SEALING OF PERFORATIONS ON FLAT SURFACES

Image 1

Roofs and facades

The roof and the facades are a fundamental part of any construction, both due to the fact that they protect it by waterproofing it against wind, rainwater, water vapor, etc., as well as because they exert thermal and acoustic insulation and have an aesthetic function.

There is a wide range of formats, materials and construction methods in its design, although its main properties are related to waterproofing, water intake and distribution, resistance to the drivers to which it is exposed and durability.

There are many types of agents that can exist on the surfaces of a roof or facade, and one of the most recurring are perforations. The penetrations are an action as much necessary as they are problematic considering that they pierce the surfaces by letting in air and water.

In this article we will talk about the problems that arise on the crossings located both horizontally and vertically on flat surfaces and how to solve them in order to ensure their complete waterproofing:

A – Different types of perforations - an inescapable requirement

B – Problems arising from leaks

C – Effisus Solutions

D – Application examples

A – Different types of perforations - an inescapable requirement

The most common preforations that are found are the following:

- Pipe passage: water drains, running water, water supply
- Fireplaces
- HVAC Systems
- Metal profiles
- Cable routing
- Solar equipment, photovoltaic panels, solar panels
- Ventilation ducts
- Electrical conduits
- Building perimeter guards

Presented below are the different examples of what is usually found on the roofs and facades:

1) Anchor connections

In the vast majority of buildings with flat roofs there are different types of supports anchored to its surface which allow a wide variety of elements to be attached to the structure. Examples of these applications are solar panels, protective structures, antennas, etc. All these fasteners, with the passage of time, by supporting the weight and movements of the devices due to the weather agents that affect them, begin to loosen and create leaks on the surface.

Image 2

Image 3

2) Guard rail and guards

The placement of permanent guardrails and perimeter guards at places of transit where maintenance activities are carried out or are used as a protective measure, cause medium and long-term problems in their connections to the surface. The wear of the base materials that are in contact with the substrate creates major problems of leakage into the construction.

Image 4

Image 5

Image 6

3) Pipes or posts

The points at which a pipe or post passes through the surface from the inside to the outside space are crucial to carry out a proper sealing. At all these junctions if the waterproofing of the holes that are generated is not carried out from the beginning, the appearance of leaks is inevitable, causing major problems in the interior of the construction due to the fact that it isn't possible to ensure the watertightness in the holes.

Image 7

Image 8

4) Vertical perforations

Penetrations are not only found on horizontal surfaces. Along the facade there are numerous passages of cables and pipes. These parts are very complicated to waterproof due to their location, which causes errors in their applications that will result in problems of leaks in the encounters between surfaces, generating complications inside the building.

Image 9

Image 10

B – Problems arising from leaks

Leakage problems occur when installations are carried out in an inappropriate or unprofessional manner. The most common applications are to use zinc sheet metal or galvanized sheet metal, sealants and other short-lived solutions. This can be a good solution, but when the wind and rain water begin to act strongly against the devices, it becomes a big problem due to the constant structural movements and thermal expansion. The equipment could not only bend or loosen at the base, but also cause cracks on the surface, resulting in material wear and premature failure.

Image 11

Image 12

When complications begin to appear on the outside of the building, they are then reflected on the inside of the building. The main consequences are:

- Fissures and cracks on the ceilings
- Humidity and condensation
- Mold and fungus
- Breakage of paint or plaster
- Shrinkage of materials

Image 13

Image 14

C – Effisus Solutions

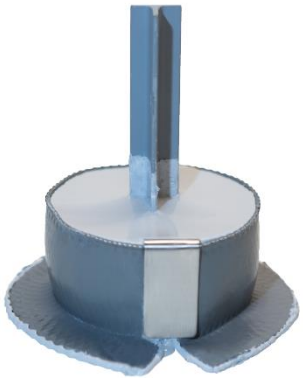
Throughout the article, different problems of leaks on flat surfaces have been presented. The solutions presented by the market to solve them are many and varied for each type of specific situation. Today we present a single system that allows waterproofing in an easy, fast and effective way to all the applications mentioned above.

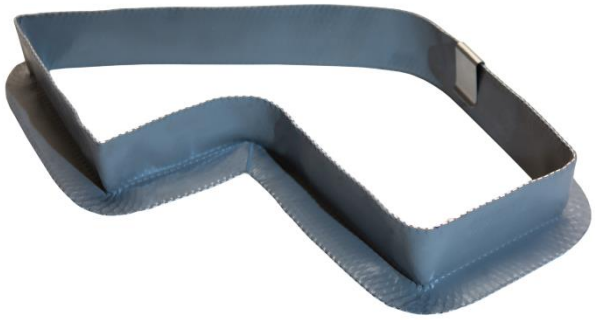
It is the **Effisus Stopper System.**

The Effisus Stopper system consists of three elements that are permanently flexible and adaptable to any situation and configuration on site. It is based on a mold, Effisus Multishapper, elastic and moldable made of polymer rubber with an internal reinforcement of aluminum; and on two sealants. On the one hand the sealant Effisus Stopper M-1 that allows the mold to adhere to any surface with total tightness and on the other hand the sealant Effisus Stopper 1-P that facilitates the filling of the mold in a self-leveling way with a permanent flexibility throughout its service life.

Benefits of the solution:

- ✓ **Customizable** - adaptable to any size or configuration
- ✓ **Easy to install** - installation in less than 15 minutes
- ✓ **Universal** - compatible with all membranes and materials (TPO, PVC, EPDM, concrete, cement, etc)
- ✓ **Resistant** - resistant to water, UVA and ozone, resistant to ice and stagnant water
- ✓ **Flexible** - permanently flexible, absorbing structural movements
- ✓ **Environment** – environmentally friendly, no hazardous substances
- ✓ **Easy to apply** - easy to handle materials and common accessories

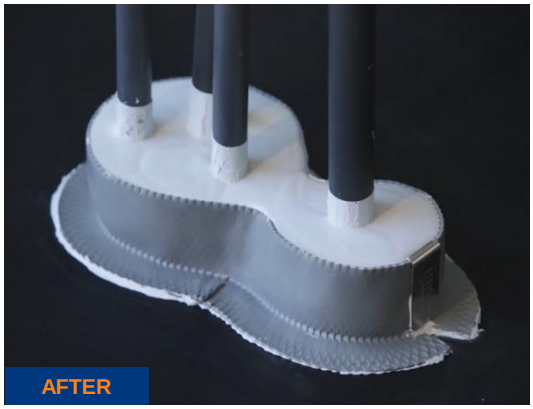




D – Application examples

1)Sealing the base of a railing

2)Sealing of multiple tubes through an EPDM membrane



3) Waterproofing of a post on concrete surface

4) Waterproofing of a pipe through a facade

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