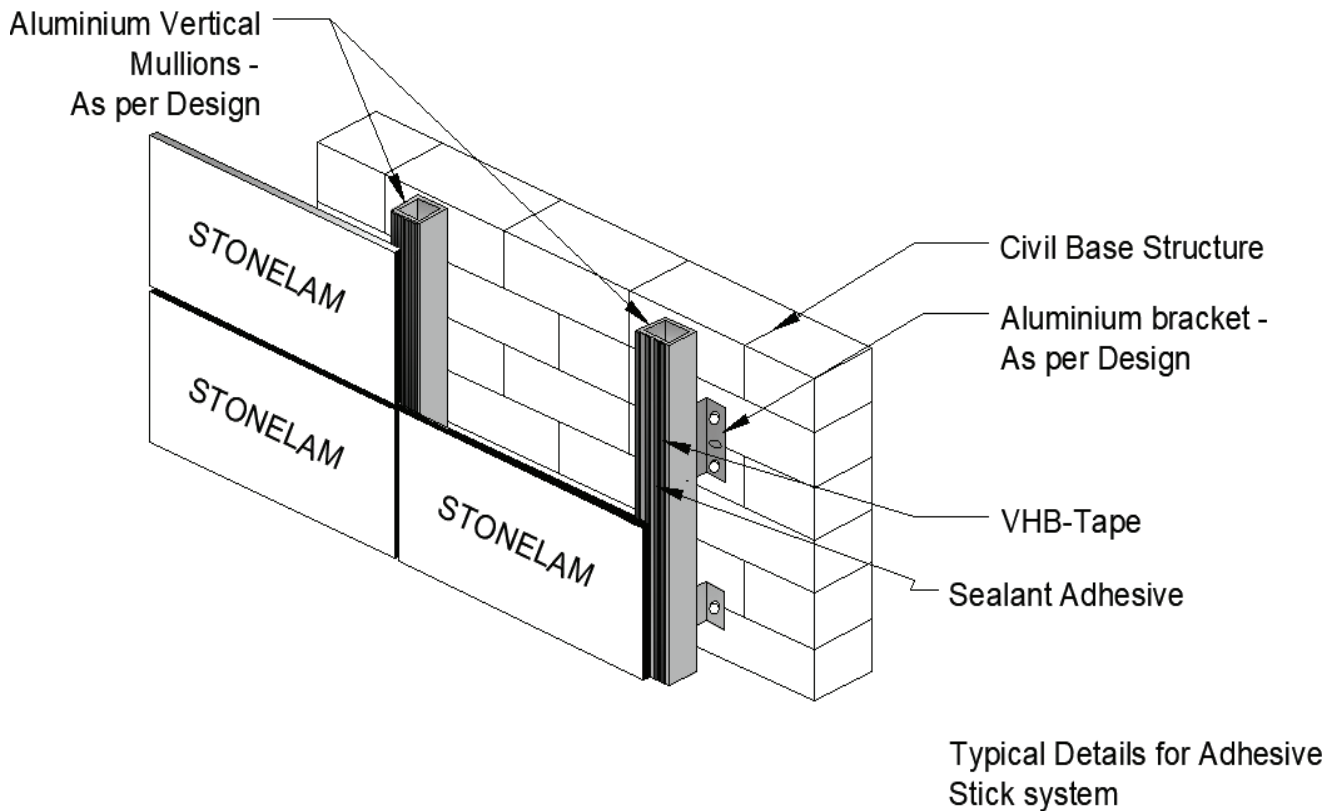
STONELAM CLADDING SYSTEMS

1. ADHESIVE SYSTEM: SFS 1

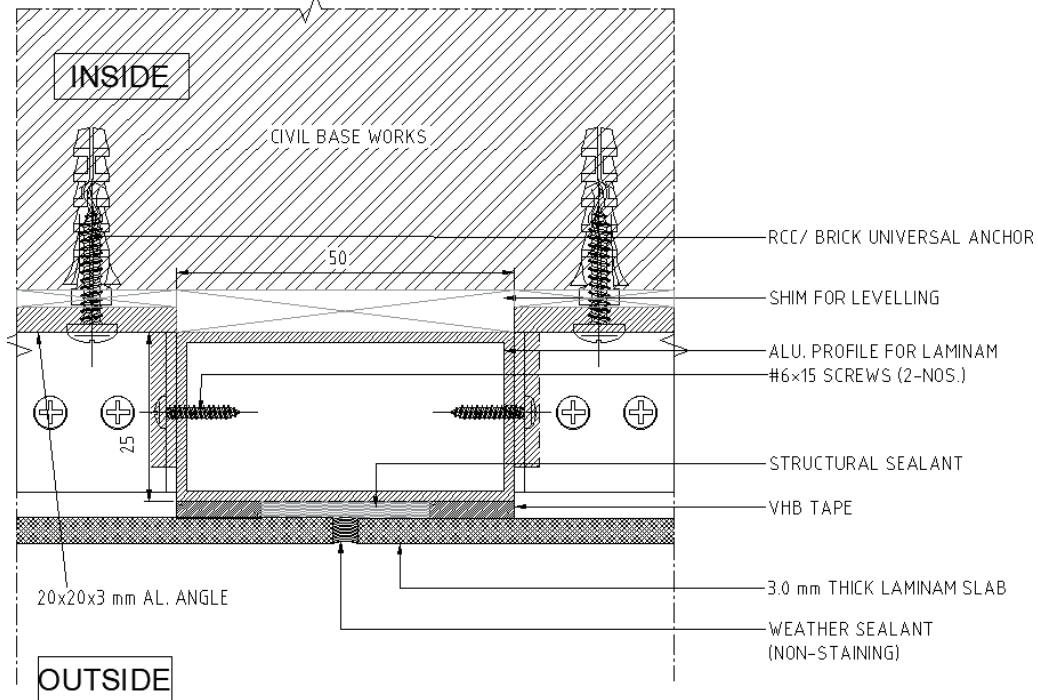
Stonelam slab is installed by applying adhesives to the horizontal & vertical sub-structure profiles (aluminum, MS, etc.) in an **architect** design sequence. Adhesive bond must withstand wind load & dead load and should accommodate different expansion ratios of the metal profiles and Stonelam Slabs.

Stonelam Slab Size

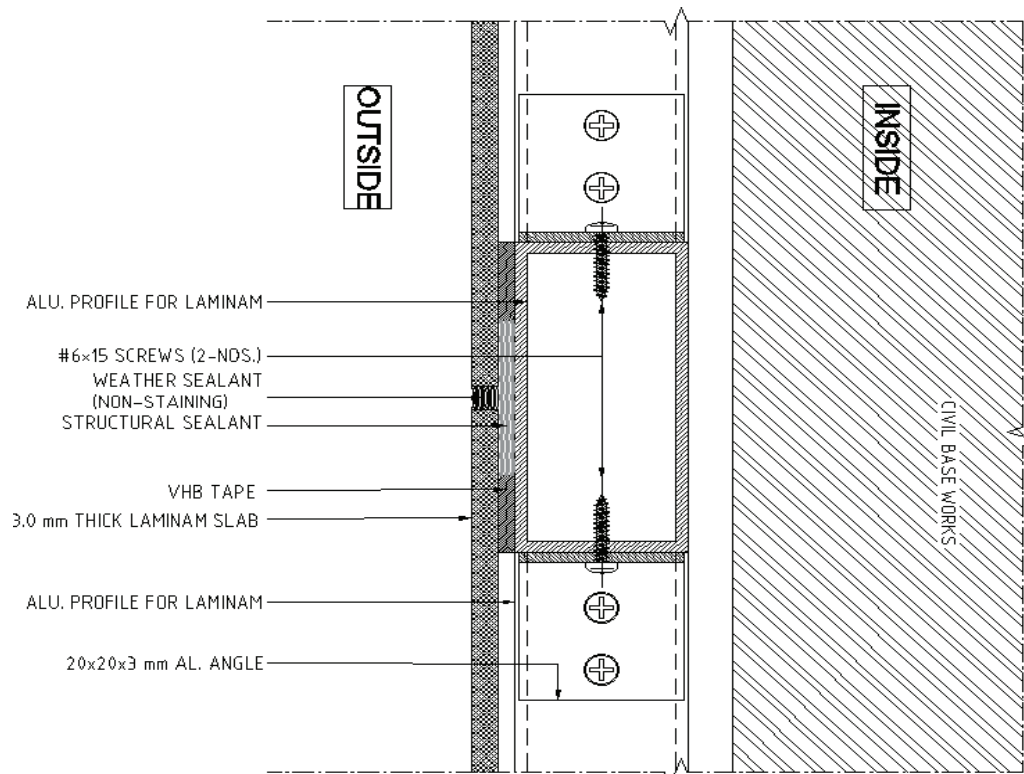
Stonelam slab 3+ can be applied in maximum size of 1000 x 3000 mm. Permissible deflection limits and stresses can be controlled by analyzing the maximum size of the panel.



STONELAM CLADDING SYSTEMS



Horizontal Section View



Vertical Section View

STONELAM CLADDING SYSTEMS

Modular Design Methodology

Using the adhesive system, it is possible to follow the modular design.

The layout of a modular façade is taken from the architectural design. This makes it possible to define the main size and quantity of slabs required to carry out the project, without waiting for measurements or a detailed design to be finalized. Hence, speeding up the work.

Smaller and non-standard sizes are available to obtain compensating elements, such as end elements, near openings, and cornices will be made on-site or in the workshop from a standard size element.

This type of design guarantees a high degree of flexibility, on-site adaptations, and plans for the material order in advance. This is usually affordable and limits the fabrication and cutting required to obtain a made-to-measure product. This type of design is generally used for application systems using Stonelam 3+ Stick System.

i) Adhesive

The slab is fixed on-site by applying a single-component structural sealant adhesive, horizontally & vertically to the aluminum substructure.

Bonding can be done horizontally, ensuring that water is avoided along with the silicone bead. Silicones, polyurethanes, and MS polymers are specially tested by the manufacturers and then, indicated suitable for Stonelam slabs.

The adhesive bead must be sized by the supplier who must provide the correct application instructions.

Normally, the adhesive is combined with double-sided 3M VHB tape, which guarantees the perfect thickness of the adhesive used and provides immediate support to the Stonelam slab when it is applied, during the first phase of bonding. The distance between the adhesive beads must be based on the wind pressure.

ii) Sub-structure

Sub-structure (aluminum, steel, etc.) profiles must be adequately sized, and have an L, T, rectangular box section, or a generic profile, with a width and surface finish that guarantees to bond. The profiles must be cleaned using a cleaner, and if necessary, treated using primer. The distance between the profiles must be based on the wind pressure.

Choosing and sizing the brackets depends on the resistance required and the Stonelam slab panel size. The above instructions must be confirmed by the **company's** technical engineer and concerned fabricator.

iii) Slab Installation

Stonelam slabs can be installed horizontally or vertically. They require extra care during handling. We suggest keeping a gap of at least 3-4 mm between the panels/slabs.

STONELAM CLADDING SYSTEMS

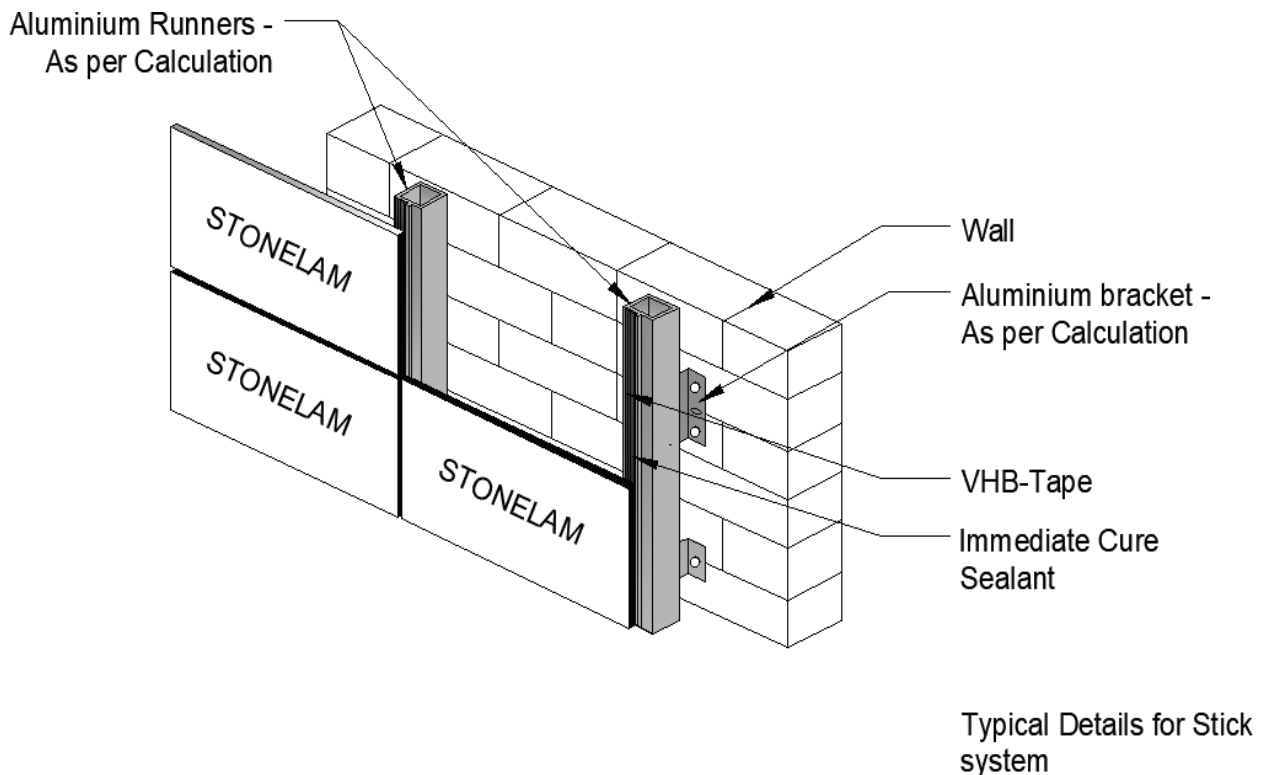
2. DEAD LOAD SYSTEM:SFS2

Slabs can rest on the extended metal leg as a mechanical holder (slab dead load supports). Slab supportsystems must contrast the action of the wind and allow thermal expansion of the profile.

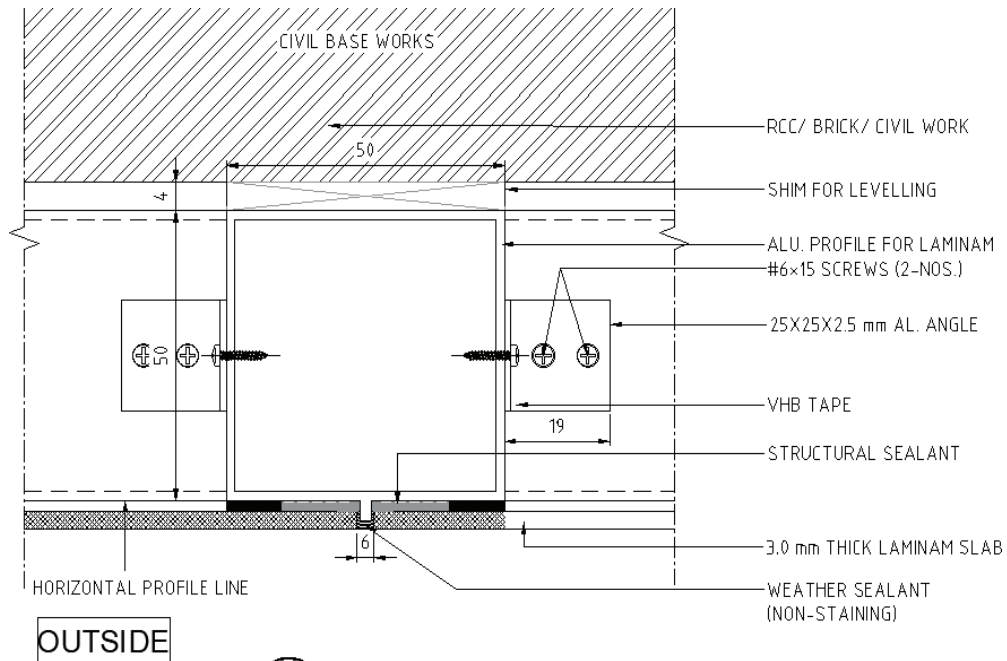
Stonelam Slab Size

Stonelam 3+ slabs can be applied in a maximum size of 1000 x 3000 mm.

Permissible deflection limits and stresses can be controlled by analysis of the maximum size of the panel.

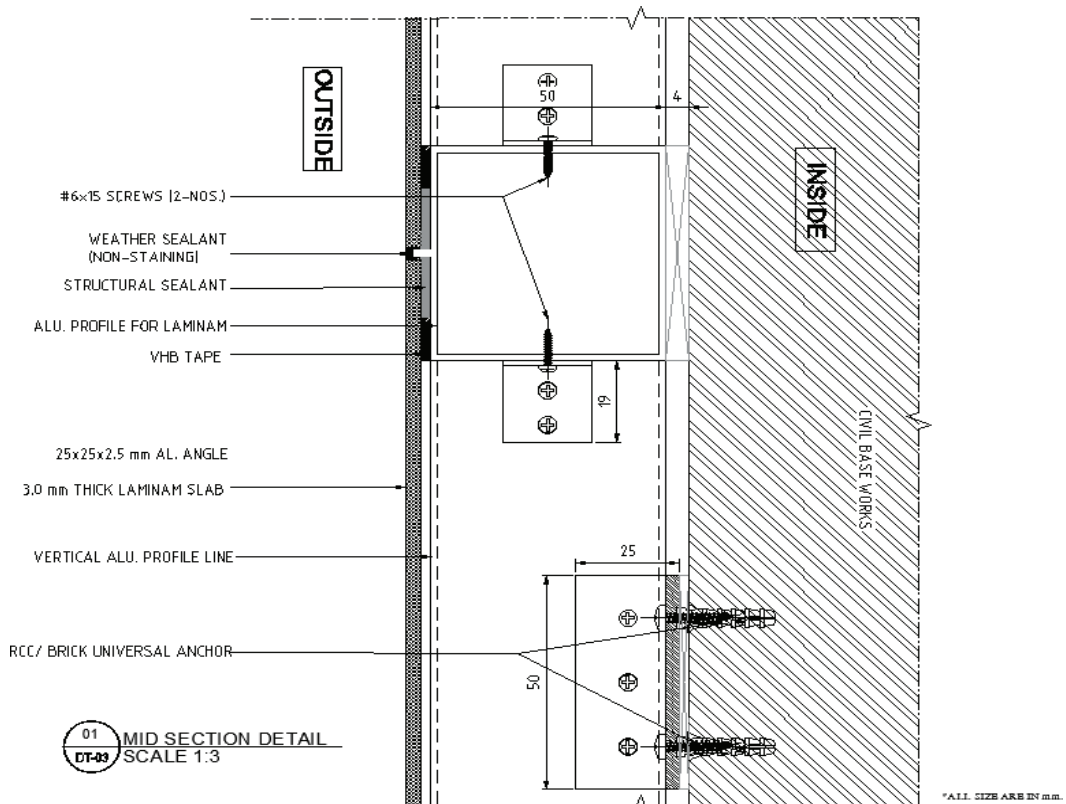


STONELAM CLADDING SYSTEMS



01 MID SECTION DETAIL
DT-02 SCALE 1:3

Horizontal Section View



Vertical Section View

STONELAM CLADDING SYSTEMS

Clips

Extruded aluminum rectangular tube (with extended leg) can be in one piece or two pieces. Extruded tubes in other metal alloys can also be used after being verified by a technician and getting approved by the concerned engineer.

T-angle can be fastened to the sub-structure (rectangular tube) with rivets/screws, cap screws, or special fixing systems. T-angle fastened with rivets, screws, or interlocks must be guaranteed by the **company's engineer who approved the system** must also provide the instructions for the correct installation of the T- angle.

The visible part of the extended leg can be covered through silicon sealant in different colors, based on the available finish of the desired Stonelam slab. The thickness and size of the extruded rectangular tubes must be based on the wind pressure and slab panel size.

Sub-Structure

Sub-structure profiles (extruded aluminum tubes with extended legs) must be adequately sized. They should have a rectangular or square box section, or a generic extruded profile, with a width and surface finish. It guarantees the correct installation of the frame or dedicated profiles that were designed for the type of fixing system. The thickness and size of the profiles must be based on the wind pressure and cladding panel size. Choosing and fixing connection brackets depend on the resistance required and a dead load of a slab.

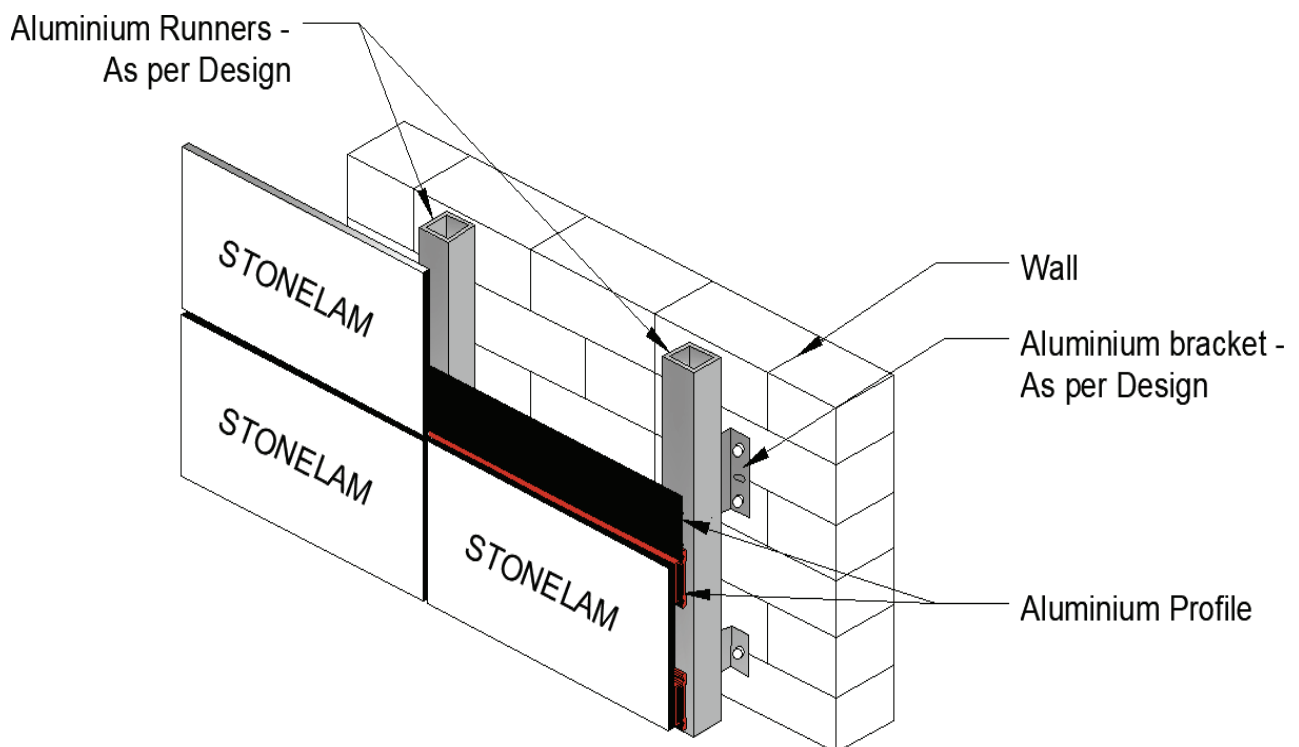
STONELAM CLADDING SYSTEMS

3. SLIDING SYSTEM: SFS- 3

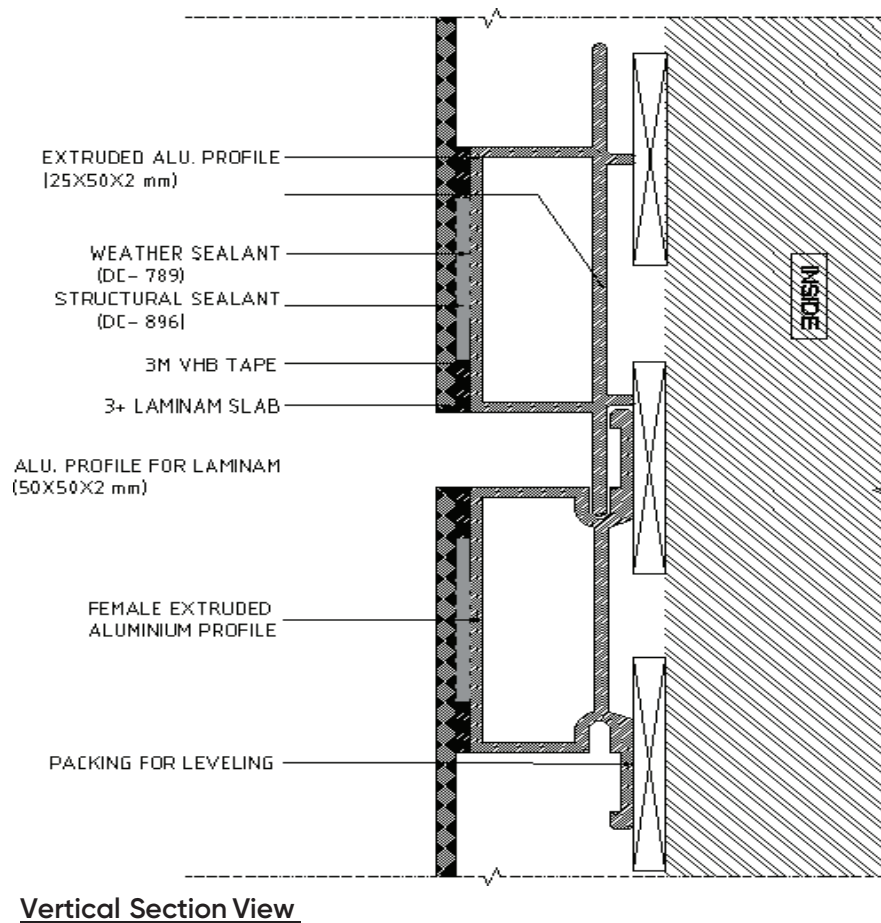
The system involves designing the façade with a 'unit' of frames, usually in aluminum, and then installing the slabs in the production unit with recommended adhesives. This format creates a system of 'PFP- Pre Fabricated Panel' which is mounted on an aluminum structure, generally used in installing aluminum composites. The PFP system offers the quality of the product installed in a production unit and guarantees high precision during the work and continuity of process concerning systems installed entirely on-site. These frames can be installed quickly and more precisely.

Stonelam Slab Sizes

Stonelam 3+ slab can be applied in a maximum size of 1000 x 3000 mm. Permissible deflection limits and stresses can be controlled by analyzing the maximum dimensions of the panel.



STONELAM CLADDING SYSTEMS



Design

Using the 'PFP' system it is possible to follow the modular design and obtain the desired size, as per the architectural design. Non-standard sizes can be made in the production unit by cutting the Stonelam slab. In some cases, the construction of a sliding façade may be based on a detailed design. Extruded aluminum rectangular tube (with extended holding leg) can be in one piece or two pieces. Extruded tubes in other metal alloys can be used after being verified by a technician approved by the Stonelam's Technical Department.

Rectangular tubes can be fastened to the sub-structure (withholding leg) with screws, cap screws, or special fixing systems. Rectangular tubes fastened with screws or interlocks must be guaranteed by the Stonelam's Technical engineer that has approved the system, who must also provide the instructions for the correct installation of the rectangular tubes.

STONELAM CLADDING SYSTEMS

The Main Frame

The frame is made from boxed or generic profiles in aluminum, assembled with brackets, corner brackets, or as per design systems. The frame must be designed to fit the horizontal parallel legs on the sub-frame to guarantee adequate resistance for the slab and should satisfy wind load requirements specified in the project.

Mechanical fixing of the PFP panels to the sub-frame can be done with fasteners that are already prepared on the frame or with screws. These systems generally allow the removal of each panel and guarantee that the underlying part of the wall can be inspected.

Sub-Frame

Sub-structure profiles (extruded aluminum tubes with extended holding legs must be adequately sized, and have a rectangular or square box section, or a generic extruded profile, with a width and surface finish. It guarantees the correct installation of the frame or dedicated profiles that were designed for this type of fixing system. The thickness and size of the profiles must be based on the wind pressure and cladding panel size. Choosing and fixing connection brackets depends on the resistances required and a dead load of a slab.