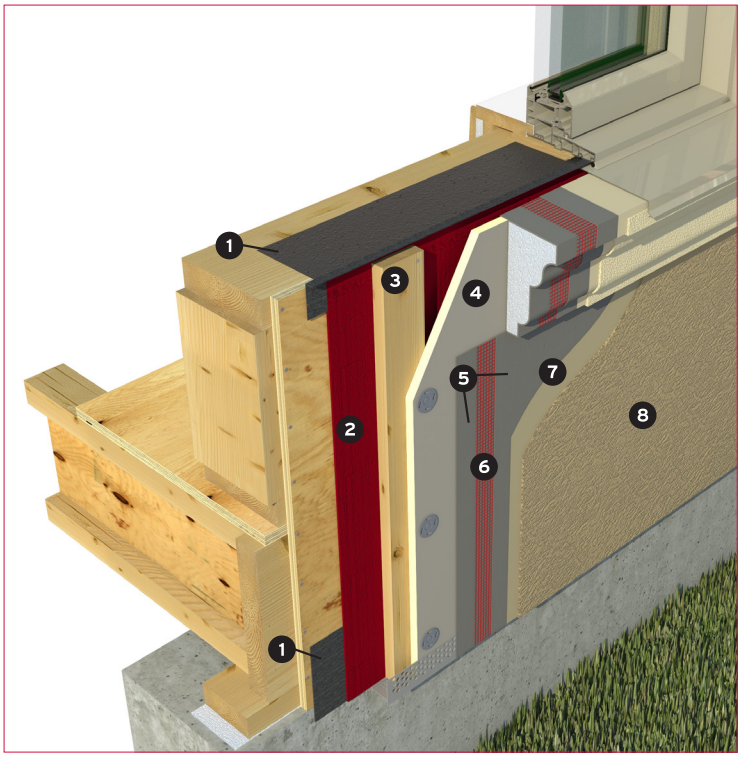

1. EIFS TAPE & PRIMER
2. HYDROFLEX WO MEMBRANE
3. VERTICAL FURRING
4. POLYISOCYANURATE BOARD
5. ADEX BASECOAT
6. STANDARD MESH
7. PRIMEX PRIMER
8. FINISH COAT

Description

The adex-VLS system is a cavity wall assembly which incorporates polyisocyanurate insulation/sheathing boards and a high-quality air/moisture membrane to protect the substrate. Insulation boards are mechanically fastened over furring strips and coated with a lamina, consisting of; an acrylic basecoat, a glass fibre reinforced mesh, mouldings, a primer and a 100% acrylic finish coat.

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
- Rain screen assembly with dual protection against moisture intrusion

Features

- Seamless substrate protection
- Non-combustible basecoat
- Unlimited colour selection
- Vented drainage cavity

Please refer to adex.ca for the latest version of this document, specifications (PDF + Word), technical drawings, product technical sheets, warranties, maintenance guide....and much more.

System Specification

adex-VLS

This document contains information made available to specialised designers, architects, engineers or other professionals, as a guide only, to help them prepare a technical specification. Specialised designers, architects, engineers or other professionals bear the complete responsibility of evaluating usability, conformity and relevance of the information in view of the particular project and they commit to verify all technical data in the present document in order to assess their suitability in the project. When such use is done by specialised designers, architects, engineers or other professionals, they take full responsibility for the information as if it were their own. Use by a non-specialised person is strongly advised against.

PART 1 GENERAL

1.1 WORK INCLUDED

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

1.2 RELATED SECTIONS

1.	Metal Framing	Section 05400
2.	Flashing	Section 07600
3.	Sealant	Section 07900

1.3 DESCRIPTION

The adex-VLS system is a rainscreen wall assembly incorporating a polyisocyanurate insulation/sheathing board and a high-quality air/moisture membrane to protect the substrate. Insulation boards are mechanically fastened over furring strips and coated with an EIFS lamina. The components include:

- Waterproofing and air barrier membrane (applied over the substrate);
- Metal or wood furring strips;
- Polyisocyanurate insulation boards;
- Mechanical fasteners;
- Acrylic base coat;
- Glass fibre mesh;
- PVC mouldings (where necessary);
- 100% polymer acrylic finish coat (and primer).

1.4 DESIGN REQUIREMENTS

1. All work undertaken must comply with the current codes and norms, and conform to the manufacturer's installation instructions and best practice guide;

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 one of the following:
   a) Masonry;
   b) Fibre cement board;
   c) Glass-mat faced gypsum board;
   d) OSB or plywood;
   e) Exterior grade gypsum board.

5. 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 6 m (20 ft), to counter thermal expansion;
   i) Where deflection higher than L/360 is expected.

1.5 QUALITY ASSURANCE

1. System manufacturer shall be ADEX Systems Inc.

2. The applicator shall have a sufficient amount of experience and enough qualified labour at his disposal to install the specified 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 legible labels intact.

2. All materials supplied by ADEX Systems Inc. shall be stored in a cool, dry location at temperatures above 5 ºC (41 ºF) and protected from weather and other damage.

3. Store materials away from direct sunlight and protect from temperatures in excess of 32 ºC (90º F).

4. Materials suspected of having been frozen or damaged must not be used.

5. Store polyisocyanurate insulation boards on flat, even surfaces ensuring they do not overhang or bend while in storage.

1.7 JOB CONDITIONS

1. Ambient and substrate temperatures shall be minimum 5 ºC (41 ºF) during installation.

2. When installing in climatic temperatures below 5 ºC (41 ºF), tarping, heating and ventilation shall be provided to maintain proper installation temperatures.

3. Ambient temperature shall be maintained above 5 ºC (41 ºF) for a minimum of 24 hours after installation to ensure that drying is complete.

4. Polyisocyanurate insulation boards exposed to moisture shall not be installed. Allow wet insulation boards to dry completely prior to installation;

5. Installation of ADEX materials shall be co-ordinated with other construction trades.

1.8 ALTERNATIVES

Systems considered equivalent to adex-VLS 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 materials is permitted without written consent from the manufacturer.

2.2 PRODUCTS

1. Air/Moisture Barrier:
   a) Shall be 100% acrylic, such as HYDROFLEX WO (vapour permeable);
   b) Shall meet UEAct 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. Furring Strips:
   a) Metal Furring:
      1. Metal furring (z-bars) shall be minimum 20-gauge in thickness with flange widths no less than 32 mm (1.25") for fastening of the polyisocyanurate insulation boards;
      2. Maximum lengths of metal furring shall be used to conform to dimensions indicated on the drawings. Deflection of assembly shall not exceed L/360;
      3. Metal shall be hot-dip galvanised, conforming to ASTM-A525 (G90).
   b) Wood Furring:
      1. Wood furring strips shall be 17 mm (3/4") thick and at least 60 mm (2.5") wide for fastening of the polyisocyanurate insulation boards;
      2. Shall be straight in order to allow for insulation boards joints to be supported.

3. Polyisocyanurate Insulation Boards:
   a) Minimum density: 2 lbs;
   b) Shall meet ASTM C-1289;
   c) Shall be factory laminated on both sides with alkali-resistant glass fibre mesh;
   d) Minimum thickness: 14 mm (9/16");
   e) Shall be sold by ADEX Systems or by one of its authorised distributors.

4. Mechanical Fasteners:
   a) Shall be Wind-Lock TFP-604 or Lath-Lock washers with non-corrosive screws;
   b) Screws shall have appropriate tips for the materials they are fastened to and be suitable in length to fasten minimum 25 mm (1") into the furring strips.

5. PVC Mouldings (where necessary):
   Shall meet ASTM-D1784 standards for exterior use (See models in the ADEX CATALOGUE).

6. Acrylic Base Coat:
   Shall be a 100% acrylic-based, asbestos-free product, manufactured by ADEX Systems Inc., such as ADEX BASE coat.

7. Glass Fibre Mesh:
   a) Shall be sold by ADEX Systems or by one of its authorised distributors;
   c) Shall meet ASTM D-5034 standards;
   d) 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/m2 (4.5 oz/yd2)
      4.STANDARD MESH PLUS: 190g/m2 (6 oz/yYd2)
      5.INTERMEDIATE MESH: 375g/m2 (11 oz/yd2)
      6.ARMOUR MESH: 500g/m2 (15 oz/yd2)
      7.CORNER MESH: 305g/m2 (9 oz/yd2)

8. Primer:
   Shall be an acrylic and silica mix that can be applied by roller, such as PRIMEX, manufactured by ADEX

9. Finish Coat:
   a) Shall be factory-mixed, 100% acrylic-based and ready-to-use, containing 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 AKRILON 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^2.

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 waterproofing and vapour barrier membranes to verify they are continuous and sealed at all transitions and wall penetrations.

3. Inspect all metal flashing to ensure that it is properly installed, making certain that moisture will be deflected to the exterior of the system.

4. The architect and general contractor shall be advised of any discrepancies. 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. ADEX BASE Coat:
   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. Air/Moisture Barrier:
   a) Ensure flexible membranes are installed at all wall openings, penetrations, etc. in order to seal all transitions between the substrate and other materials;
   b) Self-adhesive glass fibre tape (UNITAPE) shall be installed over all sheathing joints;
   c) Trowel a layer of HYDROFLEX WO membrane over all sheathing joints and fasteners in the substrate. Allow to dry;
   d) Apply HYDROFLEX WO membrane over the entire substrate ensuring a minimum thickness of 1.6 mm (1/16");
   e) Allow the HYDROFLEX membrane to dry before continuing with installation of the furring strips.

2. Furring Strips:
   a) Install metal ('Z-bars' or 'omega-shaped') or wood 25 mm x 75 mm (1" x 3") furring strips vertically onto the substrate;
   b) Maximum distance between furring shall be 400 mm (16"). Furring shall be lined with a maximum deviation of 3 mm in 2400 mm (1/8" in 8 ft);
   c) Where expansion joints are to be installed, furring shall be interrupted, providing a minimum space of 12 mm (1/2");
   d) Provide adequate ventilation and drainage at the bottom of all walls;
   e) Install bug screens at the bottom of the walls (wrapped around furring strips) as required.

3. Polyisocyanurate Insulation Board:
   a) PVC mouldings shall be installed on the perimeter of all walls to wrap the thickness of the polyisocyanurate insulation boards (this includes system terminations, where dissimilar substrates meet, at expansion joints, at doors and windows, etc.);
   b) Do not install wet polyisocyanurate insulation board;
   c) Insulation boards shall be installed vertically with the long edges aligned with the centre of the furring strips;
   d) Ensure insulation board joints are not aligned with the corners of any wall openings (such as windows, door openings, etc.). Boards shall be closely butted together without gaps in between;
   e) Ensure that all board pieces straddle at least 3 furring strips;
   f) Fastener spacing shall be 300 mm (12") around the insulation board perimeter and 600 mm (24") at the inner board surface;
   g) Lath-Lock fasteners shall not straddle the joints between insulation boards;
   h) Ensure that polyisocyanurate boards are in full contact with furring strips and that fasteners do not break the laminated glass fibre mesh;
   i) Attach PVC mouldings where required. Fasten using Trim-Tac fasteners spaced 200 mm (8") on both sides of the moulding. Joints between PVC mouldings shall be level and flush with each other to minimise visibility;
   j) The entire surface of the insulation boards shall be clean prior to the application of the ADEX BASE coat mixture.

4. Battens & Foam Shapes:
   a) All battens made of expanded polystyrene shall be installed by bonding them with ADEX BASE adhesive or with spray polyurethane such as Wind-lock's Foam 2 Foam or by mechanically fastening them to the structure;
   b) All battens and grooves shall have an outward-facing slope to prevent moisture from accumulating on them.
5. Base Coat and Reinforcing Glass Fibre Mesh:
   a) Polyisocyanurate insulation boards shall be coated with the ADEX BASE coat within 14 days of installation;
   b) Install an additional 300 mm (12") long piece of Starter mesh (at a 45º 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. The surface shall be smoothed until the mesh is fully embedded.
      3. The 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 insulation boards to a uniform thickness of 1.6 mm (1/16"). Immediately embed ADEX Standard mesh into the wet ADEX 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 and base coat shall cover all PVC moulding flanges;
   g) The mesh shall be completely embedded in the ADEX BASE coat mixture over the entire surface of the insulation. Ensure penetration of the base coat through the PVC moulding flanges;
   h) A second coat of the Base coat mixture may be required if, after drying, there are imperfections or the mesh is not completely embedded;
   i) 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) Avoid applying finish coat at locations where caulking will be installed;
   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.

2. Provide protection against dirt, moisture, high humidity, and freezing temperatures until materials are fully dry.

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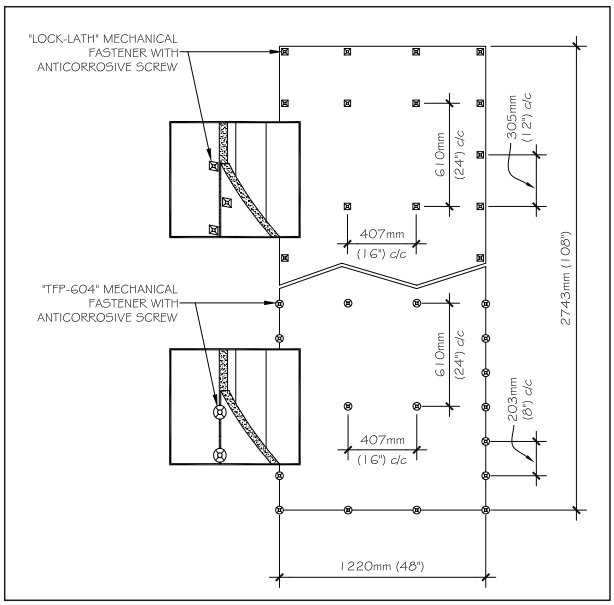
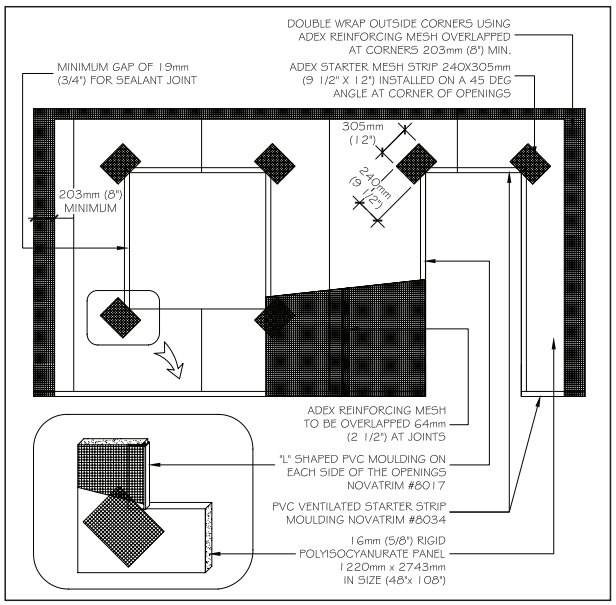
September 2012

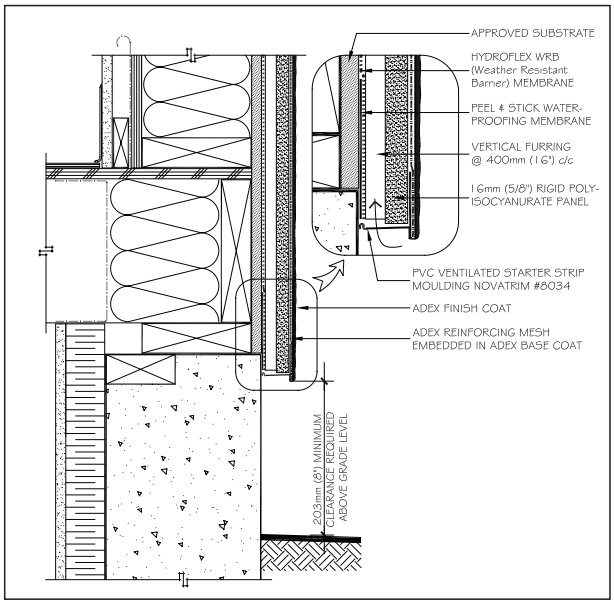
Technical Drawings



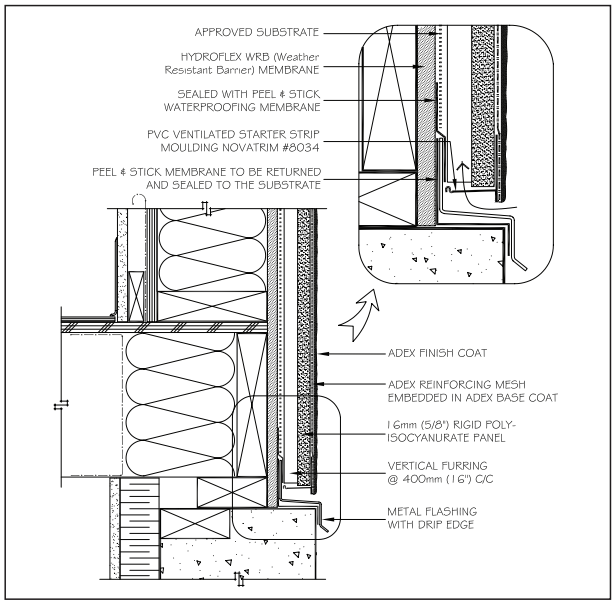
PANELS INSTALLATION



REINFORCING MESH INSTALLATION



TERMINATION AT GRADE - METHOD A



TERMINATION AT GRADE - METHOD B

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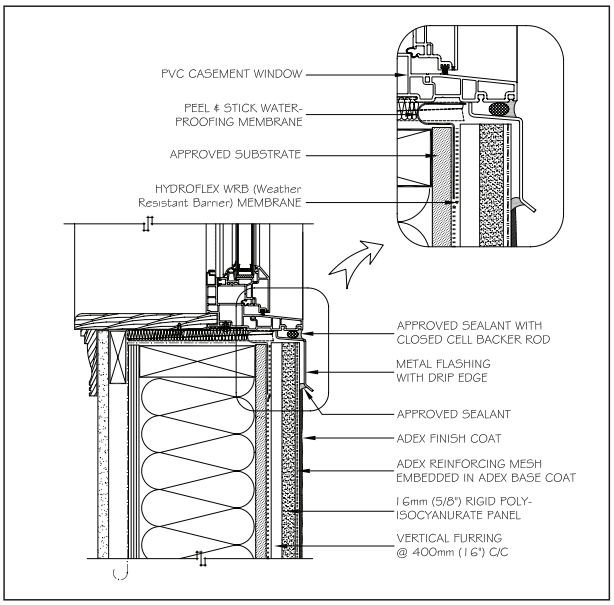
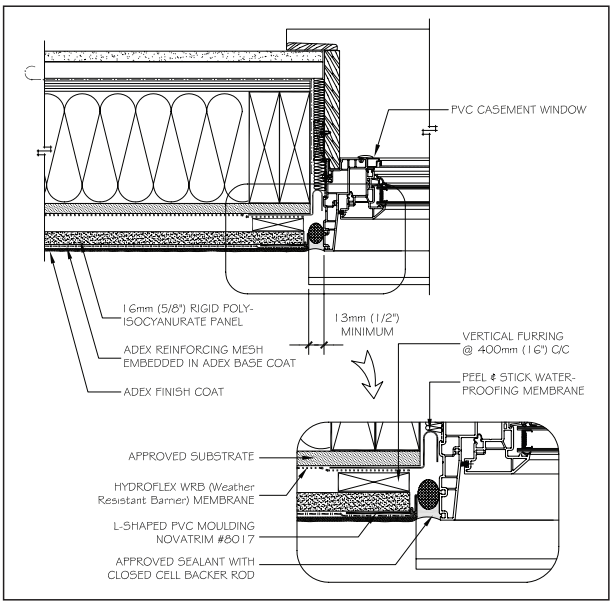
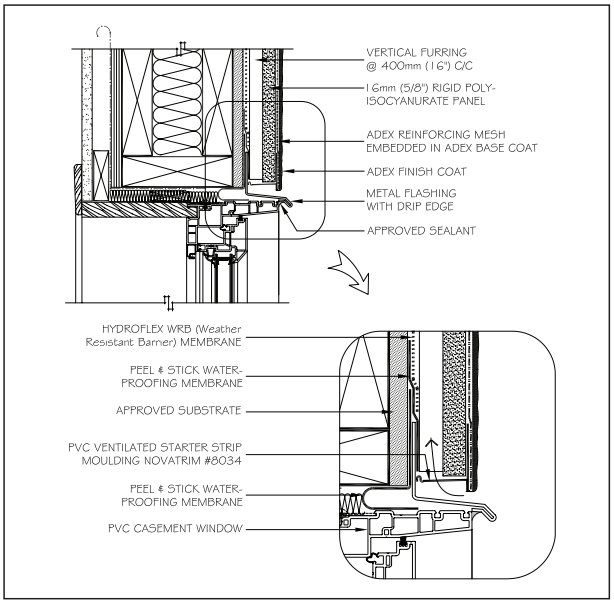
Technical Drawings



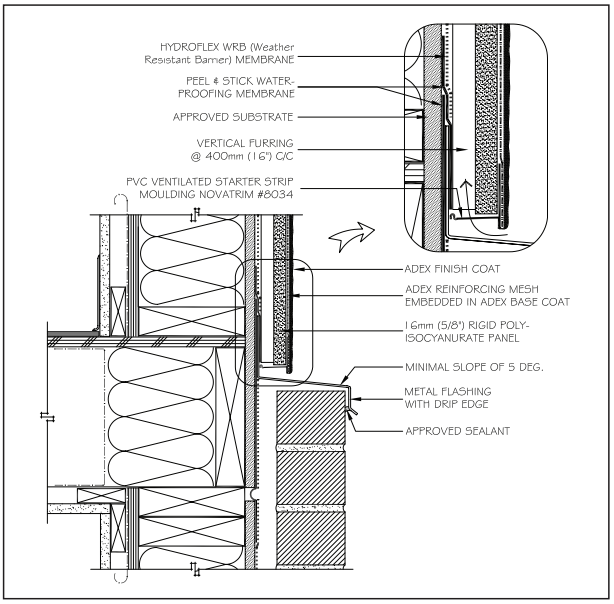
WINDOW SILL



WINDOW JAMB



WINDOW HEAD



HORIZONTAL JUNCTION

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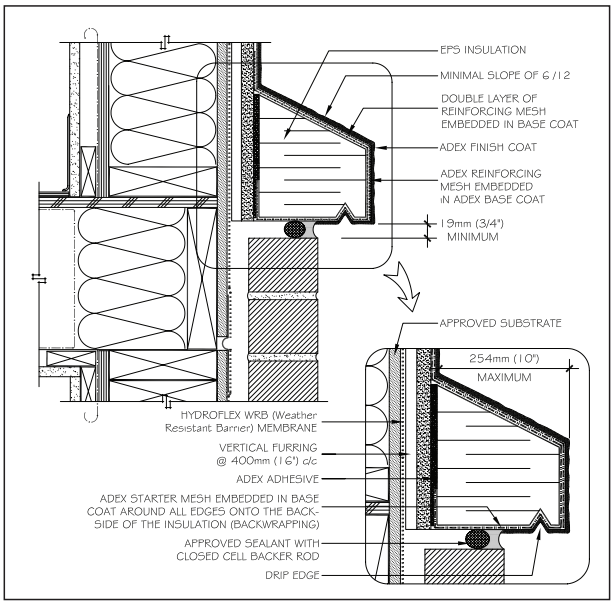
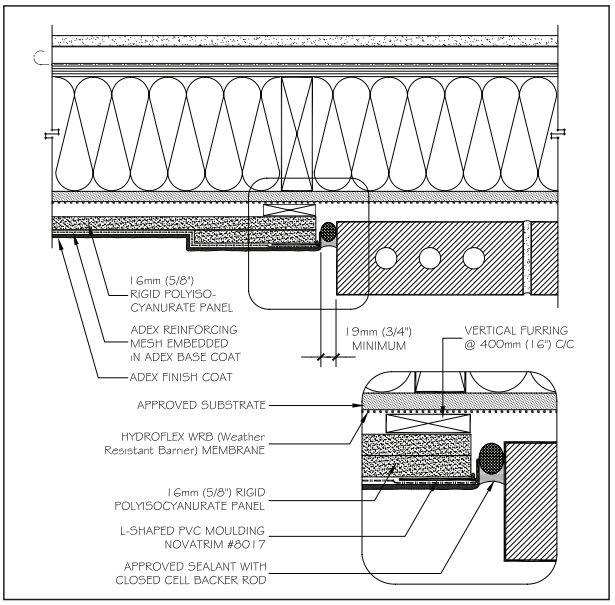
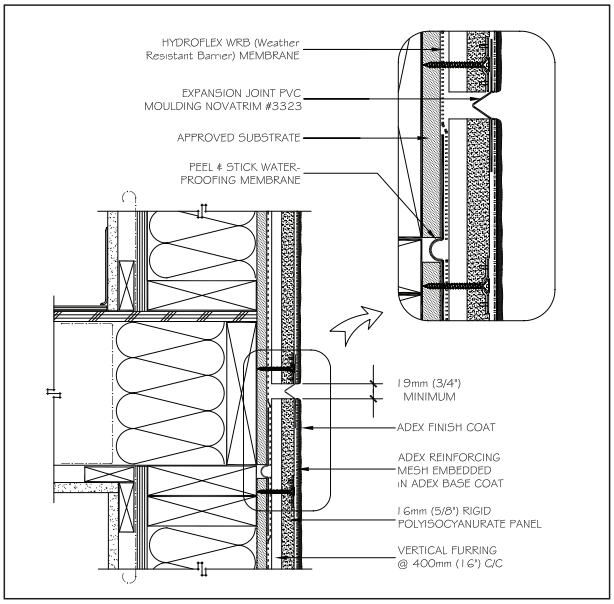
Technical Drawings



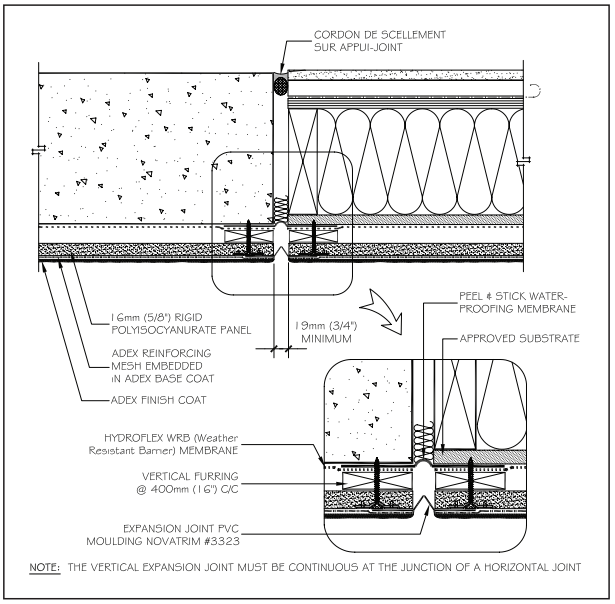
HORIZONTAL JUNCTION (OPTIONAL)



VERTICAL JUNCTION



HORIZONTAL CONTROL JOINT



EXPANSION VERTICAL JOINT

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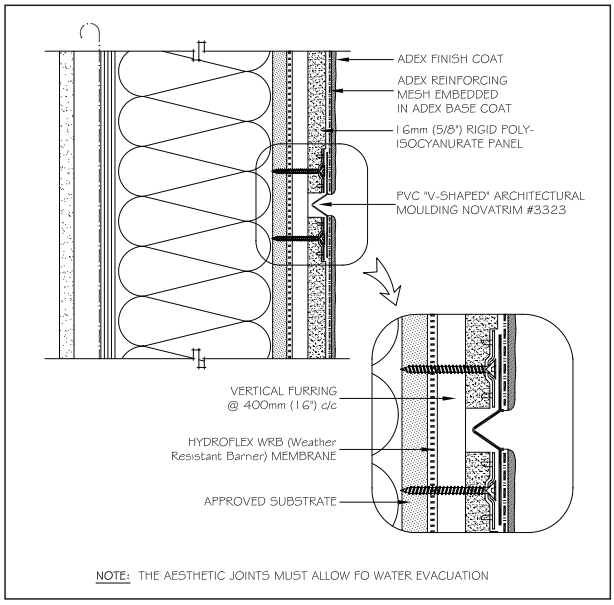
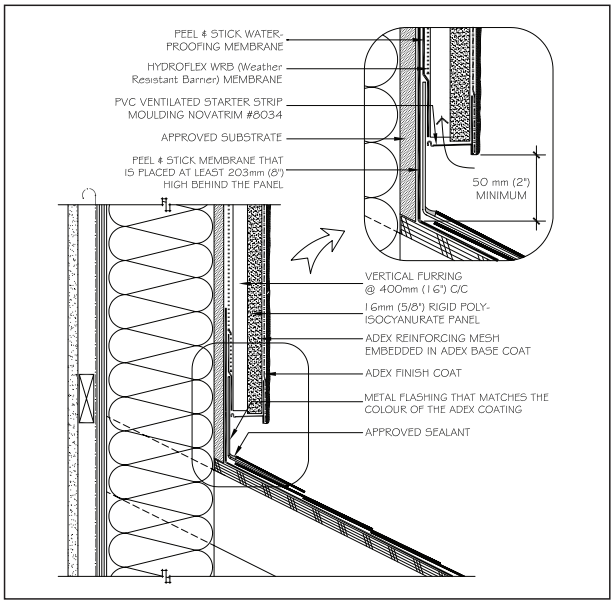
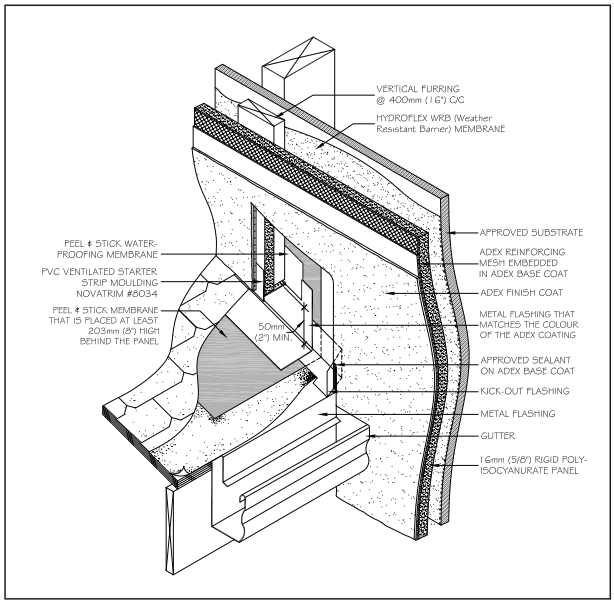


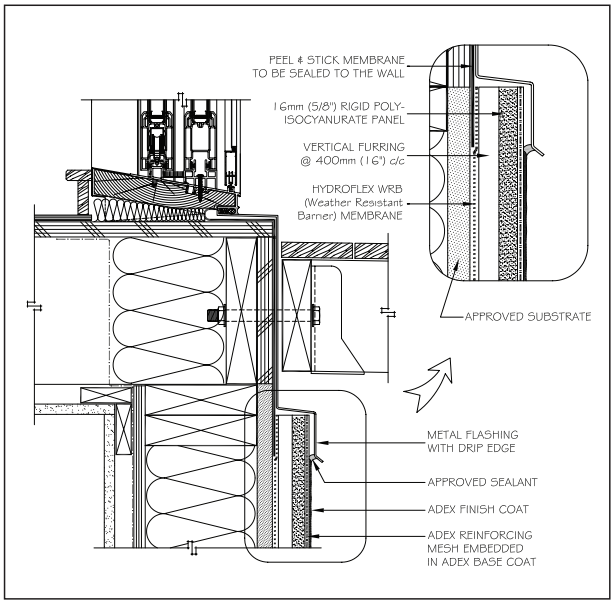
AESTHETIC JOINTS



WALL/ROOF JUNCTION



WALL/ROOF JUNCTION ISOMETRY



BALCONY JUNCTION

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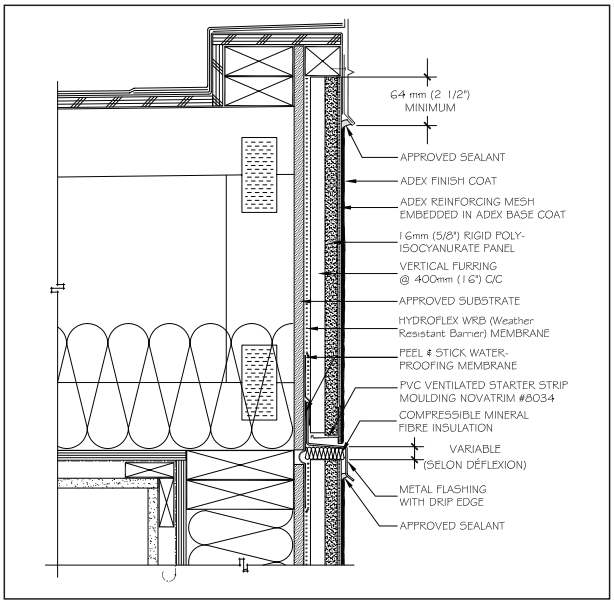
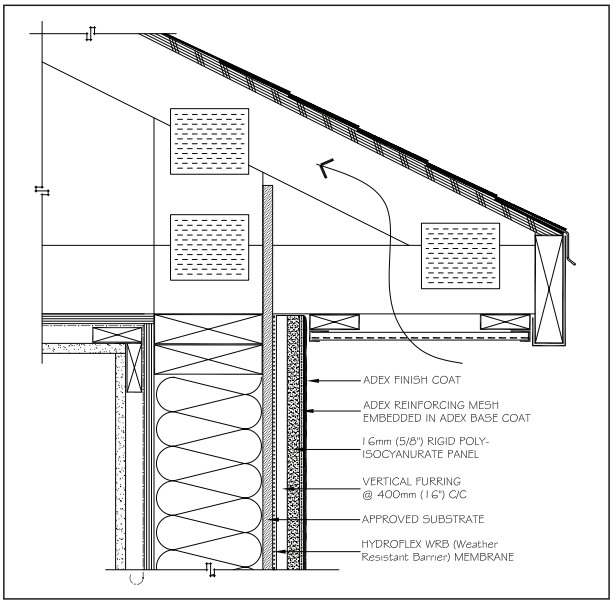
Technical Drawings



PARAPET



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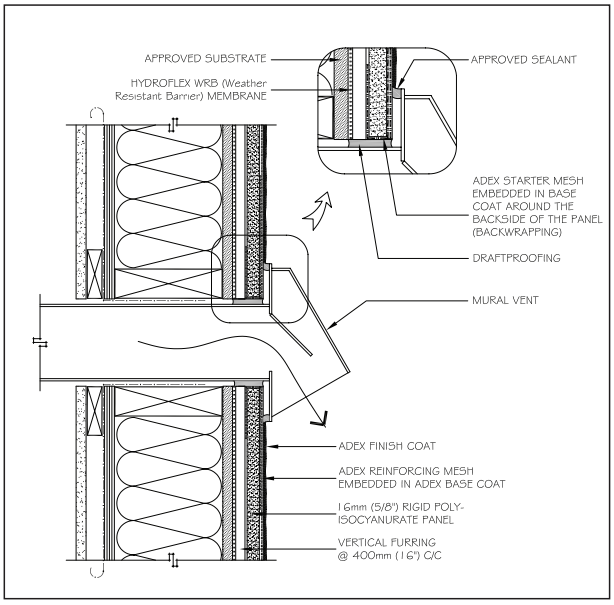
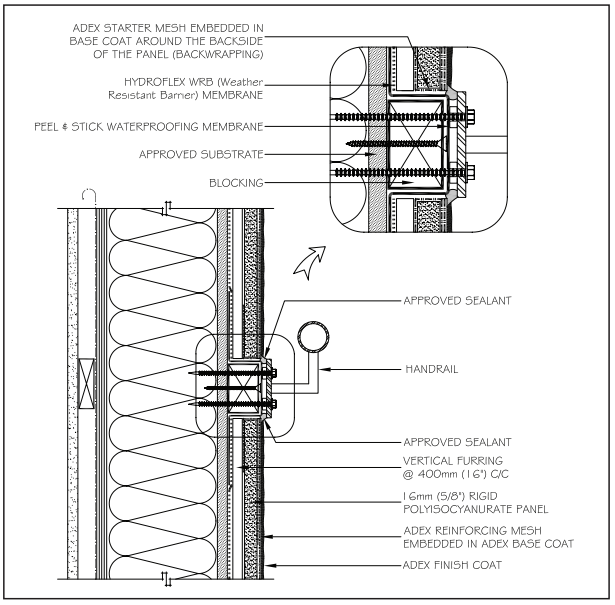


WALL PENETRATIONS



ACCESSORIES ATTACHMENT

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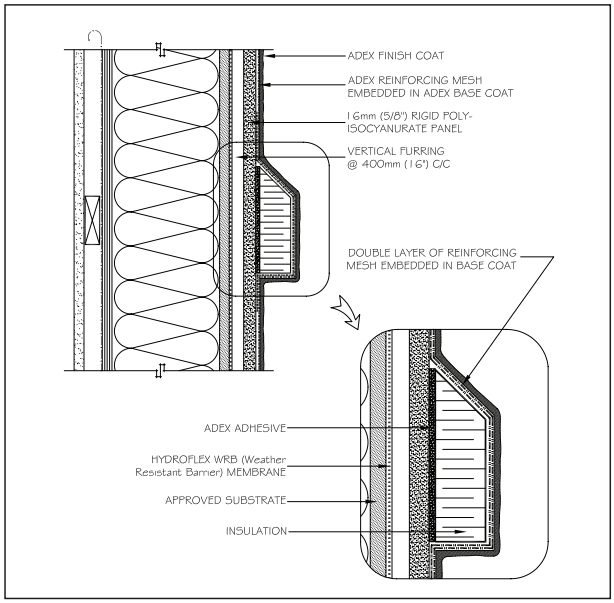
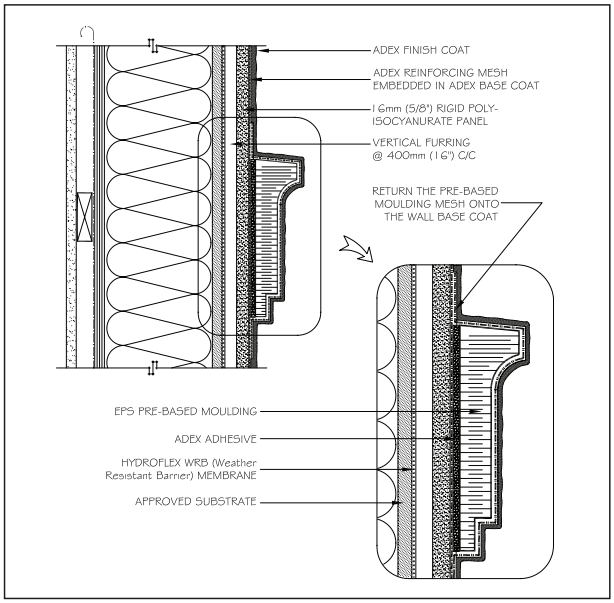
Technical Drawings



DECORATIVE BAND



PRE-BASED MOULDING

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