

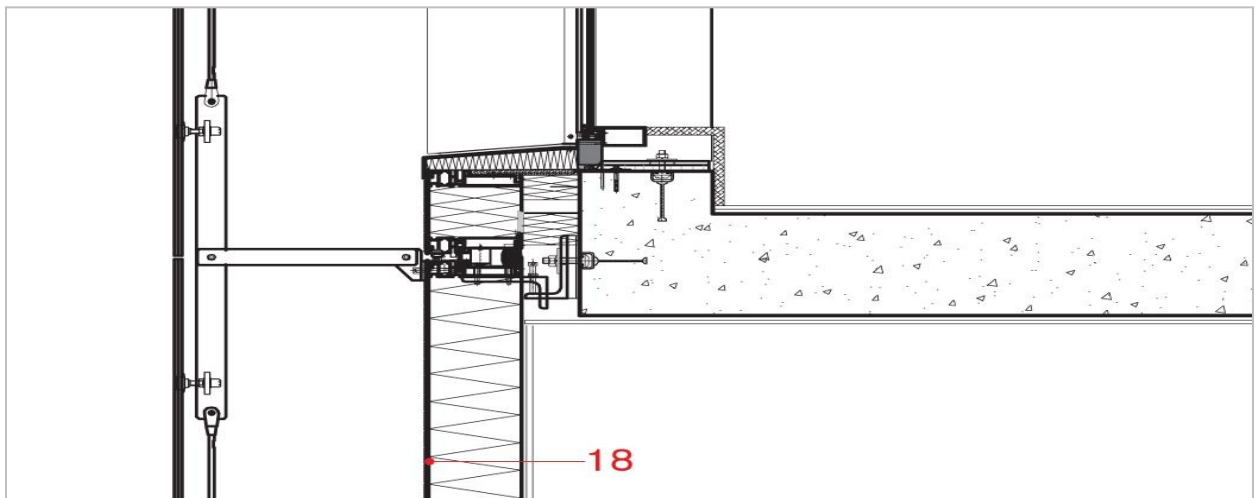
IMPROVING BUILDING VALUE THROUGH FAÇADE WEATHERPROOFING

1.0 Intro

1.1 Improving building value by sealing façade connections

1.2 Sealing façade connections – Raising the standards: state-of-the-art solutions

1.3 Sealing façade connections – Improving building value with complete, tested and approved systems



1.4 Sealing façade connections – Making each project a success with bespoke solutions

A - Imagination Has No Limits

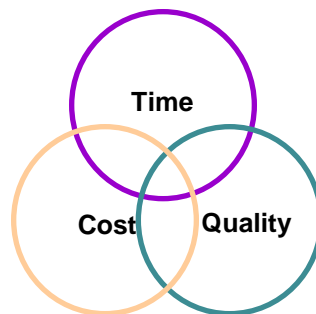
During last decades we witnessed a rise of façade engineering challenges. Buildings are now expected to continually push boundaries, inspire, amaze, relax, reassure, make our lives easier and more rewarding. Buildings' facades are curved, warped, twisted and transparent with an increased demand for daylighting. They now have a clearly identifiable "landmark" status. These challenges are increased by environmental regulations and continuous economic pressures.

Traditional construction and standard solutions are quite rare nowadays, and most of the times, each building is a bespoke solution. This level of complexity and interaction starts to hint at the true definition of modern facades and [façade engineering](#).

B - Modern Façade – Aspects worth identifying

1. A modern façade must, by definition, cover all sections of the enclosure system.
2. The individual materials and components tend to take on less significance. It is the overall performance of the system which is most important.
3. The performance of a façade system can be totally undermined by the “weakest link”.

The most common connection sealing details, on modern facades, are not standard details and a bespoke solution is, most of times, the best solution. The perfect solution is the one that will offer the perfect balance between the **key criteria below**.



A bespoke solution is many times the only type of solution that will allow the stakeholders to achieve their goals, on time, within budget and according to the defined quality standards.

In order to design and develop this bespoke solution, it is required that the **façade engineer** works closely with the manufacturers during solution prescription. A good supplier – partner - will ask, listen and present a solution with added value. Most of the time, it will be necessary to define and redefine the solution, develop a prototype, test it and finally approve it.

First of all, it is crucial to identify the key goals or requirements of the project, as well as any special constraints, such as:

- Environmental concerns such as LEED certification requirements
- Very strict construction schedules
- Lack of on-site specialized labor
- Restrictions for use of dangerous materials on-site
- Difficulties of access for installation on the job site
- Difficult maintenance conditions after construction

For example, in a project with very strict construction schedules, it is of the highest importance that the selected solution is quick and easy to install. This may justify to not choosing the cheapest solution according to the initial investment, but one that will guarantee that the project's goals are fulfilled. This usually means better performance at a lower global cost.

On a project where it is clearly identified that there will be a lack of specialized labor, a solution that guarantees minimum possibilities of human error, during on-site installation, is key.

The solution should be customized in order to fulfill functional requirements and never the opposite.

C – Sealing Façade Connections - Bespoke solutions

Bespoke sealing solutions might be the answer to projects' major challenges:

Improve productivity:

- Reduction of installation timetables
- Reduction of labor
- Facilitating work in restricted spaces
- Allowing installation under adverse outdoor conditions (heavy rain, wind or snow)

Quality control:

- Reduction of error possibility
- Overcoming the lack of specialized labor on the job site
- Resistance to very high or low temperatures
- Eliminating compatibility issues

Environmental and health concerns:

- Energy efficiency requirements
- Less waste material on-site
- Less noise, dust and local disruption
- Less dangerous materials on-site

Sealing profiles

Sealing profiles are not available only in standard materials or shapes. It is possible to fully customize solutions to specific project needs. There is a large range of available compounds in the market that allow the selection of the best material, for the highest compatibility or durability requests, and molding possibilities are quite large.



For example, reducing the number and complexity of on-site adhered connections might be crucial to warranty the quality parameters of the final solution. Molded parts, or fully vulcanized frames, are usually a way to assure quality control.

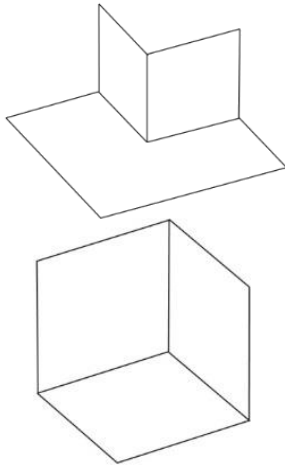
The fixing of this type of profiles is a very common problem, but again, manufacturers can offer solutions with fully customized installation methods:

- clip-in solutions for mechanical fixing
- incorporated self-adhesive strips - only for positioning or for long-lasting connections
- Incorporated reinforcements to avoid stretching during installation

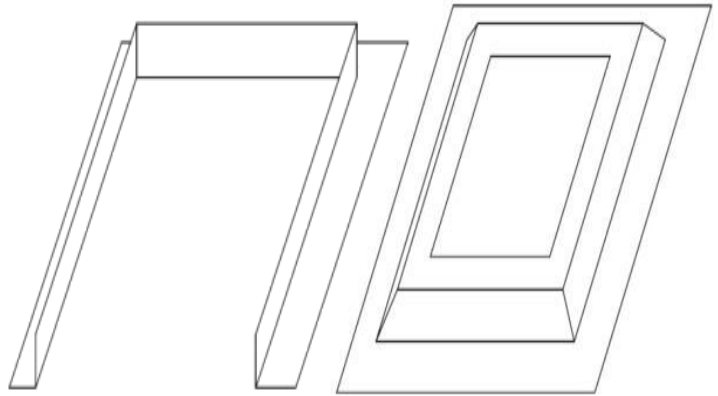
The analysis of a project's requirements, and a full understanding of these requirements, by the manufacturer, will allow the development of a fully customized solution that will significantly contribute to the project's success.

Sealing solutions with EPDM foils

When sealing window or façade perimeters, replacing solutions that are largely dependent on the quality of labor on the job site, for pre-fabricated solutions with pre-fabricated corners or in factory vulcanized collars, will significantly reduce installation times and increase quality of the final solution.



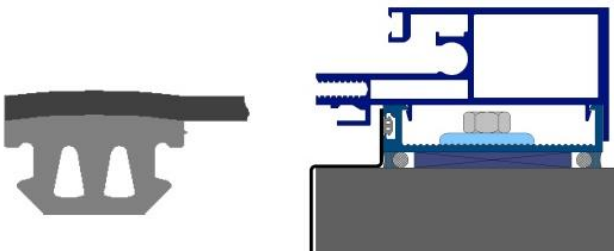
Pre-fabricated EPDM corners



Pre-fabricated EPDM collars

The use of pre-fabricated corners or in factory vulcanized T sections might seem like a small detail, but these are usually the points where more labor is required, and where most installation errors occur.

Membranes or full collars can also be supplied with self-adhesive strips or clip-in EPDM profiles to allow more expedite installation methods, as well as to reduce the amount of waste and dangerous materials on the job site. The location of self-adhesive strips can be fully customized in order to facilitate positioning or final fixing.



EPDM membrane with gasket to clip in the windows' or façades' frames



EPDM membrane with self-adhesive edges

The choice of the type of adhesives, sealants or other accessories to be used in combination with this type of solutions might also influence significantly project success: if very low temperatures or humidity are expected, specific accessories should be used in order to permit installation under those conditions or, for example, if the work will occur in spaces with limited ventilation, accessories with low VOC content should be selected. For last, this choice is also important in order to avoid incompatibility issues with difficult materials, such as, bitumen membranes.

D – Bespoke solutions – Key criteria

- **Optimized technical characteristics** - vapor permeability, thermal conductivity, mechanical resistance, chemical compatibility and UV resistance, among others, optimized for the application.
- **Cut or molded to fit perfectly** - dimension and shape suitable for immediate application, with minimum cuts or joints to be done on-site.
- **Optimized installation method** - considering expected environmental conditions, time, access or space constraints - with self-adhesive strips or clip-in profiles, with minimum requirements of additional accessories or accessories with added value for the application (such as accessories with low VOC content).



The Effisus Way – Effisus Ecofacade

Membrane options:

- Effisus Ecofacade Membrane – Standard weatherproofing membrane
- Effisus Ecofacade SA-Edge Membrane – Weatherproofing membrane with one or more embedded self-adhesive bands for application without the need for additional adhesives.
- Effisus Ecofacade P-Fix Membrane – Weatherproofing membrane with a quick-connection profile for fastening to the frame or facade without the need for additional accessories.
- Effisus Ecofacade SA-Edge + P-Fix Membrane – Weatherproofing membrane with self-adhesive band and quick-connection profile for applications without the need for accessories.

System accessories:

- Effisus Bonding KF Adhesive – Paste adhesive
- Effisus Bonding KF+P Adhesive – Paste adhesive with no solvents
- Effisus Coat NP Primer – Primer for porous substrates
- Effisus Setup PR – Cleaner for smooth surfaces
- Pre-fabricated corners – For quick installation without error
- Pre-fabricated collars or other pieces – Fully project customization

