

**Exterior Insulation and Finish System (EIFS)**

***STF Elite***

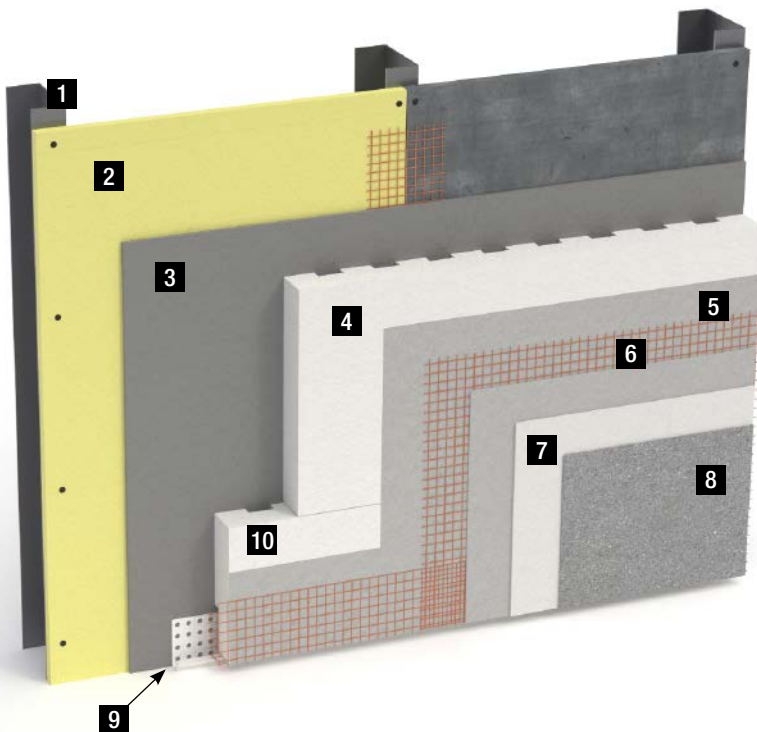
**EIFS for exterior gypsum panels, concrete panels,  
concrete blocks and other approved substrate**

**STF Elite** is a pressure equalized EIF System that incorporates a secondary protective barrier in conjunction with geometrically defined drainage features within the STF Elite GD Board. The EIFS integrates an adhesive coating to attach the STF Elite GD Board to the substrate. Used for commercial construction. EIFS awarded **CCMC 13232-R**.

**Products used for installation**

*See technical product data sheets for more information*

- STF Elite GD Board / Elite PB
- STF Elitestop CB ou STF Elitestop PB
- Fibreglass Mesh
- STF Stratum ou Stratum NC
- STF Prime
- STF Architectural Classics & Genesis



- 1** Steel structure
- 2** Approved Substrate
- 3** Air and water penetration barrier membrane: STF Elitestop CB or STF Elitestop PB also used as an adhesive
- 4** Grooved insulation panel STF Elite GD Board / Elite PB
- 5** STF Stratum or Stratum NC
- 6** Fiberglass mesh embedded in the base coat
- 7** STF Prime (Optional)
- 8** STF Architectural Classics & Genesis
- 9** PVC Starter Strip or Metal Flashing
- 10** STF Elite GD Starter Board for Fibreglass Mesh Backwrapping

The application instructions and performance characteristics are based on information we believe to be reliable. They are offered to the best of our knowledge, but without guarantee, as conditions and methods of use of our products are beyond our control.



## Thermal covering system with finish coating

# STF Elite

### 1. Description

Air barrier or weather-guard	Base coat
Adhesive (used for gluing)	Primer coat
Expanded insulation sheet with drainage	Finishing coatings
Fiberglass mesh	

These systems have several advantages that other external finishes cannot provide you with.

- Higher energy savings
- Superior weather resistance
- A finish without joints
- Minimum maintenance
- Several architectural and aesthetic form options to consider

In addition, with **STF Elite**, you get all the same benefits as a conventional system as well as having:

- A weather-guard membrane as secondary protection against moisture.
- A cavity at the rear of the expanded insulation panel used to evacuate all sources of moisture occurring behind the panel which are directed to flow furrows at the bottom of the Panel.

### 2. Storage and Handling

- All materials must be stored in a dry place and sheltered from the sun's rays at a temperature of at least 4°C (40°F).
- All expanded insulation sheets must be stored in a dry place and flat - not on their sides.
- Never apply a product that has already been frozen.
- Never apply a product on a dusty, icy or frozen surface.

#### **2.1 Always respect the application specifications**

The application of acrylic coating onto a horizontal surface is not recommended. Always keep an angle to the outside to remove all sources of liquid. If extended horizontally, make sure that metal flashing is applied to protect from weather.

### **3. Air barrier & weather-guard membranes (STF Elitestop CB & STF Elitestop PB)**

All plasterboard substrates should be covered with a weather-guard membrane. **STF Elitestop CB** or **STF Elitestop PB**.

Before application on concrete walls, concrete blocks or stucco, it is important to remove all contaminants such as dirt, oil or efflorescences. To remove contaminants, we recommend using sand or water. If you apply directly an uncleaned surface, a risk of delamination may occur.

#### **3.1 STF Elitestop CB & STF Elitestop PB weather-guard membrane**

**Preparation:** the **STF Elitestop CB** product is a two-component system which mixes with Portland cement, type 10, in equal parts (1:1). Everything must be seamless.

**Application:** Apply a fiberglass mesh for a 102 mm (4") joint at the intersections of the panels of plasterboard, at the perimeter of the openings (doors and windows) and corners, to then be embedded in the **STF Elitestop PB** and immediately smooth it out. To make everything watertight, apply a layer of **STF Elitestop PB** over the entire surface of the plasterboard panels (approx. 1/16" to 1/8" (1.5 mm to 3 mm) thick).

#### **3.2 Self-adhesive air, moisture barrier (BlueSkin) membrane**

The installation of the self-adhesive membrane will be applied to the edge of the openings when the weather-guard layer membrane is dry. This membrane will be installed prior to windows, doors or any other piercings are carried out or are required. This will provide sealing and additional protection for the openings.

### **4. Adhesive (STF Elitestop CB & STF Elitestop PB)**

The adhesive base is used to adhere the insulation to the substrate.

Always apply to a dry surface free of debris, oil or dust. Never place materials that have frozen or do not apply to a frozen surface.

**Application:** Always apply the adhesive to the insulation with a notched trowel (9 mm x 9 mm (3/8" x 3/8") cavity) which will form vertical grooves on the insulation. These grooves will be used for adhesion and will form cavities for the evacuation of moisture behind the insulation.

**Mechanical fasteners:** will be used when the application cannot receive the adhesive (e.g.: concrete, painting). Any fastening device must exceed the minimum thickness of the insulation by 25 mm (1") or more. When using mechanical fastening devices, the insulation must be a minimum of 38 mm (1 1/2"). But mechanical fasteners are strongly discouraged.

## **5. Plastic Starter Moulding**

The starter moulding is installed at the base of the wall at a minimum height of 204 mm (8") from the ground. The shape of the moulding is "J" and is perforated for the evacuation of moisture trapped behind the wall. It is installed with staples or adhesive coating. The moulding should be level at all times. Draw a line to the highest point of the plastic moulding on the wall and then install it.

## **6. The "Back Wrap"**

Places of use for the "Back Wrap"

- At the start of the walls
- At openings
- At the end of the walls (roof or other wall)
- At the expansion joints or construction

**Application:** Apply the adhesive to the surface of the wall and then incorporate the 240 mm (9½") pre-cut fiberglass mesh into the adhesive. Approximately 102 mm (4") of the fiberglass mesh should be incorporated into the base adhesive for the substrate and the excess of the mesh will be used to coat the sheet of insulation at the ends. For the plastic moulding start, the same process will be used above the "J" moulding to then coat the insulation sheet. A minimum of 64 mm (2½") of the excess fiberglass mesh should be used to complement the coating at the front of the insulation sheet.

## **7. Expanded Polystyrene Insulation (EPS)**

The insulation sheets used are manufactured with expanded polystyrene type I or II by a manufacturer approved by **STF Building Solutions**. The thicknesses may vary with a minimum of 25 mm (1") to a maximum of 102 mm (4") according to the building code. The size of the polystyrene sheets should be 610 mm x 1200 mm (2' x 4') at all times. Insulation used for our systems is always grooved with the exception of the 25 mm (1") sheets.

All insulation sheets must be protected from the sun's rays and lay flat during storage. This will prevent any damage that may be caused to the sheets.

## **8. Insulation Cutting (EPS)**

### **8.1 How to cut the insulation sheets?**

- Using a straight edge as a guide and a knife at an angle facilitates cutting.
- The alternative is to cut the insulation with a table saw.
- A heated knife can be used to make the cuts.

## **9. Preparing the Insulation (EPS)**

**Application:** All the insulation sheets will be laid down horizontally. They will be all grooved (with the exception of 1'' insulation). This will give you secondary protection for the evacuation of moisture behind the insulation. The sheets will be crisscrossed to avoid any sheet joint continuity. For all internal or external corners, you must inter-lock the sheets so that there is no continuity in the joints. Always misalign the sheet joints so that there is no equality with the opening joints.

All spacing between the insulation sheets over 1.6 mm (1/16'') must be filled either with a piece of insulation or with short retention urethane. Once injected, wait until everything is dry and then sand evenly. This will avoid any future thermal bridging problem and reduce the consumption of **STF Stratum** adhesive base.

The most important thing about the **STF Elite** is the sanding of the insulation. This is the only way to correct all the imperfections or deficiencies of a wall. Always sand the full surface of the walls and check all imperfections with a lead bar or a level to find the hollow cavities. Use an industrial lathe or you could make one with a piece of ½'' plywood and a sheet of #16 sandpaper for floors.

For a winter project, you can apply only the insulation. The insulation will be exposed to direct sunlight for a long period which will form a film or a yellow dust on the surface. It is important that the insulating material is sanded at full size without leaving traces of dust and all is standard. Also perform any repair if required on the insulation, by replacing the damaged piece of insulation before proceeding with the **STF Stratum** base adhesive.

## **10. Recommendations for Expansion Joints**

Any joint expansion in the systems is the responsibility of construction professionals and must be clearly demonstrated in the construction. But a minimum of expansion joints must be respected.

- 10.1 The location where the substrate shows an expansion joint.
- 10.2 With the enlargement of an existing building, an expansion joint is necessary between the two buildings.
- 10.3 At the floor level for any wood construction.
- 10.4 At the floor level for any other construction where excessive movement could occur (check with project professional).
- 10.5 When the **STF Elite** is interrupted to start a different covering.
- 10.6 When there is a change of substrate to the building. (wood construction ICF extension ICF\*).

\* ICF: *Insulating concrete formwork block*

## 11. Examples of aesthetic joints

For the use of aesthetic joints, here are a few recommendations that it would be very important to follow:

- 11.1 The minimum thickness of polystyrene insulation required once the aesthetic joint cut is made, must be 19 mm ( $\frac{3}{4}$ " ) between the insulation and the substrate.
- 11.2 Always keep an angle outward to remove any form of liquid.
- 11.3 Always use the fiberglass mesh with adhesive base **STF Stratum** adhesive base to cover the joint completely.
- 11.4 Always follow the instructions according to the specifications and the plan which have been drafted by a project professional. (e.g., Types of joints, size and model)

## 12. STF Stratum

The next step in our system is the adhesive base **STF Stratum**. There are two types of adhesives to secure the insulation in place.

**STF Stratum** adhesive base: a two-component product. Latex base latex and Portland cement type 1. The mixture ratio is equal at 1:1; everything must be mixed with A concrete bit and a drill to ensure homogeneous mixing of the contents.

**Application:** apply a uniform layer 3 mm ( $\frac{1}{8}$ " ) thick on the insulation then insert the mesh inside either horizontally or vertically. Then smooth the mesh with a trowel of galvanized steel to hide the squares of the mesh in the **STF Stratum** adhesive base. No mesh must be visible. The mesh must be continuous at the joint; you must overlay them with a minimum of 64 mm ( $2\frac{1}{2}$ " ). If you put them side-by-side, a crack will appear between the two.

**Caution: never use any accelerant or antifreeze with STF Stratum products. Always apply on a surface free of debris, dust or oil. Never apply materials that have frozen or apply to frozen surfaces**

## 13. High strength mesh

Several projects can be carried out with coatings, but some will need more reinforcement than others. If reinforcement is required, we can offer you a high strength mesh which can be installed at critical points at the desired height. Some critical points that may be mentioned for coatings; the bottom of the walls at the places where there's lots of traffic (pedestrians, vehicles). On the edge of the garage doors, patios or entranceways are critical places where we suggest installing high strength mesh.

### **VERY IMPORTANT:**

At all times the high strength mesh must not be double-stacked but placed side-by-side. Once the application is dry, apply a new layer of **STF Stratum** adhesive base over the dry layer and then incorporate a standard mesh in the core layer and smooth. All insulation walls must be covered with **STF Stratum** adhesive base and a **STF fiberglass mesh** on the size of the wall. Once dry, apply **STF Prime** finishing primer. Can be applied on top (optional) adhesive base. If non-indicated, a layer of finish can be applied.

## **14. STF Prime (primer coat)**

**STF** offers a **STF Prime** product which is useful as a primer that can be tinted the same colour as the finish used. One of the advantages of this product is that it reduces the risk of efflorescence of cementitious products and can enrich the colour of the finish (optional).

## **15. Finishing (STF Architectural Classics & STF Genesis)**

**STF** finishes are 100% acrylic and are available in different textures and colours.

**Preparation:** always mix the finish before you apply it and adjust its viscosity with a bit of water to make installation on the wall easier. Always use a galvanized steel trowel prior to apply but the floating can be done with a plastic trowel. Always use the same trowel to float the walls; do not mix plastic and metal since the finish will not be the same. It is suggested that two workers are required to apply the finish; a worker who applies the finish to the wall with a steel trowel and the other who puts it on with a steel or plastic trowel to the desired texture.

Always apply the finishing on a layer of **STF Stratum** adhesive base because the two products are compatible. Avoid applying the finish directly in the sun as a shadow caused by the scaffolds could appear on your wall. Make sure that the adhesive base **STF Stratum** adhesive base is dry and free of all dust before applying the finish.

At all times, completely finish the finishing walls or the appearance of the finish will not be uniform on the wall. Always have a moist finishing joint ready at the ends to continue the wall without a joint or over-application of finish.

Before beginning a wall, make sure that all coloured finish containers are from the same batch to avoid any change of colour on the wall.

The application of the finish is dictated by the larger grain. Always apply the finish in the same direction; either in the direction of the needles of a clock or against the grain because any change will vary the texture on the wall. To avoid any floating problem, we advise you to apply in figure 8; this way, everything will be uniform.

### **VERY IMPORTANT:**

Never use any accelerant or antifreeze with finishing products. Always apply on a surface dry and free of dust, oil or debris. Never apply materials that have frozen. Do not apply to a frozen surface. The temperature can vary the drying time for base and finishing coats. Always make sure that everything is dry and protected from the weather for the necessary drying period. Always keep temperatures more than 4°C (40°F) over 24 hours.

## **16. Maintenance and Sealing of Systems**

Coverings require a minimum of maintenance. But it is very important that all openings are packed after work and visually inspected once a year and that any defect is repaired as soon as possible to avoid the risk of water infiltration. Use a flexible caulking material specially designed for exterior siding.

All damage to the coating shall be repaired as soon as possible to avoid any risk of infiltration.

Covering is a surface finish product that is coloured in the factory. But to refresh the envelope of your project, it is possible to paint with **STF** products.

Before proceeding with the painting, there are some important points to follow:

- Clean the walls of the project to remove all traces of dust, oil or dirt.
- Make all repairs on the wall (e.g. holes)
- Make a visual inspection of the caulking
- Paint the walls, two coats will be needed if the same colour. (if major change more layers may be necessary.)

We recommend that you clean the walls with a soft-bristled brush and a mixture of soft dishwashing detergent (250 ml of soap for 20 ml of water).

If you use hot water, the temperature of the water must not exceed 150°F (65°C). Low pressure washing can be effective in some cases.

## **IMPORTANT:**

Never use solvents such as acetone, ether, gasoline, mineral spirits, naphtha, oil on acrylic coating. Always do a test on a small section of the visible wall to verify the reactions.

## **17. Prevention Points of critical areas**

Mould problems are not caused by a defect in material. Very often most of the infiltration of water or moisture are caused by poorly executed construction details that prevent water from draining to the outside. To avoid problems, a few simple building regulations must be observed. Most of the suggested details will require the use of a flashing as a transition between the elements.

## **18. Summary**

### **General Information**

1. Always carefully read the drawings and specifications and do not deviate from these documents.
2. Always follow the manufacturer's instructions for preparation of the products.
3. Apply the products above the recommended temperature (4°C or 40°F) otherwise make a shelter to maintain this temperature. Never add any accelerant or any other substance not recommended by **STF**.
4. Always apply to clean surfaces (no dirt, oil or debris) and unthawed surface.
5. Never use products that are already frozen.
6. Coatings must always be applied vertically on the wall. For any application that has a horizontal tilt we suggest affixing metal flashing to drain any liquid substance outwards.
7. Always apply the adhesive base to the other side of the sheet of insulation and not to the substrate.
8. Always ensure that any liquid substance is diverted and/or distant to the outside of the wall and not to the interior (metallic flashing, water displacer).

## Expanded Polystyrene Insulation

1. When applying the sheets of insulation all joints more than 1.6 mm (1/16) should be filled with chunks of insulation and not with adhesive **STF Stratum** adhesive base.
2. Always use insulation of Type I standard size of 2' x 4' (610 mm x 1219 mm) with a minimum of 1" (25 mm) thick as recommended and sold by **STF** or an authorized distributor.
3. Always store the insulation sheets so they are protected from the weather and laid flat to avoid any damage that might be caused to them. Never store accessories on the insulation as you may damage the sheets (boilers, cement, etc.).
4. Always intersect the insulation sheets when laying them on the wall to avoid any continuity of the sheet joints. We suggest an intersection with a minimum of 204 mm (8") for the overlap.
5. Always sand the polystyrene insulation on the wall at its full size to make the surface uniform and remove any debris accumulated on the wall (dirt).
6. When the aesthetic joints are being cut, always make sure that a minimum of insulation is applied between the joint and the substrate (19 mm or ¾") to avoid any cracks.

## STF Stratum & reinforcing mesh

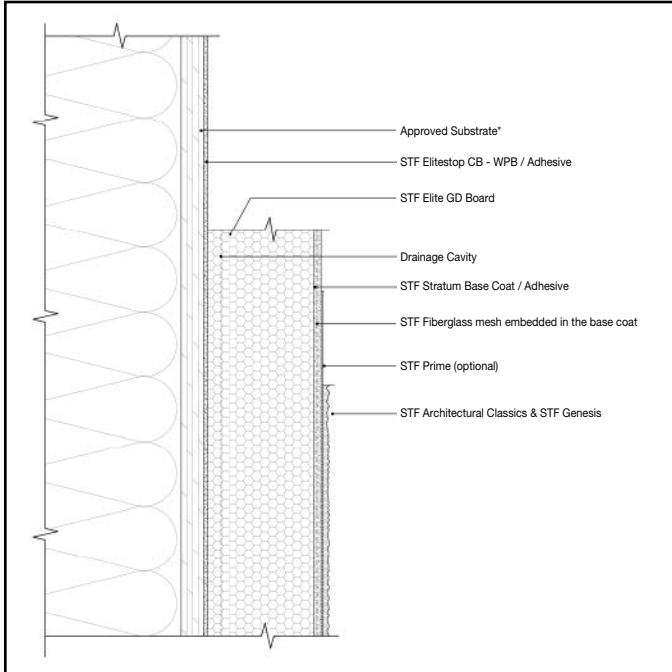
1. Always apply a layer of **STF Stratum** adhesive base onto the full surface and ensure that the **STF fiberglass mesh** is incorporated into the adhesive base at full size. Always overlap the **STF fiberglass mesh** with a minimum of 64 mm (2 ½"), where the joints meet.
2. With the exception of high-strength fiberglass mesh that must never be super-imposed.
3. Do not apply onto a wet or frozen surface as a risk of delamination may occur.
4. Always make sure that fiberglass meshes are completely covered and no mesh squares are visible.

## Finishing

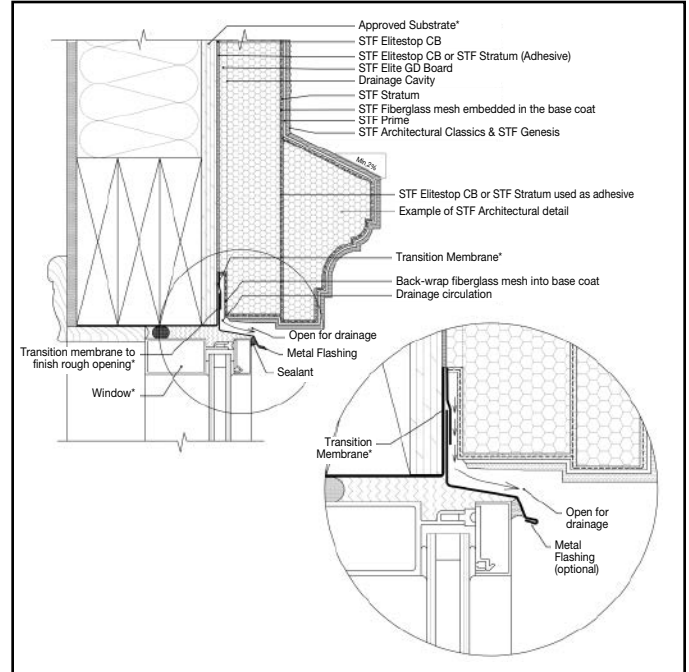
1. Always evenly apply finish to wall to avoid problems. The biggest grain of sand will dictate the thickness recommended for finishing to be applied. Never apply the finish to a surface that is exposed to the sun.
2. Always use a galvanized steel trowel to avoid all traces of possible rust.
3. Never apply the finish to caulking or sealants.
4. Always apply finish onto vertical wall surfaces. The walls must be free of any debris.

## Maintenance

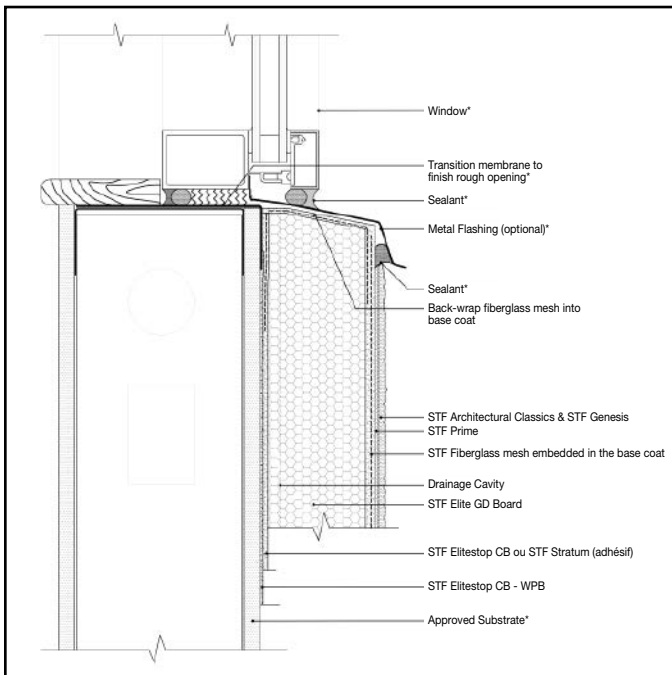
1. Always ensure all sealants at the edges of the openings are applied at the end of the acrylic work.
2. A certain amount of care is required for coatings to maintain your recovering at its highest performance. An annual inspection of the caulking is recommended including basic cleaning of the recovering. Report any perforation of the recovering to your Installer to make the necessary corrections.



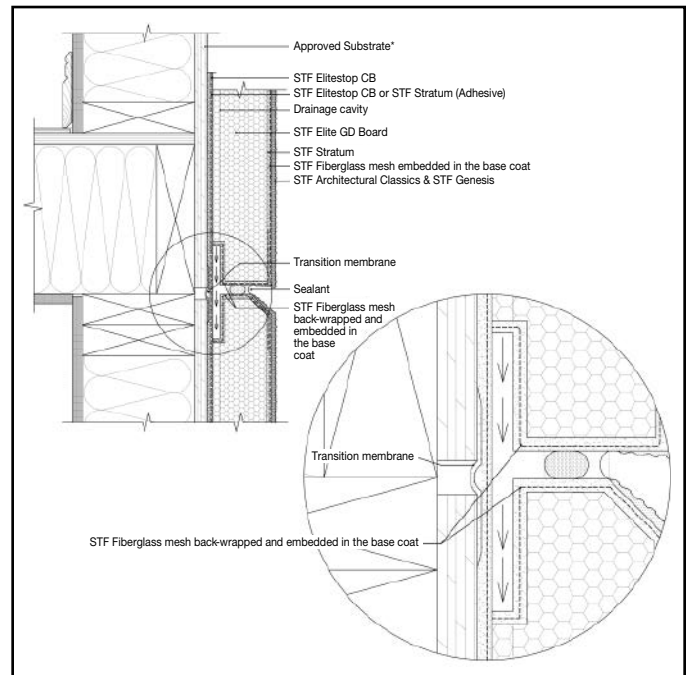
STANDARD SECTION



WINDOW HEAD

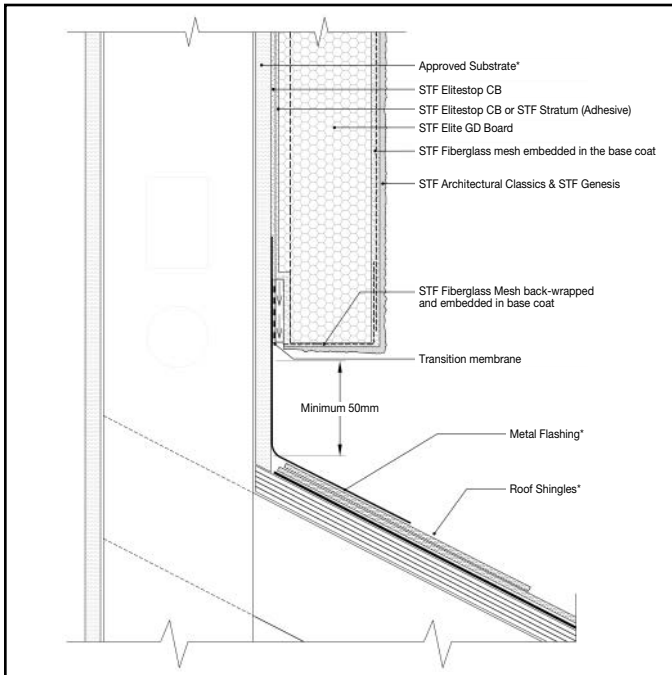


WINDOW SILL

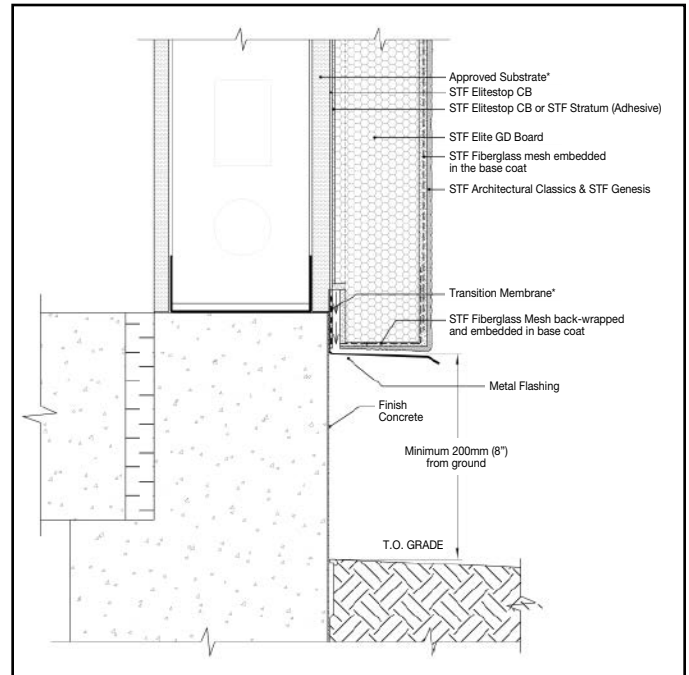


TERMINATION AT SLOPED ROOF

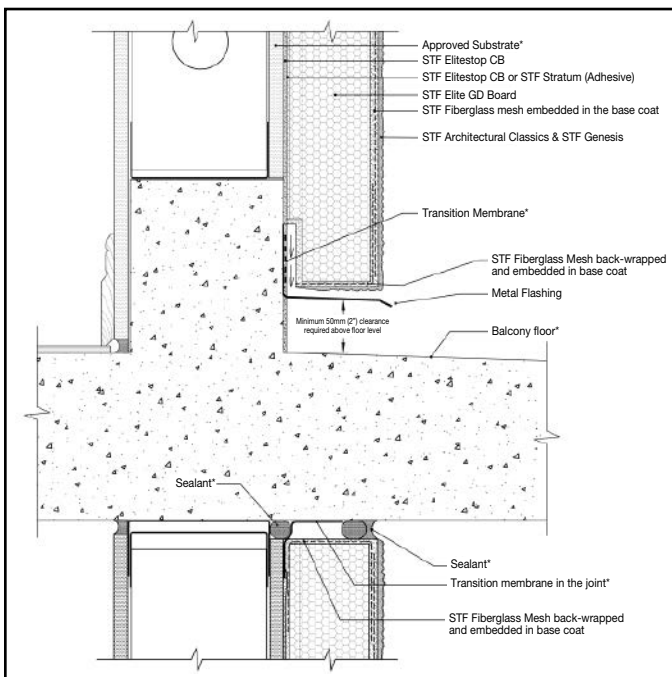
\*by others



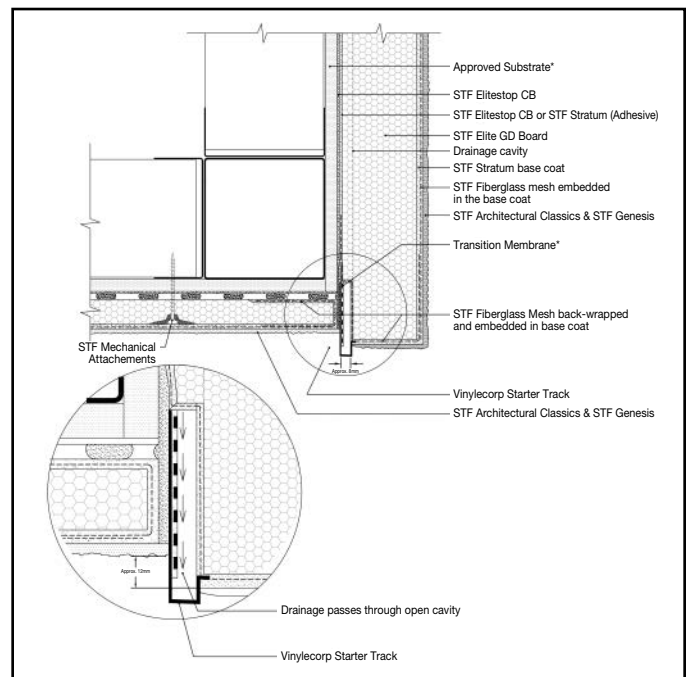
TERMINATION AT SLOPED ROOF



FOUNDATION TERMINATION

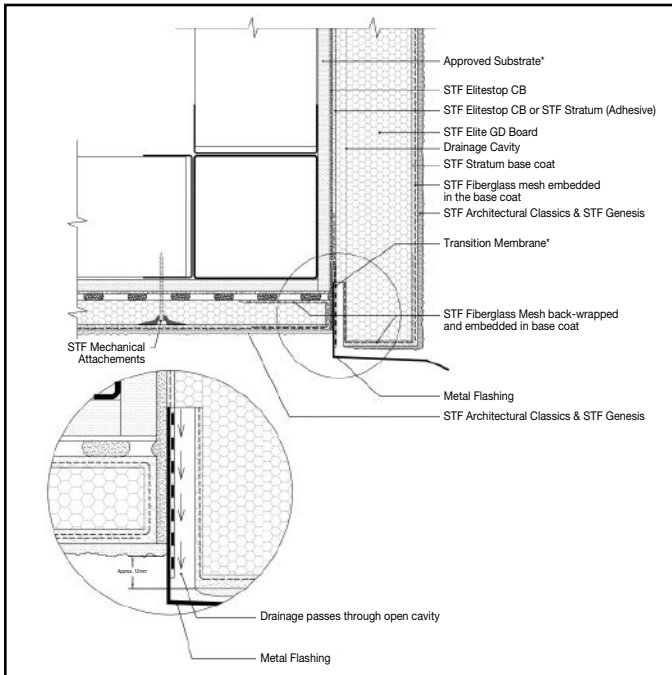


TERMINATION AT BALCONY FLOOR

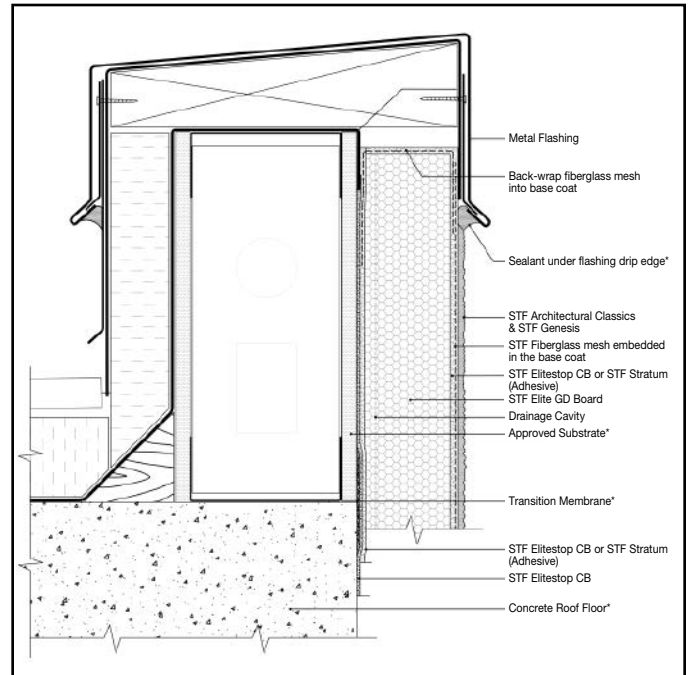


INTERFACE AT SOFFIT WITH EIFS (STARTER TRACK)

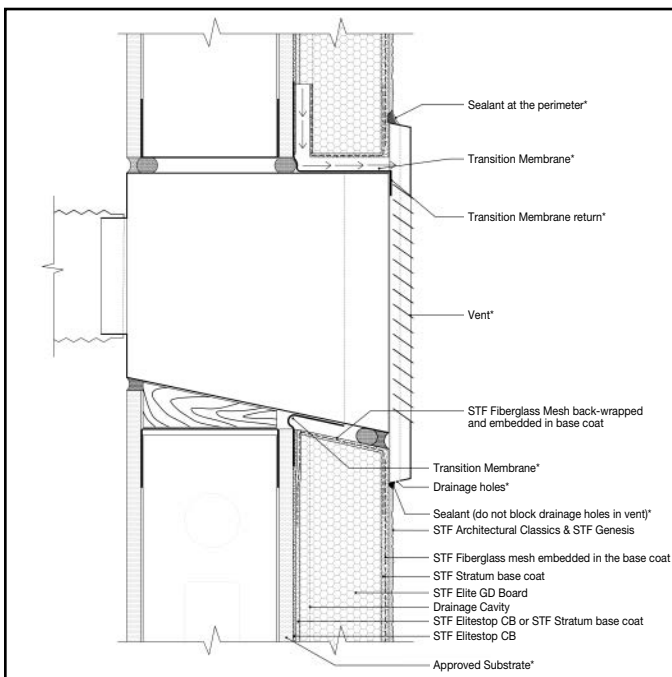
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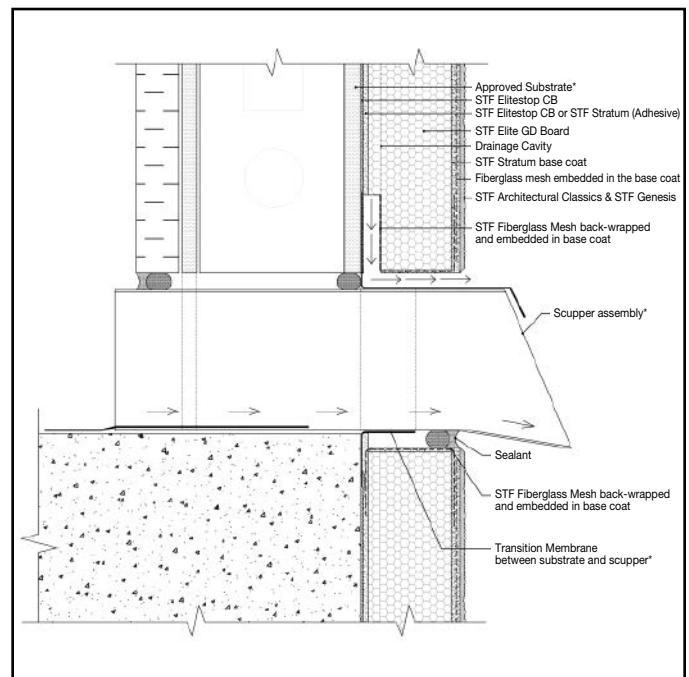
INTERFACE AT SOFFIT WITH EIFS (METAL FLASHING)



TERMINATION AT PARAPET

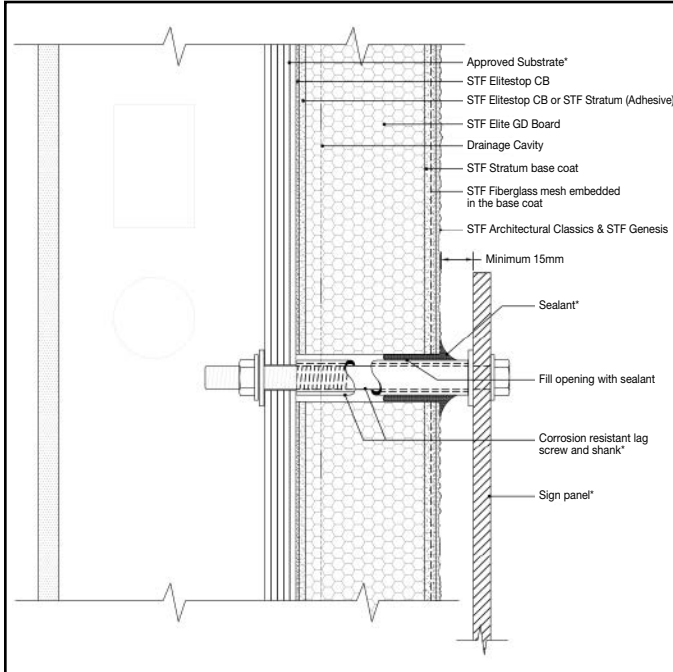


PENETRATION DETAIL

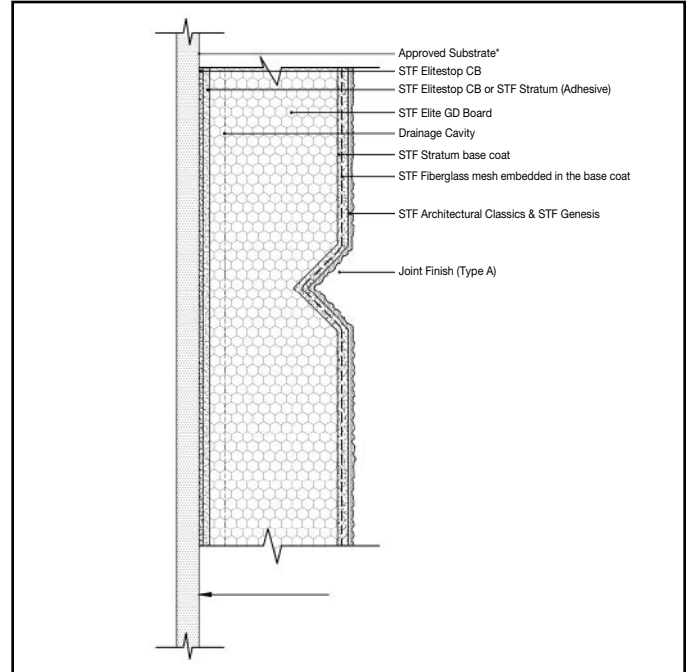


ROOF DRAINAGE DETAIL

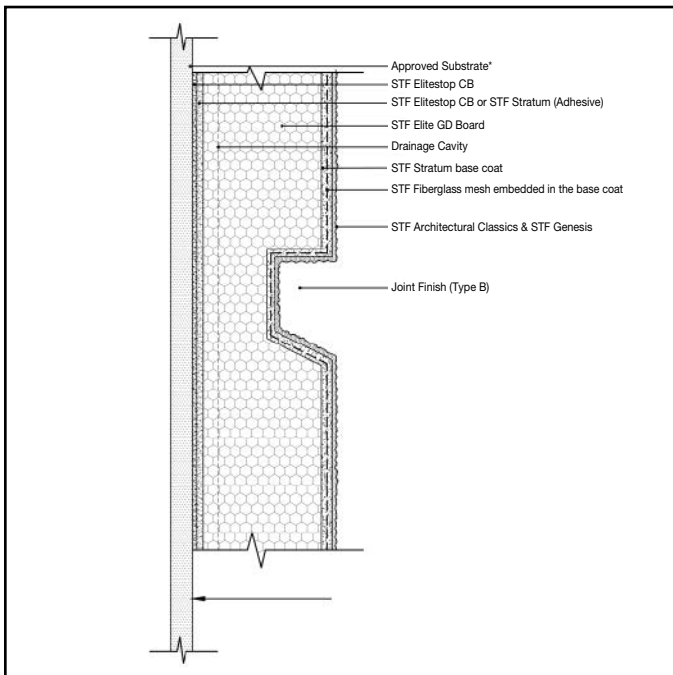
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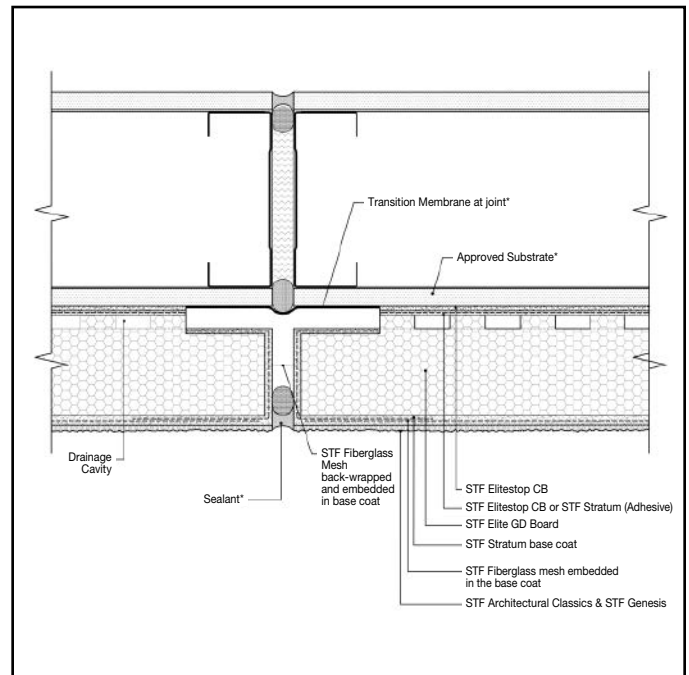
SIGN ATTACHEMENTS



AESTHETIC REVEAL - TYPE A



AESTHETIC REVEAL - TYPE B



VERTICAL EXPANSION JOINT

\*by others