

- 1 EIFS TAPE & PRIMER
- 2 HYDROFLEX MEMBRANE
- 3 STARTER MESH
- 4 ADEX ADHESIVE / BASE
- 5 NON COMBUSTIBLE MINERAL WHOOOL
- 6 ADEX BASECOAT
- 7 STANDARD MESH
- 8 PRIMEX PRIMER
- 9 FINISH COAT

## Description

The adex-**XNC** (mineral wool) system is a non-combustible variation of exterior insulation and finish system (EIFS). It incorporates the use of a fire-resistant mineral wool fibre insulation. The adex-**XNC** is specified where issues of limiting distance between adjacent buildings is a concern. The assembly also features a secondary weather resistant barrier (WRB) membrane and a vertical drainage plane to help manage moisture

## Benefits

- Provides a monolithic blanket of insulation; reduces energy use
- Seals the building envelope and ensures seamless protection of the substrate
- Allows for the drainage of incidental moisture
- Lightweight, durable and flexible
- Architectural design flexibility
- Resists dirt, fading and abrasion
- Made only of non combustible materials
- Mineral wool insulation is resistant to both moisture and fire

## Features

- Seamless substrate protection
- Non-combustible basecoat
- Unlimited colour selection
- Mineral wool insulation

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## PART 1 GENERAL

### 1.1 WORK INCLUDED

Provide all labour, materials and equipment necessary to install the adex-XNC system.

### 1.2 RELATED SECTIONS

- |                     |               |
|---------------------|---------------|
| 1. Concrete Forming | Section 03110 |
| 2. Metal framing    | Section 05400 |
| 3. Flashing         | Section 07600 |
| 4. Sealant          | Section 07900 |

### 1.3 DESCRIPTION

The adex-XNC system is a non-combustible exterior insulation and finish system (EIFS) for use where 'spatial-separation' between buildings is a design factor. The system consists of the following components:

- Waterproofing and air barrier membrane (applied over the substrate);
- Acrylic-based adhesive;
- Non-combustible mineral wool insulation boards;
- Non-combustible acrylic base coat;
- Glass fibre mesh;
- PVC mouldings (where necessary);
- 100% polymer acrylic finish coat (and primer);

NOTE: The surface of the mineral wool boards cannot be sanded; this may result in increased deflection in the finished surface.

### 1.4 DESIGN REQUIREMENTS

1. All work undertaken must comply with current codes, norms, construction best practices, as well as the manufacturer's installation instructions;
2. The substrate system shall be engineered to withstand all applicable loads, including live, dead, seismic, positive and negative forces, etc.;
3. On horizontal surfaces, the minimum slope of the system shall be a 6:12 pitch with a maximum length of 250 mm (10");

4. The substrate shall be protected with a waterproofing membrane sealed at all joints and openings;
5. The substrate shall comply with all building codes and be one of the following:
  - a) Brick, masonry or concrete;
  - b) Insulated concrete forming (ICF);
  - c) Fibre cement board;
  - d) Glass-mat faced gypsum board;
  - e) Plywood or OSB board.
6. Expansion joints that allow for building movement shall be installed in the following locations:
  - a) At floor levels of all buildings;
  - b) At floor levels where a deflection track is present;
  - c) At control joints in the substrate;
  - d) At expansion joints of the building;
  - e) Where dissimilar materials or substrates meet;
  - f) At inside corners and major openings;
  - g) Anywhere specified on the plans;
  - h) At a maximal distance of 10 m (30 ft), to counter thermal expansion;
  - i) Where a deflection higher than L/240 is expected.
7. Expansion joints, or fire-breaks, shall extend through the EIFS and shall include proper flashing attached to the substrate (horizontal joints).

### 1.5 QUALITY ASSURANCE

1. System manufacturer shall be ADEX Systems Inc.
2. The applicator shall have a sufficient amount of material and enough qualified labour at his disposal to install the system.
3. The applicator shall follow all professional's directions when installing system components.

### 1.6 DELIVERY, STORAGE AND HANDLING

1. All materials supplied by ADEX Systems Inc. shall be delivered in their sealed, original packaging with their labels legible and intact.

2. All materials supplied by ADEX Systems Inc. shall be stored in a cool, dry location at temperatures above 5 °C (41 °F) and protected from weather and other damage.
3. Store materials away from direct sunlight and protect from temperatures in excess of 32 °C (90 °F).
4. Materials suspected of having been frozen or damaged must not be used.

## 1.7 JOB CONDITIONS

1. Ambient and substrate temperatures shall be minimum 5 °C (41 °F) during installation.
2. When installing in climatic temperatures below 5 °C (41 °F), tarping, heating and ventilation shall be provided to maintain proper installation temperatures.
3. Ambient temperature shall be maintained above 5 °C (41 °F) for a minimum of 24 hours after installation to ensure that drying is complete.
4. Installation of ADEX materials shall be co-ordinated with the other construction trades.

## 1.8 ALTERNATIVES

Systems considered equivalent to adex-**XNC** shall be approved by the architect, in writing, at least ten (10) working days prior to the project bid date.

## 1.9 WARRANTY

Upon request, the manufacturer shall provide a five-year limited warranty, stating that materials conform to specifications and are free of manufacturing defects.

## PART 2 PRODUCTS

### 2.1 MANUFACTURER

All components of the system shall be obtained from ADEX Systems Inc. or its authorised distributors. No substitution or addition of other material is permitted without written consent from the manufacturer.

### 2.2 PRODUCTS

1. Air/Moisture Barrier:
  - a) Shall be 100% acrylic, such as:
    1. HYDROFLEX STD (vapour permeable): Mixed 1:1 by weight with GU Type cement.

**NOTE:** Insulated concrete form

(ICF) substrates shall only use cement-based air/moisture barriers, such as HYDROFLEX STD.

2. HYDROFLEX WO (vapour permeable): Ready-mixed, trowel-applied.
3. HYDROFLEX VB (vapour barrier): Ready-mixed, trowel-applied.
- b) Shall meet UEA article 3.3.1.1 for water permeability;
- c) Shall meet ASTM E-283 for air permeability;
- d) Shall be manufactured by ADEX Systems Inc.
2. Non-Combustible Mineral Wool Insulation:
  - a) Shall be made by an ADEX Systems approved manufacturer. Approved products include:
    - Rockwool Frontrock;
    - Rockwool Fabrock 120;
    - Owens Corning Thermafiber Rainbarrier HC CI 80;
    - Rockwool Comfortboard 110;
    - Rockwool Comfortboard 80;
  - b) Shall be made of basaltic rock and meet ASTM C-612;
  - c) Minimum board thickness of 25 mm (1") and maximum board size of 600 mm x 1200 mm (2 ft x 4 ft);
  - d) Shall meet CAN/ULC S-114 standards for non-combustibility;
  - e) Shall provide minimum RSI 0.70 (R4.0) of thermal insulation.
3. Acrylic Base Coat (adhesive for insulation and to embed glass fibre mesh):
  - a) Shall be a 100% acrylic-based, asbestos-free product, made by ADEX Systems Inc., such as ADEX BASE COAT;
  - b) Shall meet CAN/ULC S-114 standards for non-combustibility.
4. Mechanical Fasteners:
 

Shall be TFP-604 washers with non-corrosive screws. Screws must have appropriate tips for attaching into the specified substrate and be suitable in length to fasten minimum 25 mm (1") into the framing or substrate.
5. PVC Mouldings (where necessary):
 

Shall meet ASTM-D1784 standards for exterior use. (See models in ADEX catalogue)
6. Glass Fibre Mesh:
  - a) Shall be sold by ADEX Systems or by one of its authorised distributors;
  - b) Shall meet ASTM D-5034 standards;
  - c) Shall have different weights according to specific needs:
    - 1.UNITAPE QUICK TAPE MESH: 65g/m2 (2 oz/yd2)
    - 2.STARTER MESH: 150g/m2 (4.5 oz/yd2)

3. STANDARD MESH (DESIGN):  
150g/m<sup>2</sup> (4.5 oz/yd<sup>2</sup>)
4. STANDARD MESH PLUS:  
190g/m<sup>2</sup> (6 oz/yd<sup>2</sup>)
5. INTERMEDIATE MESH:  
375g/m<sup>2</sup> (11 oz/yd<sup>2</sup>)
6. ARMOUR MESH:  
500g/m<sup>2</sup> (15 oz/yd<sup>2</sup>)
7. CORNER MESH:  
305g/m<sup>2</sup> (9 oz/yd<sup>2</sup>)
7. Primer:  
Shall be an acrylic and silica mix that can be applied by roller, such as PRIMEX, manufactured by ADEX Systems Inc.
8. Finish Coat:
  - a) Shall be factory-mixed, 100% acrylic-based, ready-to-use and shall contain integral colour and texture;
  - b) The texture shall be [see ADEX catalogue].

## 2.3 OTHER MATERIALS

1. Cement:  
Shall be lump-free, GU Type cement meeting CSA A3001 standards.
2. Water:  
Shall be clean, potable and free of sediment.
3. Flexible Membrane:  
Shall be a flexible, self-adhesive composite material tested for adhesion to itself and to ADEX components. Suitable material includes EIFS TAPE (4"-12" rolls) used with the appropriate primer or the A-FLEX SEALANT AND MESH. All other materials must be approved by ADEX SYSTEMS Inc..

## 2.4 TESTS

1. Tests performed by an independent laboratory on the specified materials can be requested.
2. Properties shall meet or exceed the following values when tested by methods listed:

### TEST METHOD

**DURABILITY UNDER CLIMATIC CONDITIONS:**  
CCMC TG APPENDICE A2 (60 CYCLES)

No cracking, leaking or bubbling of base coat.  
No delamination or cracking of finish coat.

**ACCELERATED WEATHER RESISTANCE:**  
ASTM G155 (EXPOSED 2000 HOURS)

No deleterious effect.

**SALT SPRAY RESISTANCE:**  
ASTM-B117 (EXPOSED 300 HOURS)

No deleterious effect.

**MILDEW AND FUNGUS RESISTANCE:**  
CCMC 6.8

No mildew or fungal growth.

**WATER PERMEABILITY:**  
CCMC 6.6

≥ 2 hours.

**WATER ABSORPTION:**  
CCMC 6.7

≤ 20 %.

**WATER VAPOUR TRANSMISSION:**ASTM E96-95:

≥ 170 ng/Pa.s.m<sup>2</sup>.

■ Test Method

■ Result

## PART 3 EXECUTION

### 3.1 INSPECTION

1. Inspect the substrate to verify that it is structurally sound and solid, ensuring there are not any irregular voids or projections.
2. Inspect all metal flashing to ensure that it is properly installed, making certain that moisture will be deflected to the exterior of the system.
3. Advise the architect and general contractor of any discrepancies that may impair the proper installation of the system. Work shall not proceed until unsatisfactory conditions are corrected.

### 3.2 PREPARATION

1. Protect all adjacent areas and surfaces from damage during the installation of ADEX materials.
2. Protect ADEX materials at the end of each workday to prevent moisture from infiltrating the system.

### 3.3 MIXING

1. HYDROFLEX STD Membrane:
  - a) In a clean container, mix HYDROFLEX and GU Type cement at a ratio (by weight) of one-to-one;
  - b) After 5 minutes have been allowed for

- initial set, the mixture shall be stirred again;
- c) All other additives (such as rapid binder, anti-freeze, accelerator or others) are strictly prohibited.
2. ADEX BASE Coat/Adhesive:
- a) In a clean container, mix ADEX BASE coat and GU Type cement at a ratio (by weight) of one-to-one;
  - b) Allow mixture to set up for 5 minutes and mix again to break the initial set;
  - c) All other additives (such as rapid binder, anti-freeze, accelerator, or others) are strictly prohibited.

## 3.4 INSTALLATION

1. Substrate Preparation:
  - a) A self-adhesive tape shall be installed over all substrate joints;
  - b) A flexible membrane shall be installed in order to seal all junctions between the substrate and other materials (openings, wall penetrations, etc.).
2. Air/Moisture Barrier:
  - a) Apply a layer of HYDROFLEX STD over all sheathing joints and immediately embed UNITAPE tape into the membrane;
  - b) Apply HYDROFLEX STD membrane over the entire surface ensuring a minimal thickness of 1.6 mm (1/16");
  - c) Allow 24 hours (minimum) to elapse prior to installation of insulation boards over the HYDROFLEX membrane.
3. Insulation Boards:
  - a) Starter mesh (or PVC mouldings) shall be installed at the perimeter of all walls to wrap the thickness of the ADEX insulation boards (this includes system terminations, where dissimilar substrates meet, at expansion joints, at doors and windows, etc.);
  - b) A minimum of 50 mm (2") of mesh shall be present behind the insulation boards at all board edges;
  - c) Using a notched trowel, apply ADEX BASE adhesive in vertical ribbon orientation (10 mm (3/8") wide by 5 mm (3/16") thick, spaced 50 mm (2")) to the backside of the mineral wool insulation boards;
  - d) Install mineral wool insulation boards onto the substrate, starting from the bottom. The long edge of the insulation board shall be horizontal. Apply firm pressure to the board surface to ensure complete contact of the ADEX BASE adhesive to the HYDROFLEX membrane. Ensure the ADEX BASE adhesive does not dry prior to installation of the insulation board;
  - e) Stagger the vertical joints of mineral wool insulation boards and interlock boards at all corners;
  - f) Stagger mineral wool insulation board and sheathing board joints at least 150 mm (6") apart from each other;
  - g) Ensure insulation board joints are not aligned with the corners of any wall openings (such as windows, door openings, etc);
  - h) Abut all insulation boards tightly. If gaps occur, insert slivers of mineral wool insulation (without using ADEX BASE adhesive);
  - i) Mechanically fasten the mineral wool insulation with four (4) TFP-604 fasteners per board;
  - j) Reveals/V-Grooves shall be installed where required (using a router). The minimum thickness of the insulation board at any point shall be no less than 19 mm (3/4");
  - k) Reveals/V-Grooves shall not be in alignment with insulation board joints or at the corners of openings;
  - l) The entire surface of the insulation boards shall be clean prior to the application of the ADEX BASE COAT.
4. Battens & Foam Shapes:
  - a) All battens made of expanded polystyrene shall be installed by bonding them with ADEX BASE adhesive or by mechanically fastening them to the system;
  - b) All battens and grooves shall have an outward-facing slope to prevent moisture from accumulating on them.
5. Base Coat and Reinforcing Mesh:
  - a) Apply ADEX BASE COAT mixture to the surface ends and edges of the mineral wool insulation boards and fully embed the Starter mesh into the base coat;
  - b) Install an additional 300 mm (12") long piece of Starter mesh (at a 45° angle) at the corners of all wall openings;
  - c) (Optional) Armour mesh reinforcement:
    1. Apply ADEX BASE Coat mixture to the surface of the insulation boards to a thickness of 2.4 mm (3/32") to embed the "Armour" glass fibre mesh.
    2. Smooth the surface of the base coat until the mesh is fully embedded.
    3. Armour mesh shall be abutted and not lapped.
    4. The Armour mesh shall be installed to heights indicated in the plans.
    5. All layers of Armour mesh shall be covered with a layer of Standard mesh. (See below)



- d) ADEX BASE COAT mixture shall be applied over the surface of the mineral wool insulation boards to a uniform thickness of 1.6 mm (1/16"). Immediately embed ADEX Standard mesh into the wet base coat. The base coat shall be smoothed until the mesh is fully embedded;
  - e) The mesh shall be lapped a minimum of 63 mm (2-1/2") on all sides;
  - f) The mesh shall be completely embedded in the ADEX BASE COAT mixture over the entire surface of the mineral wool insulation;
  - g) Install an additional four (4) TFP-604 fasteners per board through the mesh and insulation and fasten securely into the structure;
  - h) Install a small piece of mesh and a skim coat of ADEX ADEX BASE COAT over all mechanical fasteners;
  - i) A second coat of ADEX ADEX BASE COAT may be required if, after drying, there are imperfections or the mesh is not completely embedded;
  - j) A period of 24 hours shall elapse before installing the finish coat.
6. Finish Coat:
- a) With a roller, apply an even coat of ADEX PRIMEX primer (same colour as the finish coat) prior to installing the finish coat;
  - b) Trowel-apply a tight coat of ADEX Finish, texture [see ADEX catalogue] to a thickness not greater than the largest aggregate. Apply the finish coat in a continuous fashion, maintaining a wet edge. Levelling and texturing shall take place in one operation to give the ADEX Finish a uniform appearance;
  - c) Avoid applications in direct sunlight;
  - d) Finish coat shall not be used where caulking will be applied;
  - e) Ensure all PVC moulding connections are properly sealed.

### 3.5 CLEAN-UP

1. Remove waste and left over materials (used in this section) from the job site.
2. Clean all adjacent materials and surfaces, and repair any defects caused to this application or any other work.

### 3.6 PROTECTION

1. Ensure that the general contractor protects all work against moisture infiltration and other damages by installing the necessary flashing and caulking in a timely manner.

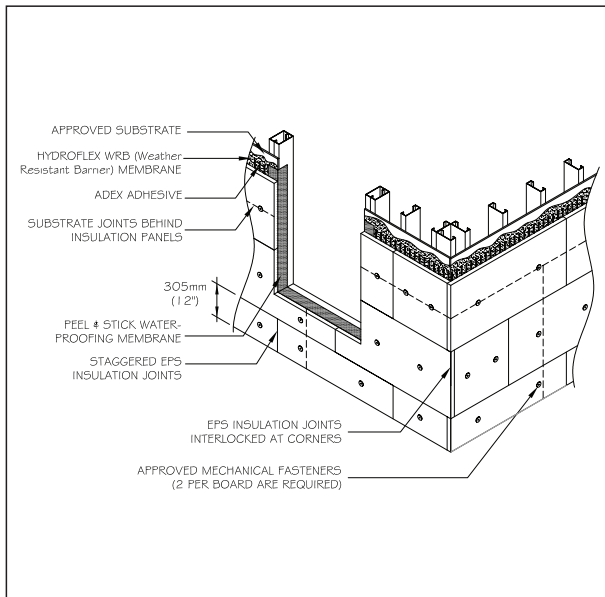
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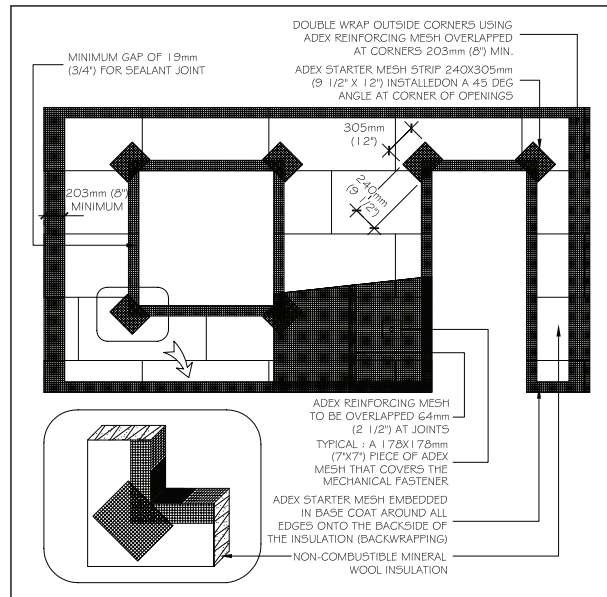
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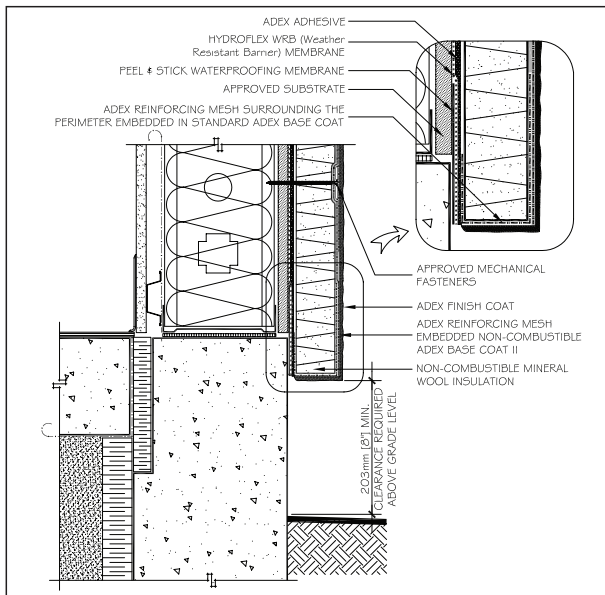




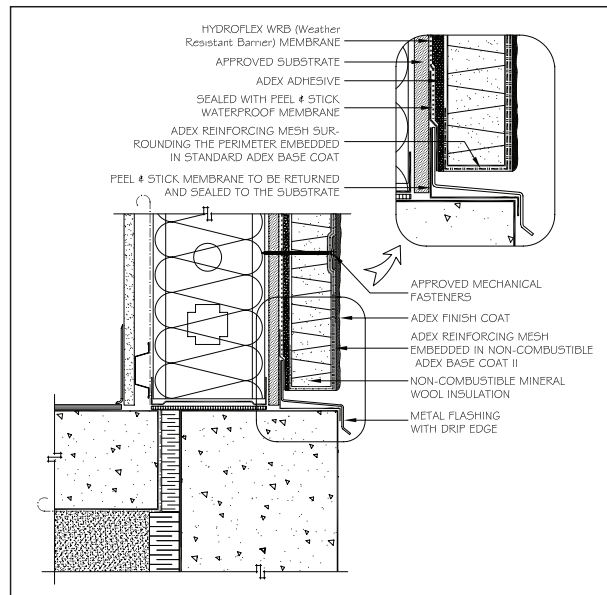
**INSULATION INSTALLATION**



**REINFORCING MESH INSTALLATION**

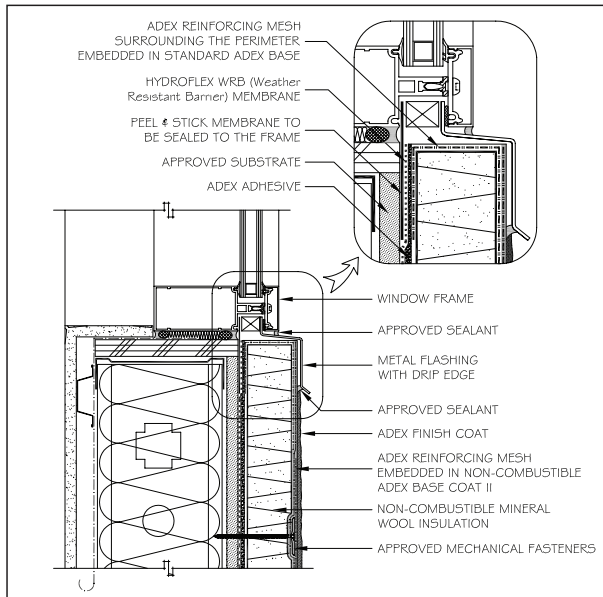


**TERMINATION AT GRADE - METHOD A**

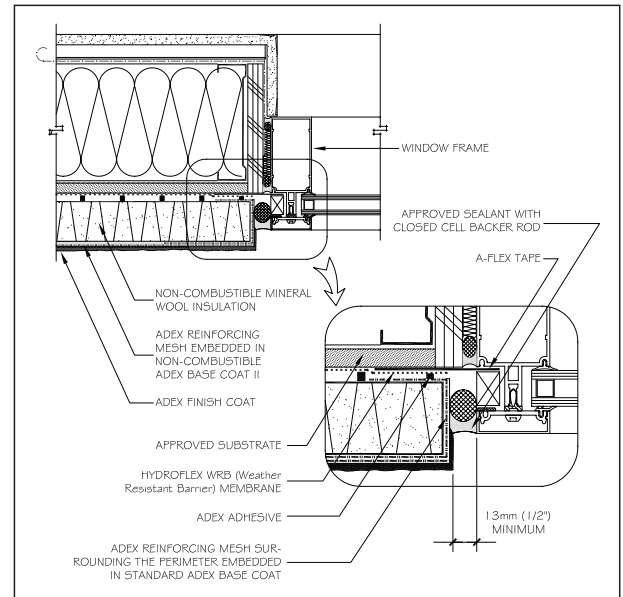


**TERMINATION AT GRADE - METHOD B**

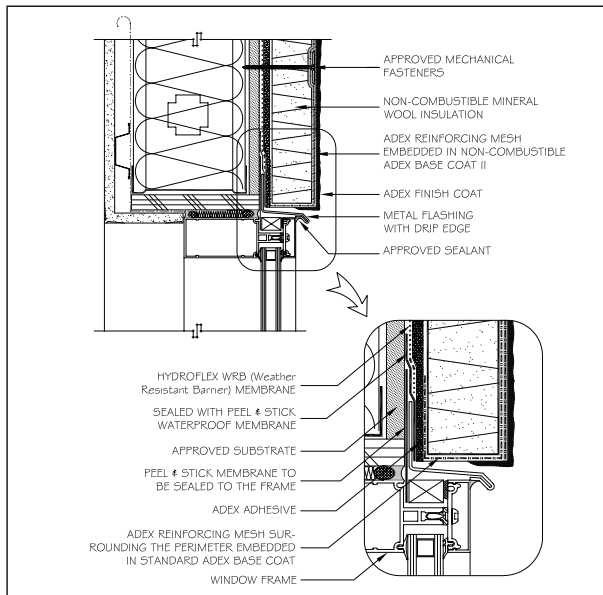
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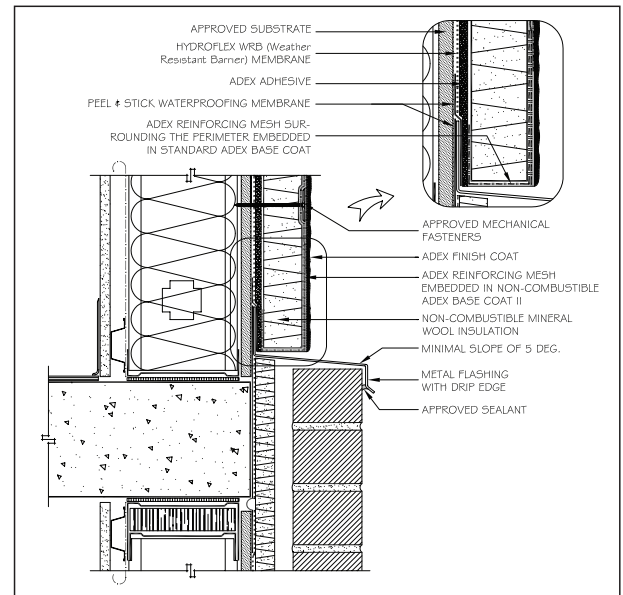
WINDOW SILL



WINDOW JAMB



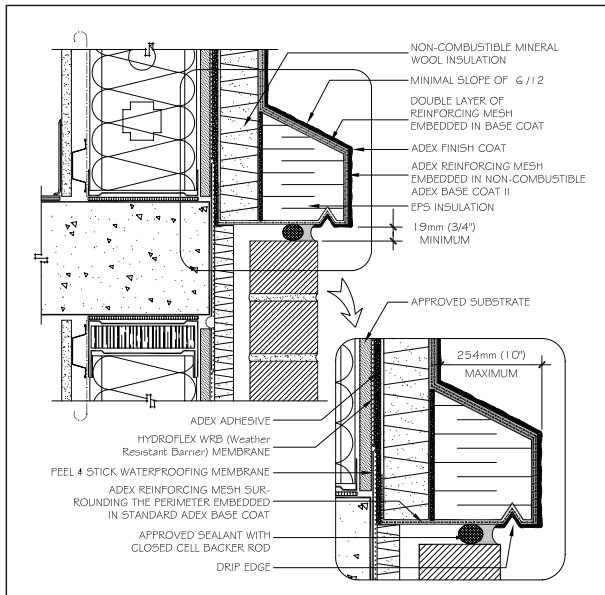
WINDOW HEAD



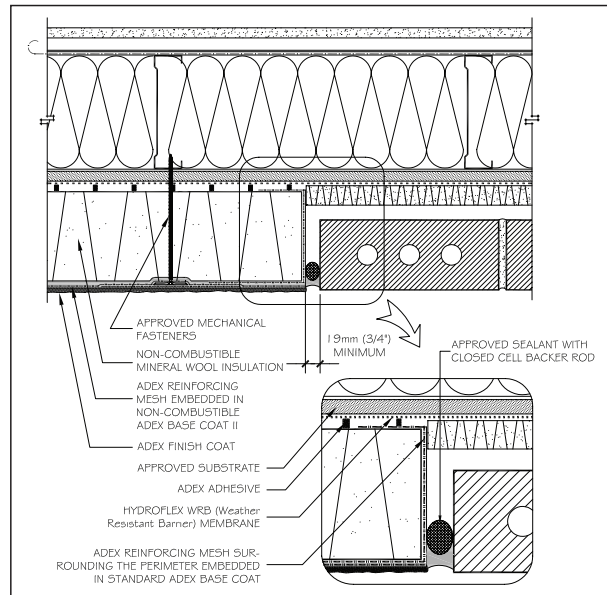
HORIZONTAL JUNCTION

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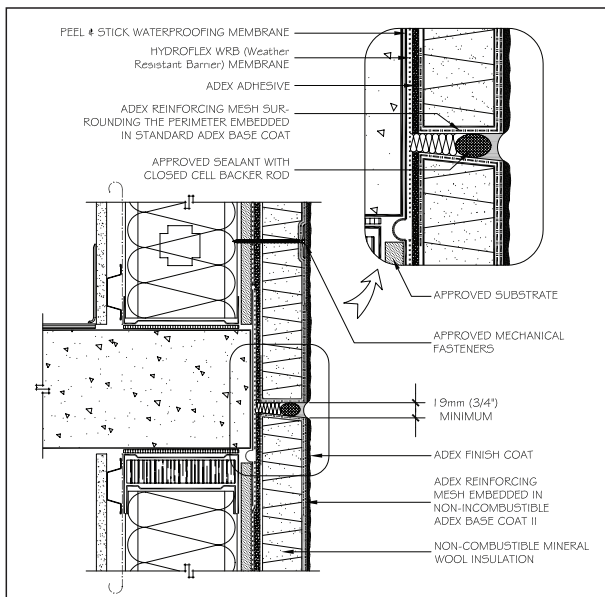




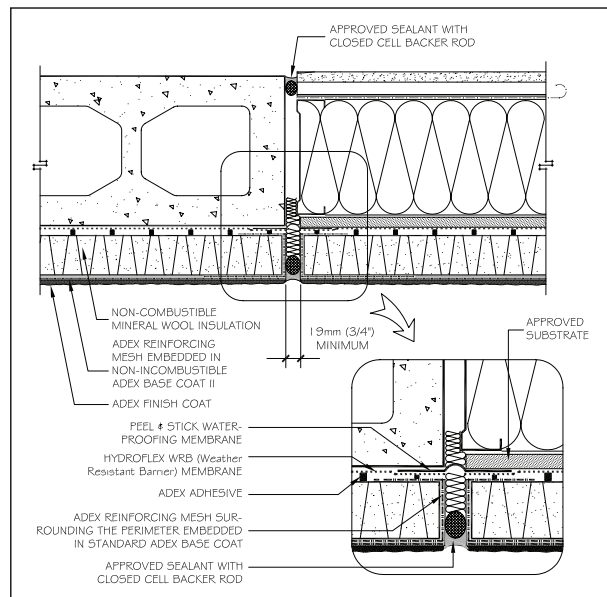
**HORIZONTAL JUNCTION (OPTIONAL)**



**VERTICAL JUNCTION**

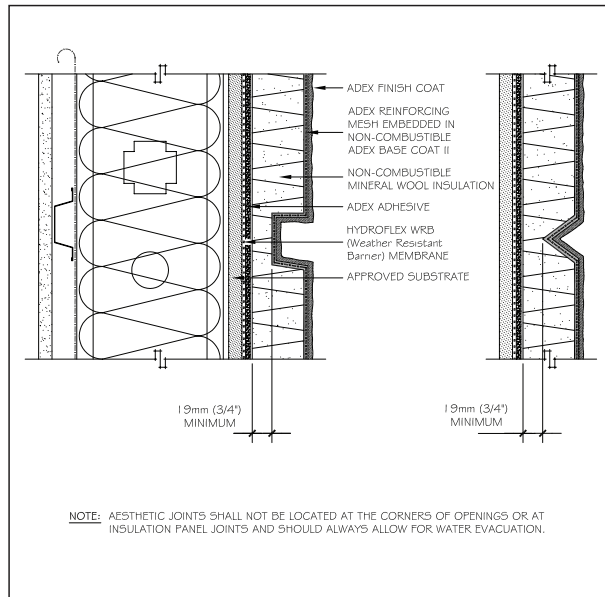


**HORIZONTAL CONTROL JOINT**

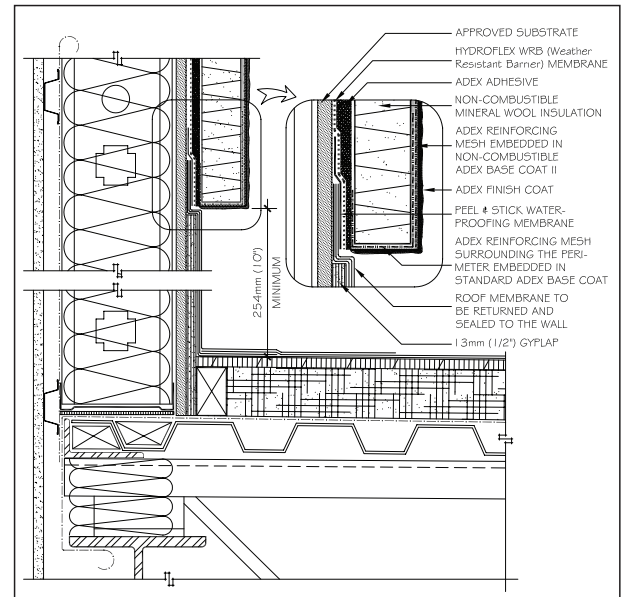


**VERTICAL EXPANSION JOINT**

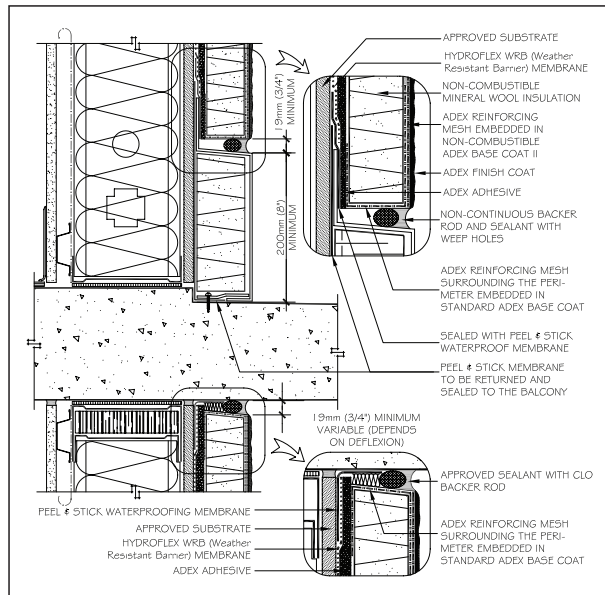
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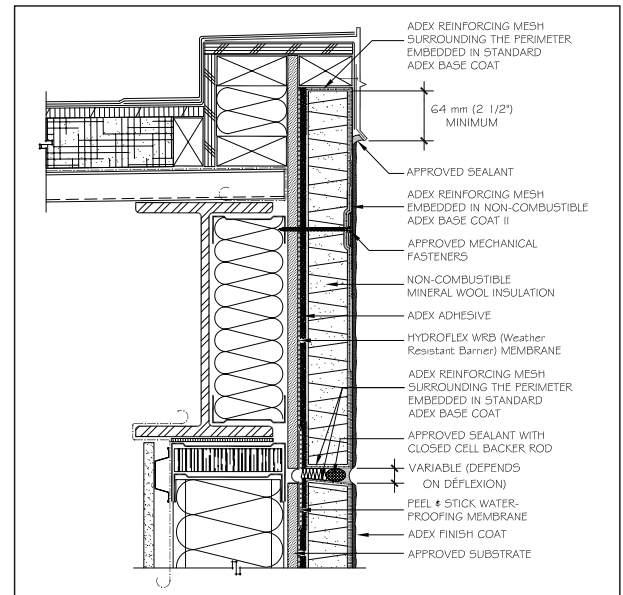
**AESTHETIC JOINTS**



**WALL / ROOF JUNCTION**

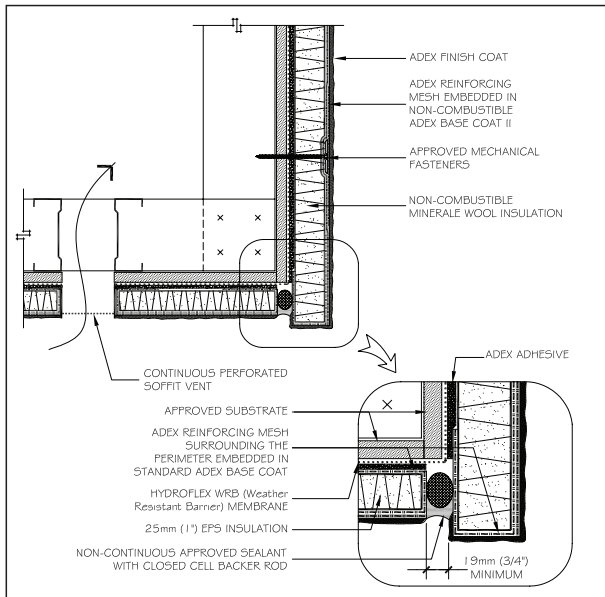


**BALCONY JUNCTION**

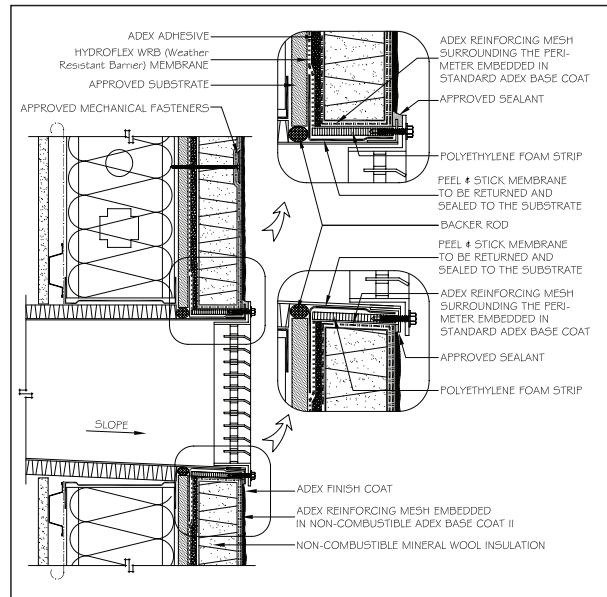


**PARAPET**

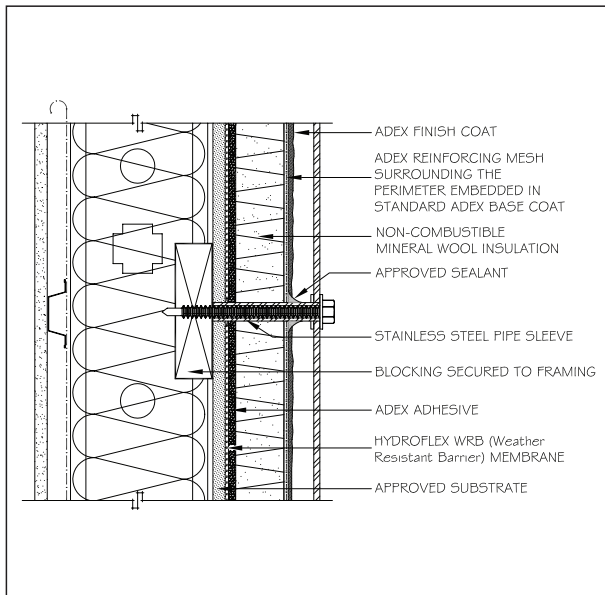
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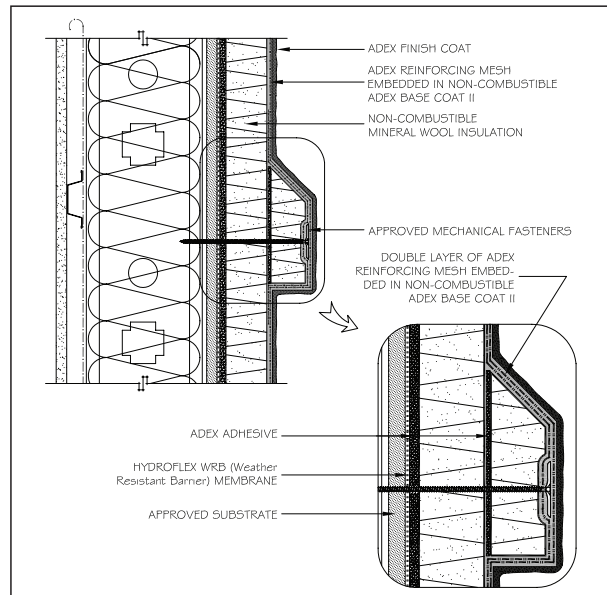
**EAVE SOFFIT**



**WALL PENETRATIONS**

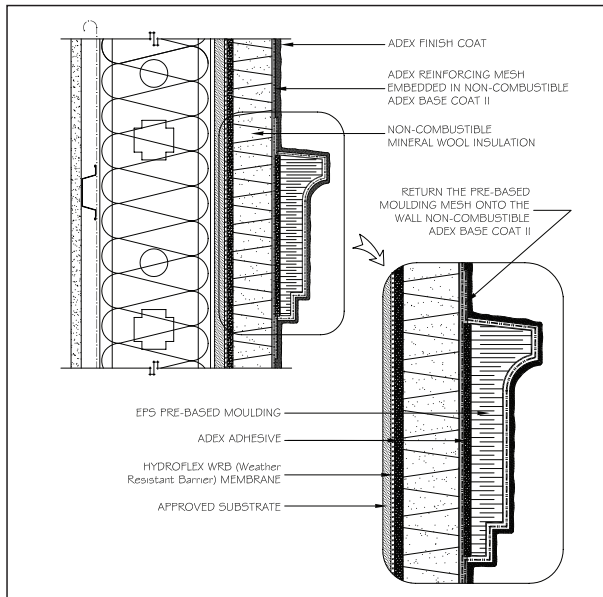


**ACCESSORIES ATTACHMENT**



**DECORATIVE BAND**

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**PRE-BASED MOULDING**

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