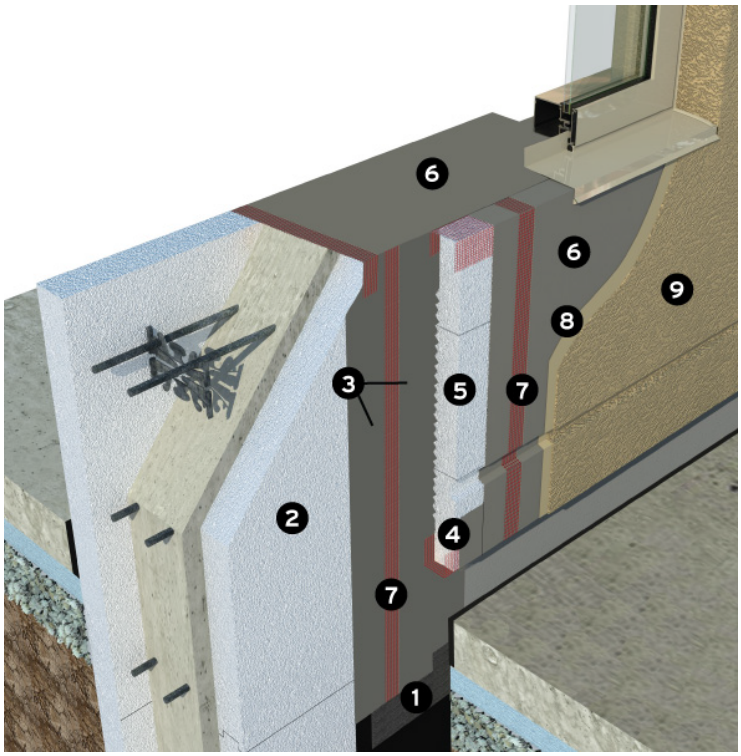


1. EIFS TAPE & PRIMER
2. ICF INSULATION
3. HYDROFLEX STD
4. GD-CONTOUR
5. EPS-GD
6. ADEX BASECOAT
7. STANDARD MESH
8. PRIMEX LIQUID COAT
9. ADEX FINISH COAT

Description

The adex-**RS** | **ICF** system is a water-managed exterior insulation and finish system for use over an ICF that has been favourably evaluated by CCMC (12913-R). The system incorporates a secondary weather resistant barrier (WRB), a vertical drainage plane and a geometrically designed EPS board with 10mm grooves. The adex-**RS** | **ICF** system is in full compliance with CAN/ULC-S716.1 "Exterior Insulation and Finish Systems (EIFS) – Materials and Systems".

THE adex-**RS** | **ICF** SYSTEM, OR ITS MAJOR COMPONENTS MEET THE FOLLOWING NON-COMBUSTIBILITY STANDARDS:

CAN/ULC S134 : Fire Test of Exterior Wall Assemblies;

CAN/ULC S114 : Method of Test for Determination of Non-Combustibility in Building Materials;

CAN/ULC S101 : Fire Endurance Tests of Building Construction and Materials.

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

Features

- EPS-GD insulation
- Seamless substrate protection
- Non-combustible basecoat
- Unlimited colour selection
- Compliant with CAN/ULC-S716.1

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
SECTION 07 24 13:
EXTERIOR INSULATED FINISH SYSTEM
for INSULATED CONCRETE FORM
(ICF) CONSTRUCTION

PART 1 GENERAL

1.1 RELATED SECTIONS

1. Section 01 40 00: Quality Requirements
2. Section 03 11 00: Concrete Forming
3. Section 03 30 00: Cast-in-Place Concrete
4. Section 04 20 00: Unit Masonry
5. Section 05 40 00: Cold-Formed Metal Framing
6. Section 06 10 00: Rough Carpentry
7. Section 07 20 00: Thermal Protection
8. Section 07 25 00: Weather Barriers (Vapour / Air Barriers)
9. Section 07 60 00: Flashing and Sheet Metal
10. Section 07 90 00: Joint Protection
11. Section 08 00 00: Openings
12. Section 09 28 00: Backing Boards and Underlayments
13. Section 09 90 00: Painting and Coating

1.2 DESCRIPTION

1.2.1 The adex-RS | ICF is an Exterior Insulation and Finish System (EIFS) composed of a continuous water-resistive air barrier installed over vertical Insulated Concrete Form (ICF) walls, a 10mm deep geometrically-designed EPS board providing an effective thermal insulation and drainage plane, adhesive for attachment of insulation board, glass fibre reinforcement mesh embedded in a non-combustible acrylic basecoat on the insulation board face, an acrylic primer and finish coat as defined by CAN/ULC S716.1-09.

1.2.2 The adex-RS | ICF assembly has been favourably evaluated by the Canadian Construction Materials Centre (CCMC) as described in the evaluation report #12913-R.

1.2.3 The adex-RS | ICF system or its major components meet the National Building Code non-combustibility requirements of Articles 3.1.5.5, 3.2.3.7 and 3.2.3.8 for commercial and high rise construction projects due to the favourable evaluation reports listed below:

1.2.3.1 CAN/ULC S134: Fire Test of Exterior Wall Assemblies;

1.2.3.2 CAN/ULC S114: Method for Determination of Non-Combustibility;

1.2.3.3 CAN/ULC S101: Fire Endurance Tests of Building Construction and Materials.

1.2.4 The adex-RS | ICF system is in full compliance with CAN/ULC-S716.1 "Exterior Insulation and Finish Systems (EIFS) – Materials and Systems".

1.3 REFERENCE STANDARDS

1.3.1 ASTM International

1.3.1.1 ASTM B117: Standard Practice for Operating Salt Spray (Fog) Apparatus;

1.3.1.2 ASTM C203: Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation;

1.3.1.3 ASTM C518: Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus;

1.3.1.4 ASTM C666: Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing;

1.3.1.5 ASTM D522: Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings;

1.3.1.6 ASTM D523: Standard Test Method for Specular Gloss;

1.3.1.7 ASTM D570: Standard Test Method for Water Absorption of Plastics;

1.3.1.8 ASTM D822: Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings;

1.3.1.9 ASTM D1621: Standard Test Method for Compressive Properties Of Rigid Cellular Plastics;

1.3.1.10 ASTM D1623: Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics;

1.3.1.11 ASTM D1784: Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds;

1.3.1.12 ASTM D2126: Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging;

1.3.1.13 ASTM D2370: Standard Test Method for Tensile Properties of Organic Coatings;
1.3.1.14 ASTM D2523: Standard Practice for Testing Load-Strain Properties of Roofing Membranes;
1.3.1.15 ASTM D2842: Standard Test Method for Water Absorption of Rigid Cellular Plastics;
1.3.1.16 ASTM D4541: Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers;
1.3.1.17 ASTM D5034: Standard Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test);
1.3.1.18 ASTM D5420: Standard Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by Means of a Striker Impacted by a Falling Weight (Gardner Impact);
1.3.1.19 ASTM E96: Standard Test Methods for Water Vapor Transmission of Materials;
1.3.1.20 ASTM E283: Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen;
1.3.1.21 ASTM E330: Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference;
1.3.1.22 ASTM E331: Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference;
1.3.1.23 ASTM E1131: Standard Test Method for Compositional Analysis by Thermogravimetry;
1.3.1.24 ASTM E1252: Standard Practice for General Techniques for Obtaining Infrared Spectra for Qualitative Analysis;
1.3.1.25 ASTM E2098: Standard Test Method for Determining Tensile Breaking Strength of Glass Fiber Reinforcing Mesh for Use in Class PB Exterior Insulation and Finish Systems (EIFS), after Exposure to a Sodium Hydroxide Solution;
1.3.1.26 ASTM G 155: Standard Practice for Operating-Xenon Arc Light Apparatus, for Exposure of Non-metallic Materials.

1.3.2 CSA International
1.3.2.1 CAN/CSA A3000: Cementitious materials compendium (Consists of A3001, A3002, A3003, A3004 and A3005).

1.3.3 National Research Council of Canada (NRC)
1.3.3.1 Canadian Construction Materials Centre (CCMC): Technical Guide for EIFS.

1.3.4 Underwriters' Laboratories of Canada (ULC)
1.3.4.1 1CAN/ULC S101: Fire Endurance Tests of Building Construction and Materials;
1.3.4.2 CAN/ULC S102: Surface Burning Characteristics of Building Materials and Assemblies;
1.3.4.3 CAN/ULC S114: Method for Determination of Non-Combustibility;
1.3.4.4 CAN/ULC S134: Fire Test of Exterior Wall Assemblies;
1.3.4.5 CAN/ULC S701: Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering;
1.3.4.6 CAN/ULC S716.1: Standard for Exterior Insulation and Finish Systems (EIFS) – Materials and Systems;
1.3.4.7 CAN/ULC S716.2: Standard for Exterior Insulation and Finish Systems (EIFS) – Installation of EIFS components and Water Resistive Barrier;
1.3.4.8 CAN/ULC S716.3: Standard for Exterior Insulation and Finish Systems (EIFS) – Design Application.

1.4 DESIGN REQUIREMENTS

1.4.1 All work must comply with CCMC requirements as outlined in its evaluation report #12913-R.

1.4.2 All work undertaken must comply with the current codes and norms, best practice guides, as well as the manufacturer's installation instructions.

1.4.3 The Substrate
1.4.3.1 Substrate shall be buried-web, expanded polystyrene (EPS) Insulated Concrete Forms (ICF). The EPS component shall be compliant with CAN/ULC-S701, with a maximum density of 24 kg/m^3 (1.5 lb/ft^3), and produced by a manufacturer approved by Adex Systems.
1.4.3.2 Substrate shall be continuous, flat and plumb, with surface variations less than 6mm over 2400mm (1/4 inch over 8 ft).
1.4.3.3 Substrate shall be engineered to withstand all applicable loads, including live, dead, seismic, suction, etc. and not deflect more than L/240.
1.4.3.4 Substrate shall be structurally sound and continuously supported.
1.4.3.5 Substrate shall be protected with

a waterproofing membrane sealed at all joints and openings.

1.4.3.6 Concrete shall be cured at least 28-days prior to the installation of the adex-RS | ICF system.

1.4.4 Expansion Joints

Expansion joints that allow for natural building movement shall be installed in the following locations:

1.4.4.1 At expansion joints that occur in the substrate;

1.4.4.2 At any abutment of the system with other materials;

1.4.4.3 Where the substrate changes;

1.4.4.4 Where significant structural movement occurs;

1.4.4.5 At a maximal distance of 10m (30ft), to counter thermal expansion;

1.4.4.6 Where deflections that might be in excess of L/240 are expected;

1.4.5 Drainage and System Termination

1.4.5.1 The adex-RS | ICF system shall terminate and drain at least 200mm (8 inches) above finished grade level;

1.4.5.2 The adex-RS | ICF system shall terminate and drain at least 50mm (2 inches) above roofing systems, balconies, and other similar conditions

1.4.5.3 The adex-RS | ICF system shall terminate and drain above windows, doors, soffits and other similar conditions.

1.4.6 Termination Joints

1.4.6.1 Termination joints are required where the adex-RS | ICF system abuts fenestrations such as windows and doors, and where the system terminates, such as parapets or fire-breaks.

1.4.6.2 Termination joints shall be at least 13mm (1/2 inch) wide.

1.4.7 Joint Sealant

1.4.7.1 Sealant shall be used to seal expansion and termination joints, unless otherwise specified.

1.4.7.2 Sealant material shall be low modulus and tested according to ASTM C-1382, "Standard Test Method for Determining Tensile Adhesion Properties of Sealants When Used in Exterior Insulation and Finish Systems (EIFS) Joints" and shall be compatible with the adex-RS | ICF system, or be approved by Adex Systems.

1.4.7.3 Sealant shall be installed with closed-cell foam backer rod or bond breaker tape in accordance with sealant manufacturers instructions, and in general conformance with ASTM C 1481, "Standard Guide for Use of Joint Sealants with Exterior Insulation and Finish Systems (EIFS)".

1.4.7.4 Where sealant is installed at drainage termination joints, it shall be vented to permit drainage of incidental moisture.

1.4.8 Flashing

1.4.8.1 Expansion and termination joints, or fire-breaks, shall extend through the EIFS and shall include proper flashing attached to the substrate (horizontal joints).

1.5 QUALITY ASSURANCE

1.5.1 Manufacturers

1.5.1.1 EIFS manufacturer shall be Adex Systems Inc.

1.5.1.2 Be a member of and in good standing with the EIFS Council of Canada.

1.5.1.3 All other third-party material manufacturers shall be recognized by Adex Systems Inc.

1.5.2 Applicators

1.5.2.1 Applicators shall have the necessary permits.

1.5.2.2 Applicator shall have a minimum of (2) two-years of experience in applying EIF systems and employ sufficient, knowledgeable personnel to complete work on schedule.

1.5.2.3 Applicator shall follow all EIFS manufacturer's directions when installing system components.

1.6 DELIVERY & STORAGE

1.6.1 Deliver materials to the job site in their original unopened packages, clearly marked with the manufacturer's name, and description of contents.

1.6.2 Store in a clean, dry, well-ventilated area at a temperature not less than 5ºC (41ºF).

1.6.3 Protect materials from the elements of weather, and keep away from excessive heat (temperatures above 32ºC (90ºF)).

1.7 ARCHITECTURAL SAMPLES

1.7.1 Upon request, Adex or its distributor will provide a minimum 200mm x 200mm (8"x8") sample for colour and texture approval.

1.7.2 Do not start any final work until the Consultant gives final approval of sample(s).

1.8 JOB MOCK-UP

1.8.1 Construct a mock-up panel on site

as part of the actual wall on an area as indicated by the Consultant. The approved mock-up panel shall form a standard for the project and no work of inferior quality will be accepted. The mock-up shall match sample panel(s) submitted to the Consultant as described in paragraph 1.7 of this Section.

1.9 JOB CONDITIONS

1.9.1 Ambient and surface temperatures shall be minimum 5ºC (41ºF) during installation.

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

1.9.3 Ambient temperature shall be maintained above 5ºC (41ºF) for a minimum of 24 hours after installation to ensure that drying is complete. Allow for extended drying times in cool, higher humidity conditions.

1.9.4 Installation of Adex materials shall be co-ordinated with other construction trades.

1.10 ALTERNATIVES

1.10.1 Systems considered equivalent to the adex-RS | ICF system shall be evaluated by CCMC according to Master Format #07 24 13.01, and shall be approved by the architect, in writing, at least ten (10) working days prior to the project bid date.

1.11 WARRANTY

1.11.1 Upon request, the manufacturer shall provide a (10) ten-year limited warranty, stating that materials conform to specifications and are free of manufacturing defects.

PART 2 PRODUCTS

2.1 MANUFACTURER

2.1.1 All components of the adex-RS | ICF 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

2.2.1 Weather Resistant Barrier

2.2.1.1 Shall be 100% acrylic, such as HYDROFLEX STD, a vapour permeable membrane mixed 1:1 by weight with Type GU cement

2.2.1.2 Shall meet UEAct article 3.3.1.1 for water permeability;

2.2.1.3 Shall meet ASTM E-283 for air permeability;

2.2.1.4 Shall be supplied by Adex Systems Inc.

Design and location of all air and vapour barriers is the responsibility of the Design Professional.

2.2.2 GD-Contour Board

2.2.2.1 Shall be made by a manufacturer approved by Adex Systems Inc. Please contact your Adex representative to select the appropriate EPS Board design.

2.2.2.2 Shall conform to CAN-ULC S701-97, Type 1 and be made from virgin material with a nominal density of 16Kg/m3 (1Lb/ft3).

2.2.2.3 Shall be geometrically grooved to a 10mm minimum depth.

2.2.2.4 Minimum board thickness shall be 50mm (2 inch).

2.2.2.5 Shall be supplied by Adex Systems Inc.

2.2.3 Adhesive

2.2.3.1 Shall be a 100%-acrylic polymer based material.

2.2.3.2 Adex BASECOAT mixed with an approximately equal weight of Type GU Portland cement (weight ratio is 1:1).

2.2.3.3 Adhesive shall be applied onto the approved membrane on the wall when using Adex EPS-GD INSULATION using a 3/8"x1/2"x1-1/2" U-notched trowel (typical).

2.2.4 Insulation Board

2.2.4.1 Adex EPS-GD INSULATION made by a manufacturer approved by Adex Systems Inc. Please contact your Adex representative to select the appropriate EPS Board design.

2.2.4.2 Shall conform to CAN-ULC S701-01, Type 1 and be made from virgin material with a nominal density of 16 Kg/m^3 (1 Lb/ft^3).

2.2.4.3 Shall be grooved at the back with 10mm deep grooves according to specifications of Adex Systems Inc.

2.2.4.4 Adex EPS-GD INSULATION minimum board thickness shall be 50mm (2 inch) and maximum board size shall be 600mm x 1200mm (24 inch x 48 inch).

2.2.4.5 Shall be sold by Adex Systems Inc. or by one of its authorised distributors.

2.2.5 Basecoat
- **2.2.5.1** Shall be a 100% acrylic-based, asbestos-free product, manufactured by Adex Systems Inc. such as Adex BASECOAT.
- **2.2.5.2** Adex BASECOAT mixed with an approximately equal weight of Type GU Portland cement (Weight ratio = 1:1).
- **2.2.5.3** Shall conform the norm: CAN/ULC S114: Method for Determination of Non-Combustibility.

2.2.6 Reinforcing Fibreglass Mesh
- **2.2.6.1** Shall be purchased from Adex Systems Inc. or from one of its authorised distributors.
- **2.2.6.2** Shall meet ASTM D-5034 standards.
- **2.2.6.3** Shall have different weights according to specific needs:
  - a)STARTER MESH: 150g/m² (4.7 oz/yd²)
  - b)STANDARD MESH (DESIGN): 150g/m² (4.7 oz/yd²)
  - c)STANDARD MESH PLUS: 190g/m² (6 oz/yd²)
  - d)INTERMEDIATE MESH: 375g/m² (11 oz/yd²)
  - e)ARMOUR MESH:500g/m2 (15 oz/yd²)
  - f)CORNER MESH: 305g/m² (9 oz/yd²)

2.2.7 Point-Impact Resistant Basecoat (Optional)
- **2.2.7.1** For geographic locations prone to nesting and migration of bird-pecking species, such as woodpeckers and/or flickers, a point-impact resistant basecoat layer is highly recommended.
- **2.2.7.2** Shall be a 100% acrylic polymer-based product, reinforced with graphene and manufactured by Adex Systems Inc, such as Adex GRAPHEXCOAT.
- **2.2.7.3** Adex GRAPHEXCOAT is mixed with an approximately equal weight of Type GU Portland cement (Weight ratio = 1:1) and up to 1-Litre of water.
- **2.2.7.4** GRAPHEXCOAT shall be installed after the Reinforcing Mesh is embedded into the basecoat layer.
- **2.2.7.5** Shall be listed in the manufacturer's current fire testing: CAN/ULC-S134-13 "Standard Method of Fire Test of Exterior Wall Assemblies".

2.2.8 Primer
- **2.2.8.1** Shall be a tinted, acrylic-based, roll-on priming agent, such as PRIMEX Primer, manufactured by Adex Systems Inc. PRIMEX Primer is not mandatory but highly recommended as it will enhance the depth of colour, increase the yield of finish coat, and enhance the longevity of the finish coat.

2.2.9 Finish Coat
- **2.2.9.1** Shall be a factory-mixed, 100% acrylic-based Adex Finish Coat, containing integral colour and texture.
- **2.2.9.2** The texture shall be [See the Adex Specification Binder or visit www.adex.ca to view the various textures].

2.3 OTHER MATERIALS

2.3.1 Portland Cement
- **2.3.1.1** Shall be lump-free, Type GU (Type 10) Portland cement conforming to CSA-A3001 standards.

2.3.2 Water
- **2.3.2.1** Shall be clean, potable, and free of sediment.

2.3.3 Mechanical Fasteners
- **2.3.3.1** Shall be ADEXLOC for usage with steel studs or wood substrate. Screws must be galvanized or have an approved coating with tips designed to fasten to steel studs or wood studs.
- **2.3.3.2** Shall be ADEXTEC for usage with substrate such as concrete or masonry.

2.3.4 Transition Membranes
- **2.3.4.1** Shall be a flexible, self-adhesive composite material or liquid-applied detailing compound tested for adhesion to itself and to Adex components.

2.3.5 PVC Trims (if necessary)
- **2.3.5.1** Shall meet ASTM-D1784 standards for exterior use.

2.3.6 Backer Rod & Caulking
- **2.3.6.1** Refer to Section 07 90 00.
- **2.3.6.2** Backer rod must be closed pore type.
- **2.3.6.3** Use only low-modulus caulking with long service lives and compatible with EIFS components and adjacent surfaces.
- **2.3.6.4** Products should meet ASTM C1382: Standard Test Method for Determining Tensile Adhesion Properties of Sealants When Used in EIFS Joints, such as: ADSEAL DWS 4580 or LM4600 by ADFAST.

2.4 TESTS

2.4.1 Tests performed by an independent laboratory on the specified materials can be requested.
- **2.4.1.1** Properties shall meet or exceed the following values when tested by the 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 %.
BOND TEST: CCMC 6.4
After 2 hours drying: ≥ 100 kPa. After 7 days drying: ≥ 300 kPa.
BOND TEST: CCMC 6.5 (LAMINA)
After 2 hours drying: ≥ 100 kPa. After 7 days drying: ≥ 300 kPa.
WATER VAPOUR TRANSMISSION: ASTM E96-95:
≥ 170 ng/Pa.s.m^2.
IMPACT RESISTANCE: ASTM E5420
Pass
WIND LOAD RESISTANCE: ASTM E330
Pass
FIRE TEST OF EXTERIOR WALL ASSEMBLIES CAN/ULC-S134:
≥ Pass
FIRE ENDURANCE TESTS OF BUILDING CONSTRUCTION AND MATERIALS: CAN/ULC-S101:
≥ The adex-RS systems assembly, with 5 inch insulation boards, stayed in place for the 15 minute fire test.

Test Method
Result

PART 3 EXECUTION

3.1 INSPECTION

3.1.1 Inspect the ICF substrate to verify that it is structurally sound and solid, ensuring there are no irregular voids or projections.

3.1.2 Inspect all metal flashing to ensure that they are properly installed, making certain that moisture will be deflected to the exterior of the system.

3.1.3 The architect and general contractor shall be advised of any discrepancies. Work shall not proceed until unsatisfactory conditions are corrected.

3.2 PREPARATION

3.2.1 Ensure conduit pipes, cables and outlets are adequately covered before commencing with installation.

3.2.2 Adjacent finish work (such as brick, siding, concrete, etc.) must be protected from damage during the installation of Adex materials.

3.3 MIXING

3.3.1 HYDROFLEX STD membrane

3.3.1.1 Mix the contents of the HYDROFLEX STD pail until thoroughly blended. This will remove any settling of the contents due to storage.

3.3.1.2 In a clean container, mix HYDROFLEX STD and Type GU Portland cement at a ratio (by weight) of one-to-one. Add Portland cement in small increments to prevent lumps from occurring.

3.3.1.3 Allow mixture to set up for 5 minutes and mix again to break the initial set.

3.3.1.4 Small amounts of water may be added to adjust the consistency. All other additives (such as rapid binder, anti-freeze, accelerator or others) are strictly prohibited.

3.3.2 ADEX BASECOAT basecoat/adhesive
- **3.3.2.1** Mix the contents of the Adex BASECOAT pail until thoroughly blended. This will remove any settling of the contents due to storage.
- **3.3.2.2** In a clean container, combine Adex BASECOAT with fresh, lump-free Type GU Portland cement at a ratio of 1:1 by weight. Thoroughly mix to a homogenous state using a paddle mixer and electric drill. Add Portland cement in small increments to prevent lumps from occurring.
- **3.3.2.3** Allow mixture to set up for 5 minutes, then mix again to break the initial set.
- **3.3.2.4** Small amounts of water may be added to adjust the consistency. All other additives (antifreeze, accelerators, or otherwise) are strictly forbidden.

3.3.3 Adex GRAPHEXCOAT point-impact resistant basecoat (Optional)
- **3.3.3.1** Mix the contents of the Adex GRAPHEXCOAT-A or GRAPHEXCOAT-B pails until thoroughly blended. This will remove any settling of the contents due to storage.
- **3.3.3.2** For ease of mixing, split the pail of Adex GRAPHEXCOAT-A or GRAPHEXCOAT-B into two (2) equal portions. Use only clean containers for mixing.
- **3.3.3.3** In a clean container, combine Adex GRAPHEXCOAT-A or GRAPHEXCOAT-B with fresh, lump-free Type GU Portland cement at a ratio of 1:1 by weight. Thoroughly mix to a homogenous state using a paddle mixer and electric drill. Add Portland cement in small increments to prevent lumps from occurring.
- **3.3.3.4** Allow mixture to set up for 5 minutes, then mix again to break the initial set.
- **3.3.3.5** Up to 1-Litre of potable water may be added to adjust the consistency. All other additives (antifreeze, accelerators, or otherwise) are strictly forbidden. Do not overwater.

3.4 INSTALLATION

3.4.1 ICF Preparation
- **3.4.1.1** Gaps in the ICF formwork greater than 1.5mm (1/16 inch) wide shall be filled with a compatible insulation material.
- **3.4.1.2** Rasp the surface of the ICF insulation to ensure the substrate is plane, smooth, and free of UV degradation.
- **3.4.1.3** At all termination joints and fenestration openings, install Adex STANDARD MESH (embedded in Adex BASECOAT) onto the ICF concrete core a minimum 100mm (4 inches) and return the mesh onto the face of the outbound ICF insulation a minimum 100mm (4 inches).

3.4.2 Flashing
- **3.4.2.1** Refer to Section 07 60 00, Flashing.
- **3.4.2.2** Ensure flashing is installed where specified on the construction documents. Flashing must be installed at through-wall breaks, at the baseline of walls, and anywhere else the system is to drain to the exterior.

3.4.3 Weather Resistant Barrier
- **3.4.3.1** Ensure transition membranes are installed, sealing all junctions between the substrate and other materials (wall penetrations, openings, and dissimilar materials).
- **3.4.3.2** Read the Weather Resistant Barrier data sheets for complete installation instructions.
- **3.4.3.3** The HYDROFLEX STD Weather Resistant Barrier (WRB) membrane shall be joined to other components of the system so that the air barrier is continuous in three dimensions;
  a) HYDROFLEX STD with embedded mesh shall overlap all BASECOAT and MESH installed at termination joints by a minimum of 100mm (4 inches).
  b) HYDROFLEX STD with embedded mesh shall overlap all installations of fire-stopping (see Section 3.4.1.3).
- **3.4.3.4** Apply a layer of HYDROFLEX STD membrane to an approximate thickness of 2mm (3/16 inch) over the surface of the outbound ICF insulation and immediately embed STANDARD MESH into the membrane. Trowel from the centre of the mesh outwards to prevent wrinkles from forming in the mesh. Smooth out the membrane to eliminate trowel lines.
- **3.4.3.5** Overlap STANDARD MESH joints a minimum 100mm (4 inches).
- **3.4.3.6** The reinforced HYDROFLEX STD membrane should cover the entire surface of the ICF exterior ensuring a minimal thickness of 1.6mm (1/16 inch) with no visible reinforcing mesh. Apply additional skim coats as required.
- **3.4.3.7** Allow the HYDROFLEX STD membrane to fully cure before adhering insulation boards over the membrane.

3.4.4 Stay-In-Place Mechanism

3.4.4.1 At the top of wall sections, STARTER MESH shall be adhered to the Weather Resistant Barrier (min. 100mm (4 inch)) with Adex BASECOAT. The mesh will be wrapped to the front face of the EPS insulation board during the wall mesh application. This will create a "stay-in-place" mechanism.

3.4.4.2 Required for projects needing to meet CAN/ULC-S101.

3.4.5 Backwraps

3.4.5.1 Edges of Adex EPS-GD INSULATION that meet dissimilar substrates, terminations, wall openings, at fire-stopping, etc. shall be backwrapped.

3.4.5.2 Basecoat/mesh backwrap method:

a) Spread Adex BASECOAT (mixed with Portland cement) over the end and onto the face of the board wide enough to adhere minimum 76mm (3 inch) of mesh. Wrap the mesh around the board edge so it extends minimum 76mm (3 inch) onto the opposite surface.

b) Allow the basecoat/mesh backwrap to dry prior to installation.

3.4.5.3 GD-CONTOUR BOARD method:

a) Pre-wrapped GD-CONTOUR BOARD shall be installed at the perimeter of walls and openings (this includes system terminations, where dissimilar substrates meet, at expansion joints, at doors and windows, etc.).

3.4.5.4 Backwrapping shall be attached back to the substrate by connecting it to reinforced HYDROFLEX STD membrane.

3.4.5.5 Backwraps must not impede the drainage path within the EPS-GD insulation boards.

3.4.6 Insulation Boards

3.4.6.1 Apply Adex BASECOAT adhesive as vertical ribbons onto the approved membrane on the wall using a 3/8" x 1/2" x 1-1/2" U-notched trowel.

3.4.6.2 Adex EPS-GD INSULATION boards shall be placed horizontally on the walls starting with edge wrapped boards at the base of the wall. Apply firm pressure over the entire surface of the board to ensure complete contact of the adhesive to the substrate. Ensure the adhesive does not dry prior to installation of the insulation boards.

3.4.6.3 EPS Boards shall be butted tightly together to eliminate any thermal breaks. Care must be taken to prevent adhesive from getting between the joints of the Adex EPS-GD INSULATION boards.

3.4.6.4 Gaps between insulation boards shall be packed with slivers of EPS foam or filled with a low-expanding spray-foam compatible with the insulation board.

3.4.6.5 Stagger vertical joints and interlock insulation boards at all inside and outside corners.

3.4.6.6 Where the adex-RS | ICF system meets dissimilar substrates and/or terminates (vertically) the Adex EPS-GD INSULATION shall be backwrapped (as per paragraph 3.4.5 of this Section).

3.4.6.7 Adex EPS-GD INSULATION boards shall be rasped to achieve a smooth even surface, create better adhesion, and remove possible ultra-violet damage and/or other surface pollutants.

3.4.6.8 The entire surface of the Adex EPS-GD INSULATION boards shall be clean prior to the application of the Adex BASECOAT and reinforcing mesh.

3.4.7 Aesthetic Details

3.4.7.1 V-grooves/Reveals shall be installed as per the construction documents (after the insulation boards have been rasped). Aesthetic details create visual enhancements, ease finish coat applications, and provide drip edges to soffit areas.

3.4.7.2 V-grooves/Reveals shall be completed using a hot-wire knife to ensure tight, crisp lines are maintained. The inset areas shall be finished with mesh and basecoat.

3.4.7.3 A minimum thickness of 19mm (3/4 inch) of EPS insulation, between the substrate and base of any reveal, shall be maintained.

3.4.7.4 V-grooves/Reveals shall not be in alignment with insulation board joints or with the corners of openings.

3.4.8 Batten & Foam Details

3.4.8.1 All battens made of expanded polystyrene (EPS) shall be installed by bonding them with Adex BASECOAT adhesive, or with spray polyurethane such as Wind-lock's Foam-2-Foam, or by mechanically fastening them to the structure.

3.4.8.2 Foam battens shall be locked to the Adex EPS-GD INSULATION by

embedding the mesh "wings" of the batten into Adex BASECOAT.

3.4.8.3 All batten details extending more than 50mm (2 inch) beyond the basecoat must have an outward-facing slope (minimum of 22º degrees) to prevent moisture from accumulating on them.

3.4.8.4 All cornice and parapet details shall be cap-flashed regardless of slope.

3.4.9 Basecoat & Reinforcing Mesh

3.4.9.1 Apply Adex BASECOAT over the Adex EPS-GD INSULATION surface to a uniform thickness of approximately 1.6 mm (1/16 inch). Work horizontally or vertically in strips of 1016mm (40 inch), and immediately embed Adex STANDARD MESH into the wet basecoat.

3.4.9.2 Install an additional 300mm (12 inch) long piece of STARTER/DETAIL MESH (at a 45º-degree angle) at the corners of all wall openings.

3.4.9.3 STANDARD MESH shall be double lapped not less than 200mm (8 inch) at all corners and overlapped not less than 63mm (2.5 inch) at mesh joints. Avoid wrinkles from forming in the mesh.

3.4.9.4 The final thickness of the basecoat shall be such that the REINFORCING MESH is fully embedded and not visible. Apply additional skim coats as required.

a) ARMOUR MESH is advised in high traffic areas (Optional).

b) Install ARMOUR MESH as per locations noted in the construction drawings.

c) Apply Adex BASECOAT to the surface of the insulation boards to a thickness of 2.4mm (3/32 inch) and embed ARMOUR MESH (vertical application is preferred). Smooth the surface until the mesh is fully embedded.

d) ARMOUR MESH shall be abutted and not lapped.

e) The ARMOUR MESH shall be installed to heights indicated in the plans.

f) All layers of ARMOUR MESH shall be covered with a layer of STANDARD MESH.

3.4.9.5 CORNER MESH is recommended at all major inside/outside corners (Optional). Install CORNER MESH on exposed interior/exterior corners as noted in the construction documents.

3.4.9.6 Allow the basecoat to dry before applying the primer and finish coat (24-hours).

3.4.10 Point-Impact Resistant Basecoat (Optional)

3.4.10.1 First Coat - GRAPHEXCOAT-A

a) Using a flat-edge metal trowel, apply Adex GRAPHEXCOAT-A to the surface of the Adex BASE COAT at a thickness between 2.4mm (3/32 inch) and 3.2mm (1/8 inch).

b) Holding your trowel at a low-angle, smooth out the basecoat, using the largest aggregate in the GRAPHEXCOAT-A to assist with achieving the proper thickness.

c) Holding your trowel at a low-angle, smooth out the basecoat, using the largest aggregate in the GRAPHEXCOAT-A to assist with achieving the proper thickness.

3.4.10.2 Second Coat- GRAPHEXCOAT-B

a) Inspect the GRAPHEXCOAT-A installation and rasp down any irregular surfaces or high spots.

b) With a flat-edge metal trowel, apply a 1.6mm (1/16 inch) uniform layer of Adex GRAPHEXCOAT-B over the entire first coat application and smooth the surface. Take care to fill any voids left behind by the GRAPHEXCOAT-A installation.

c) Once dry, install additional skim coat layers of GRAPHEXCOAT-B as required.

3.4.10.3 Allow the GRAPHEXCOAT-B to dry before applying any additional basecoat layers or continuing on to the primer and finish coat (24-hours).

3.4.11 Primer

3.4.11.1 Apply an even coat of Adex PRIMEX primer (tinted to the same colour as the finish coat) with a good-quality paintbrush, 10mm (3/8 inch) nap roller, or sprayer.

3.4.11.2 Allow PRIMEX primer to dry before commencing with the Finish Coat.

3.4.12 Finish Coat

3.4.12.1 Trowel-apply a tight coat of Adex Finish Coat, texture [see www.adex.ca or Adex Specification Binder] to a thickness not greater than the largest aggregate. Apply the finish coat with a stainless steel trowel in a continuous fashion, maintaining a wet edge. Levelling and texturing shall take place in one operation to give the Adex

Finish Coat a uniform appearance.

3.4.12.2 Avoid applications in direct sunlight.

3.4.12.3 Avoid applying Finish Coat at locations where caulking will be installed.

3.4.12.4 Weather conditions will be a factor in the application and drying time of the Finish Coat.

3.4.13 Caulking

3.4.13.1 Refer to Section 07 90 00, Sealant.

3.4.13.2 Caulking shall be installed in a timely manner. Protect open joints from water intrusion during the construction period with backer rod until permanently sealed.

3.5 PROTECTION

3.5.1 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.

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

3.6 CLEAN UP

3.6.1 After completion, remove waste and leftover materials (used in this Section) from the job site.

3.6.2 Clean all adjacent materials and surfaces, and repair any defects to this application or any defects to any other work caused by this application, all to the approval of the consultant.

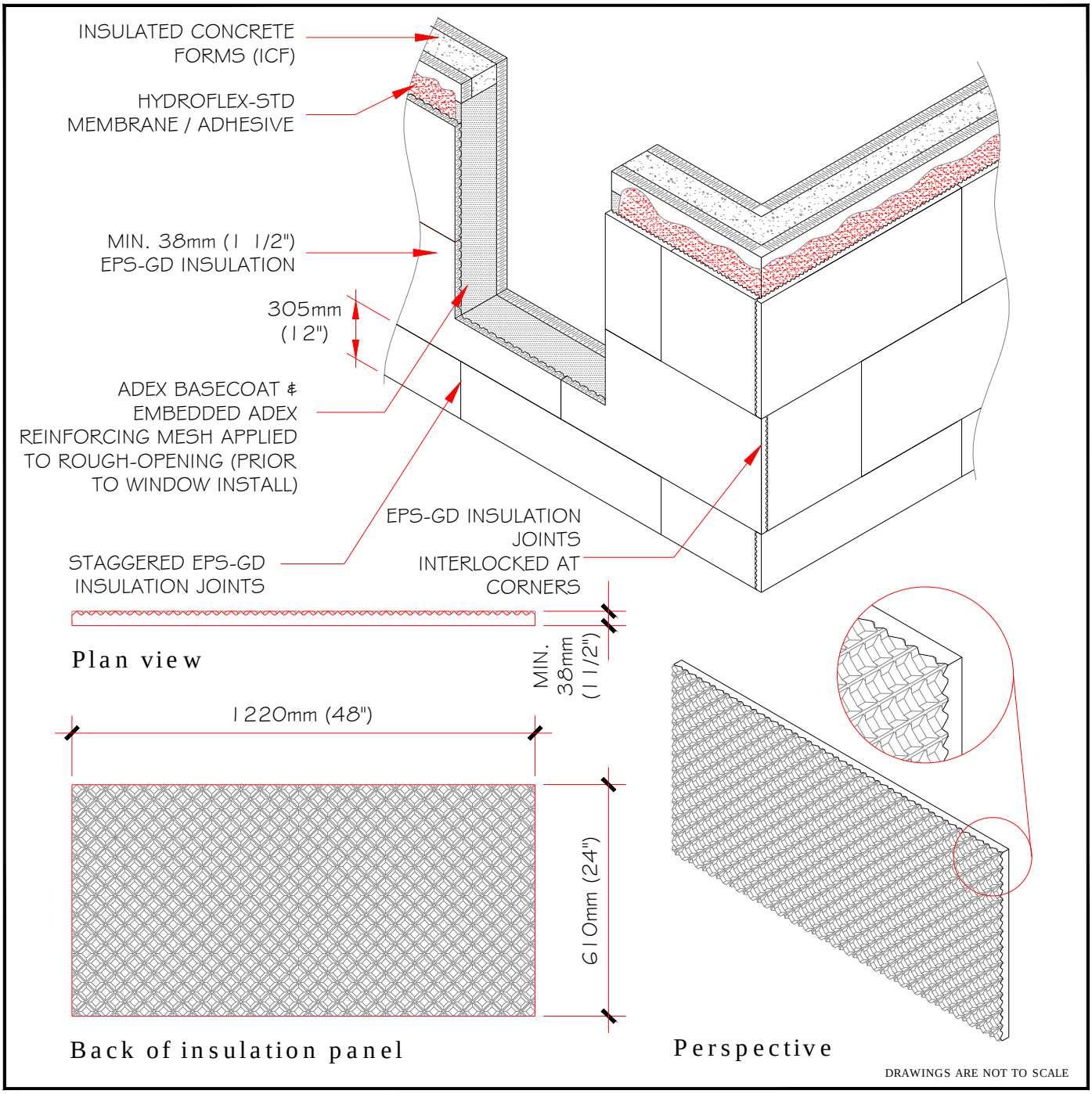
ALL REQUESTS FOR APPLICATION PROCEDURAL CHANGES MUST BE AUTHORIZED IN WRITING BY ADEX SYSTEMS INC.

CORPORATE SALES CENTER
7911, Marco Polo
Montreal (Quebec) Canada H1E 1N8
www.**adex.ca**
P 514-648-1213 | **F** 514-648-9597

September 2025

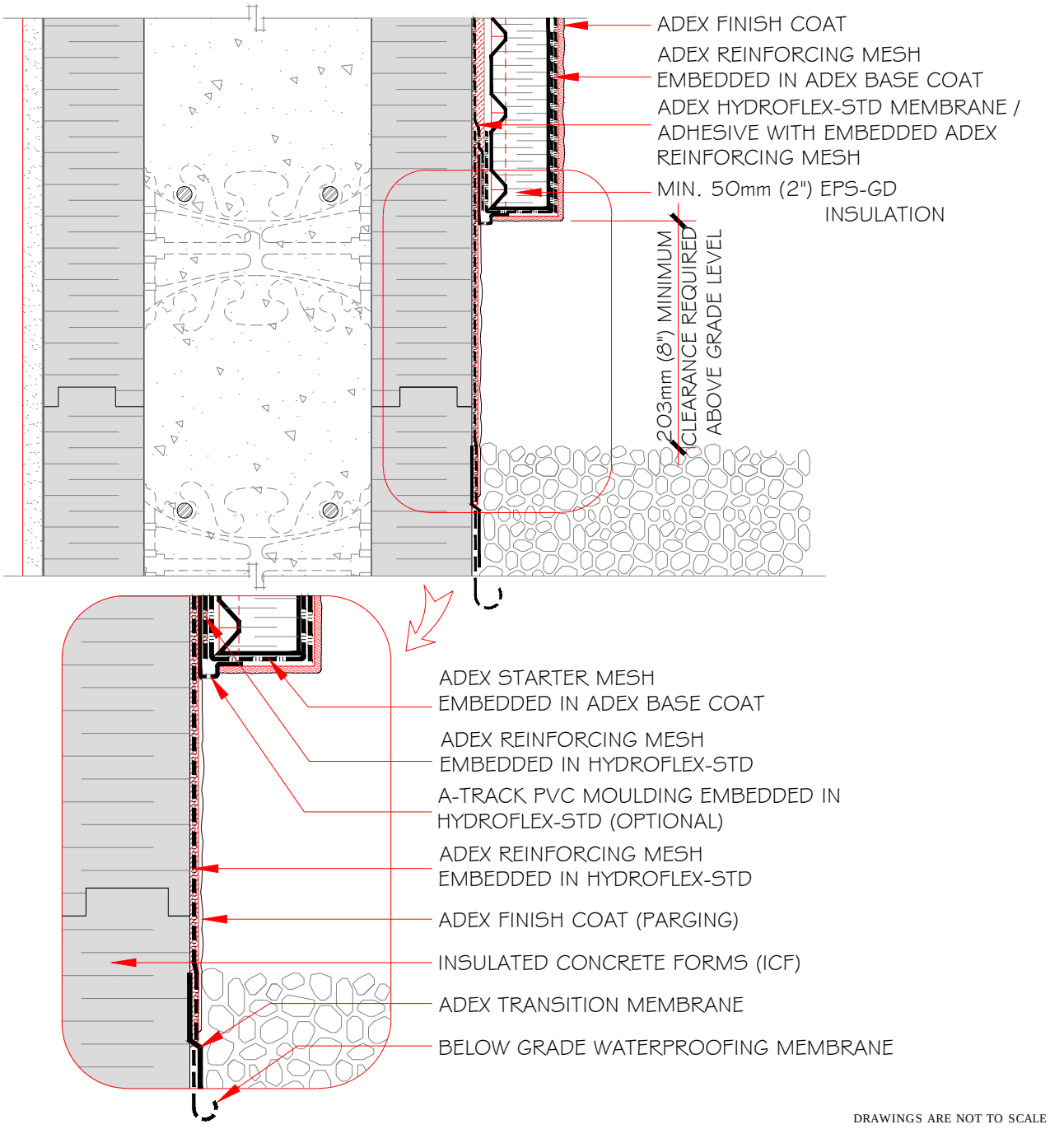
System : adex-RS|ICF

Insulation installation



System : adex-RS|ICF

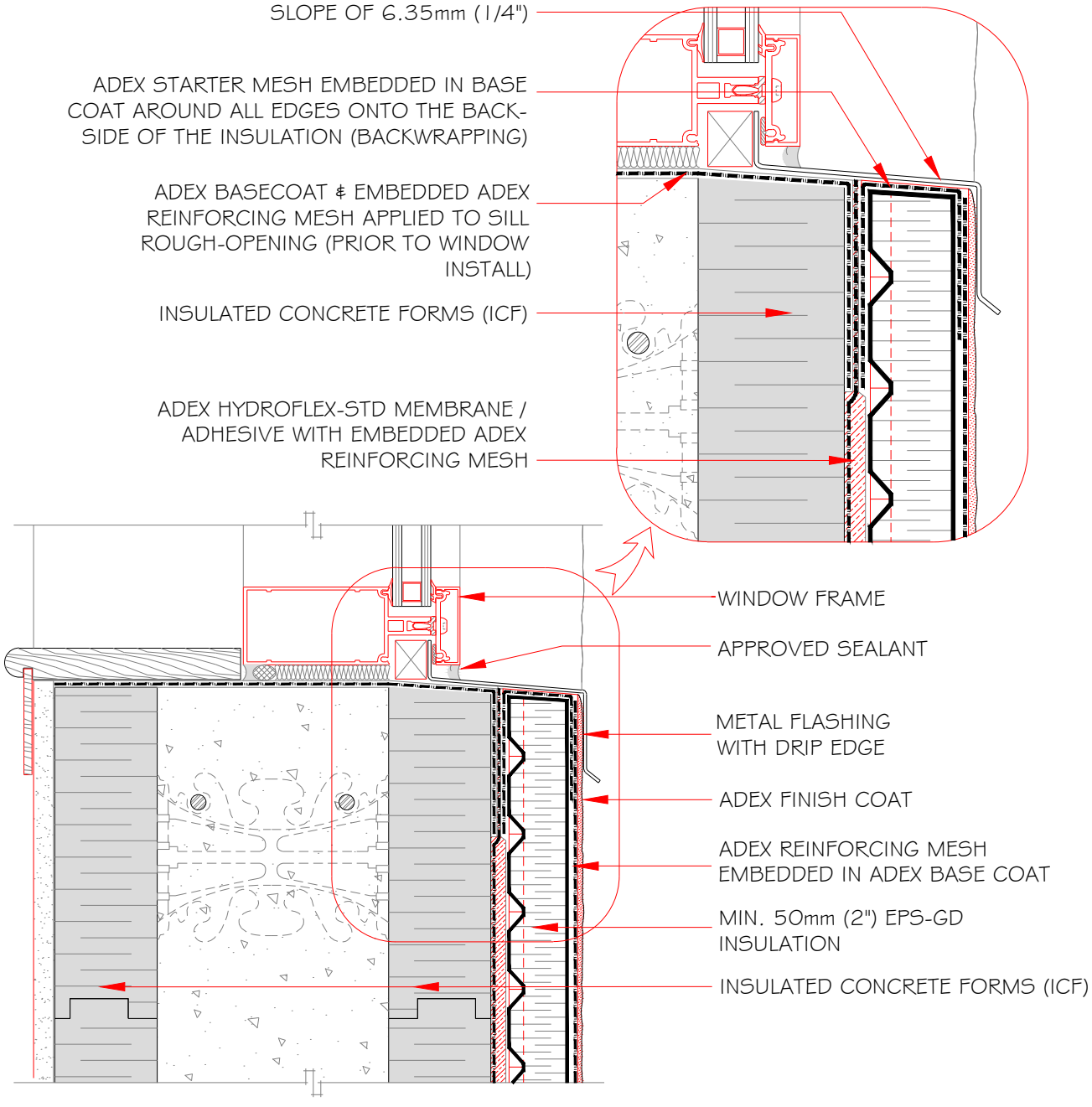
Termination at grade



DRAWINGS ARE NOT TO SCALE

System : adex-RS|ICF

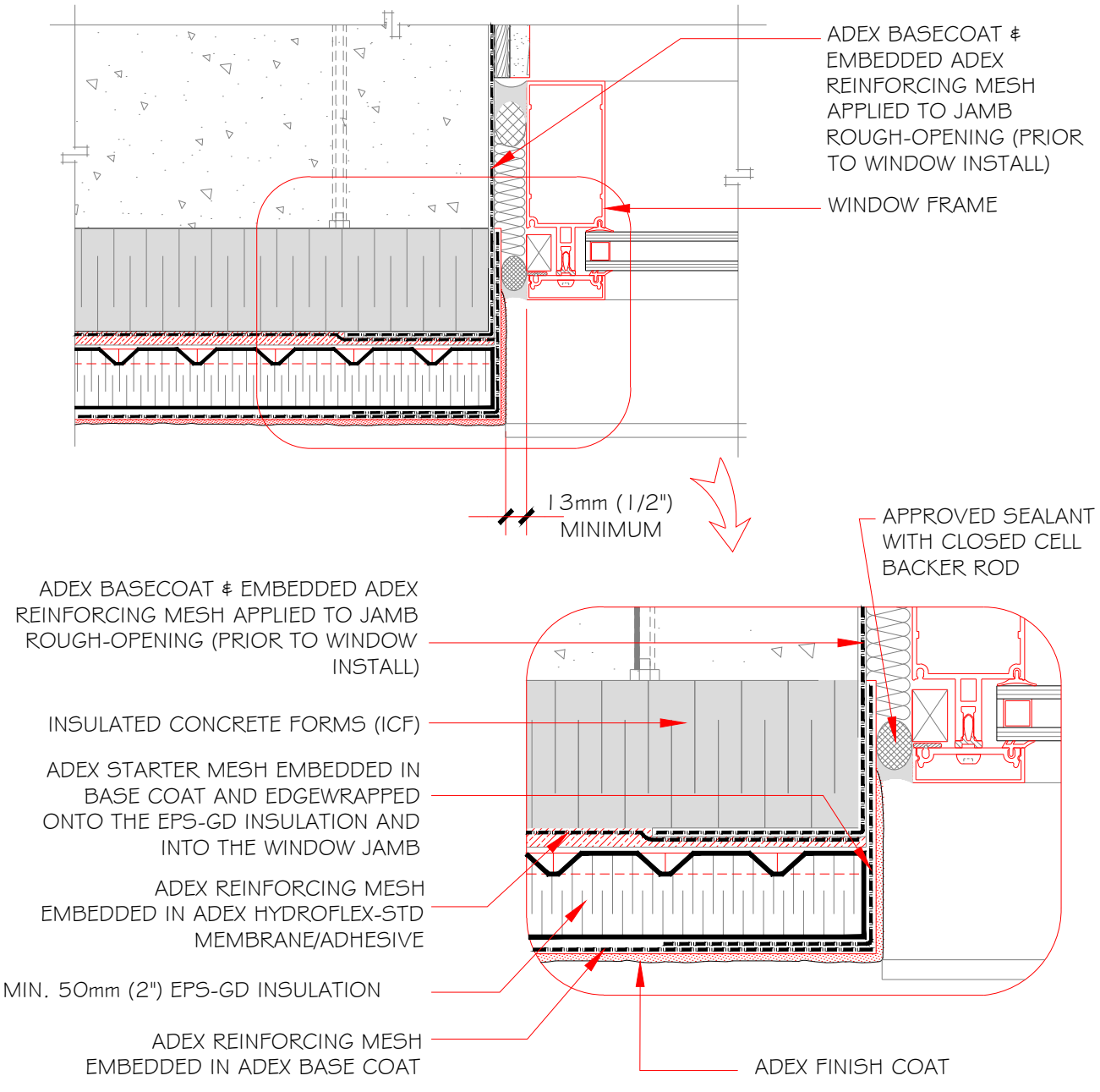
Window sill



DRAWINGS ARE NOT TO SCALE

System : adex-RS|ICF

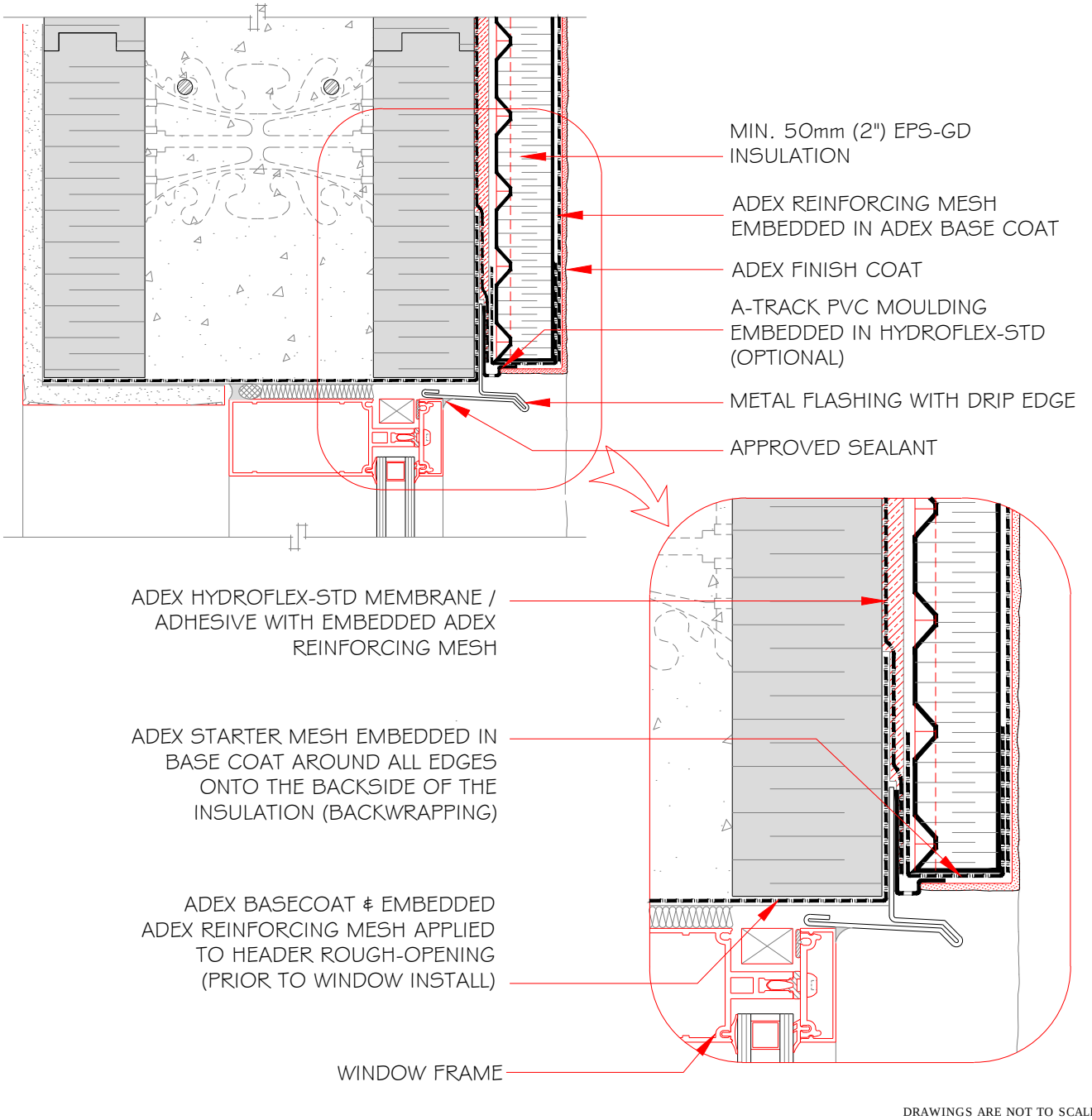
Window jamb



DRAWINGS ARE NOT TO SCALE

System : adex-RS|ICF

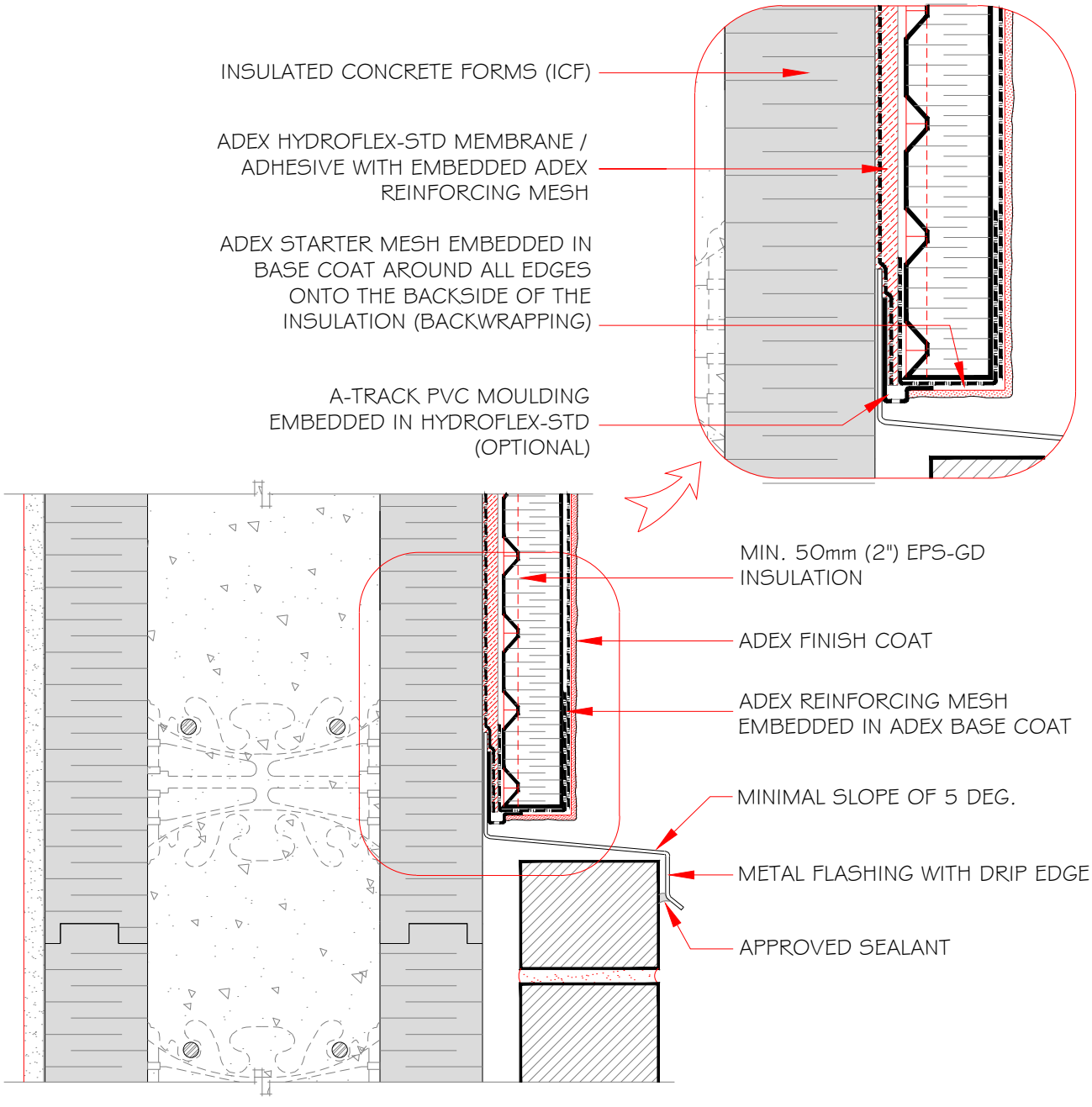
Window head



DRAWINGS ARE NOT TO SCALE

System : adex-RS|ICF

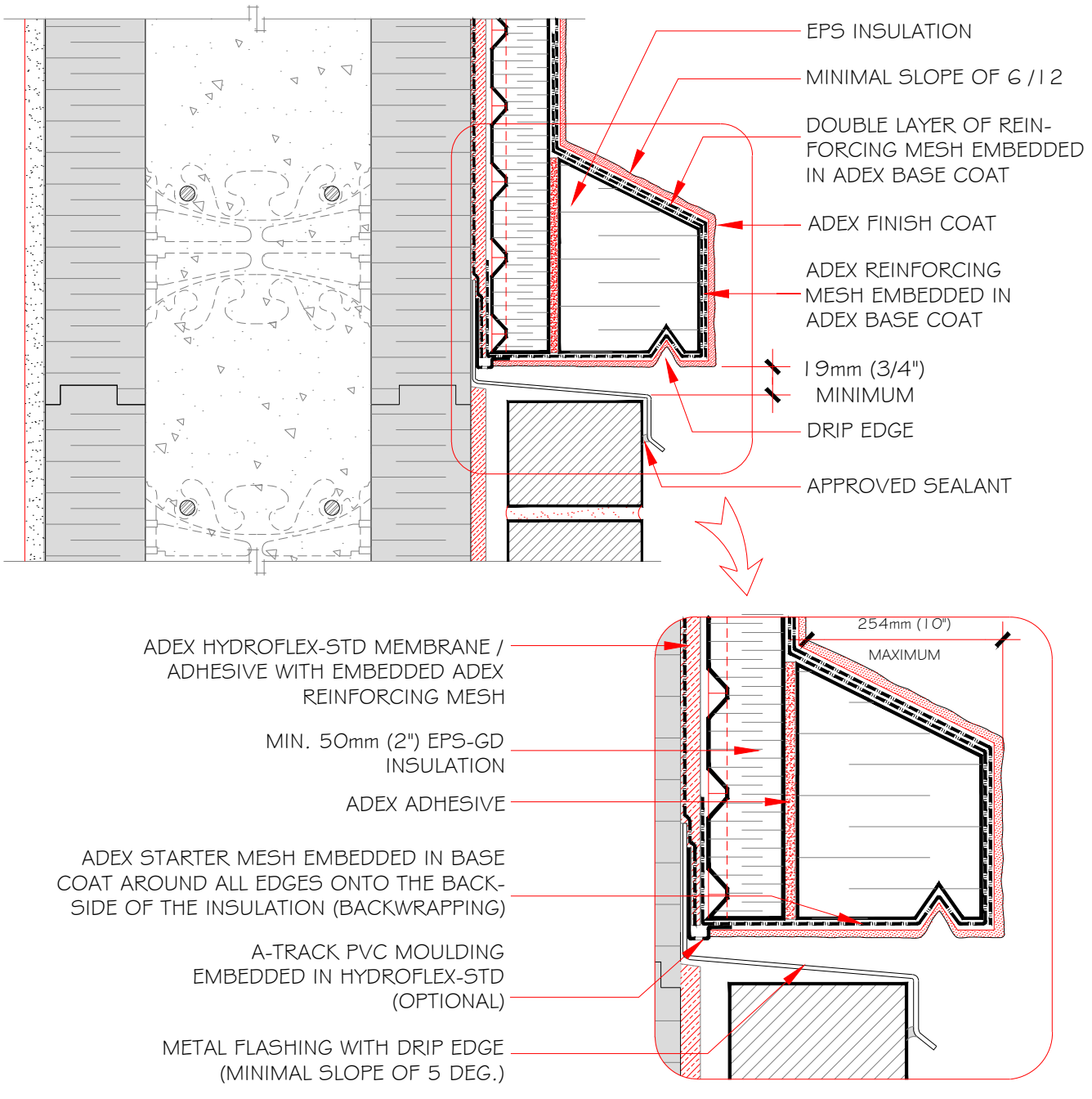
Horizontal junction



DRAWINGS ARE NOT TO SCALE

System : adex-RS|ICF

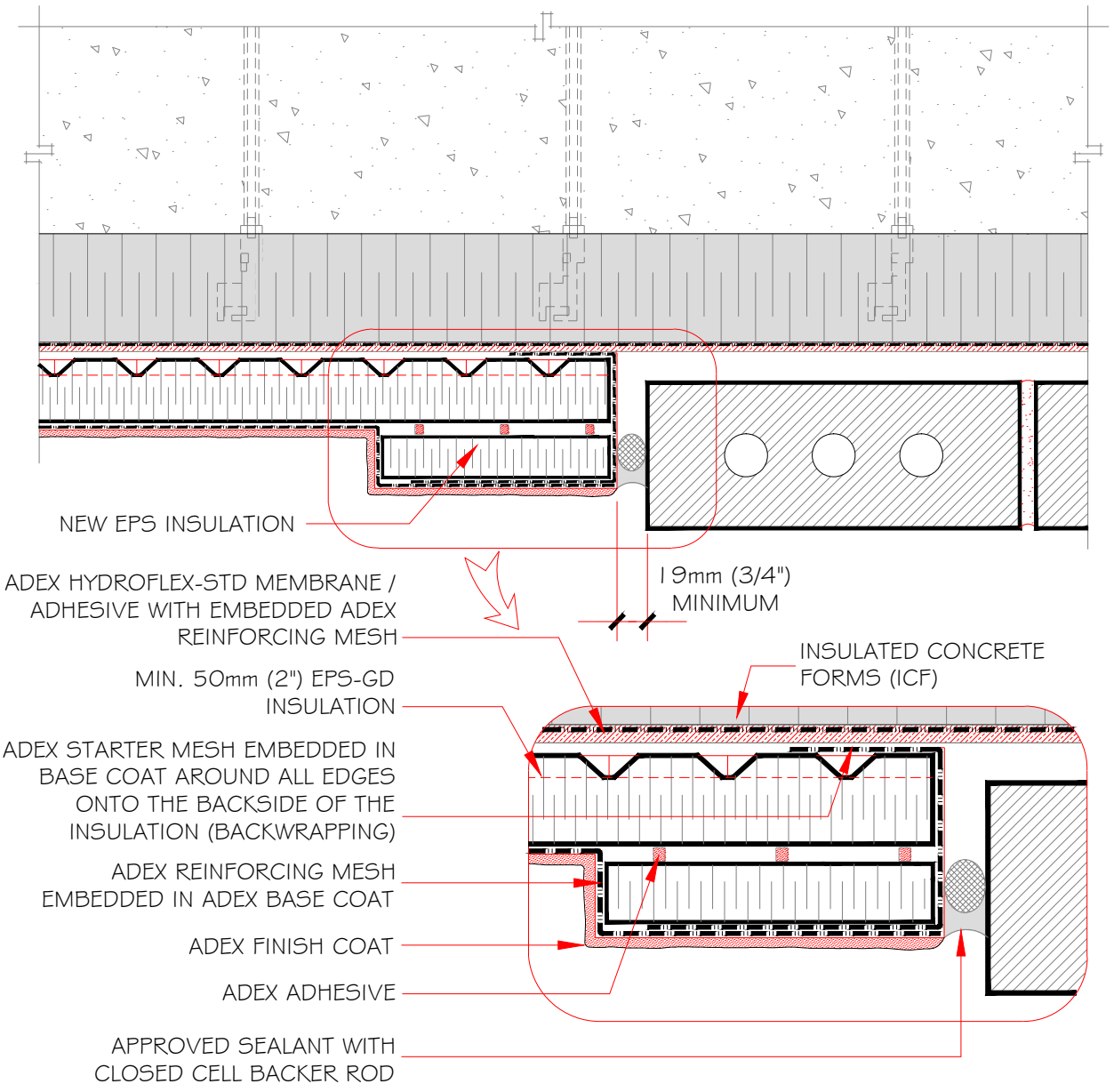
Horizontal junction (optional)



DRAWINGS ARE NOT TO SCALE

System : adex-RS|ICF

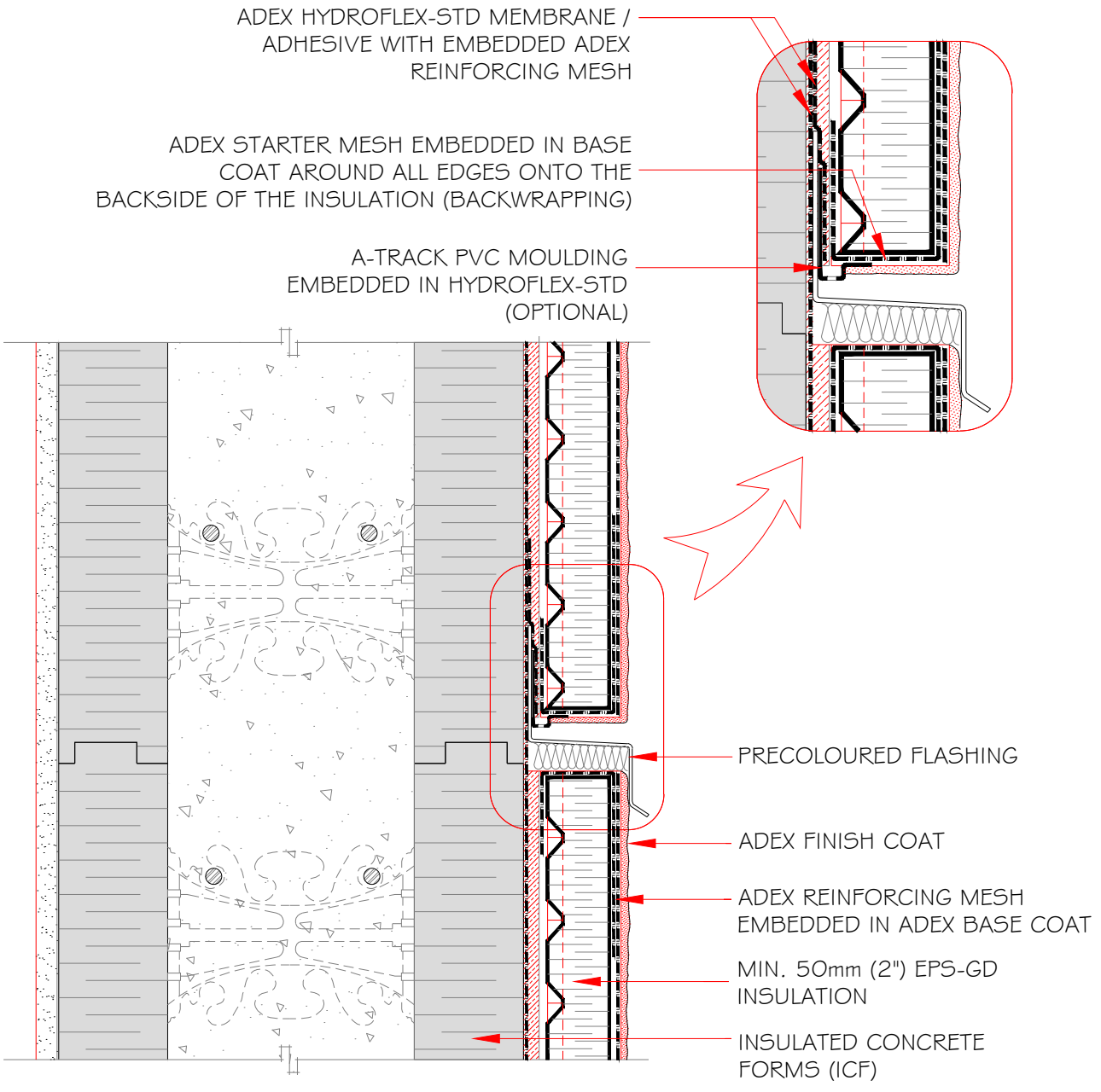
Vertical junction



DRAWINGS ARE NOT TO SCALE

System : adex-RS|ICF

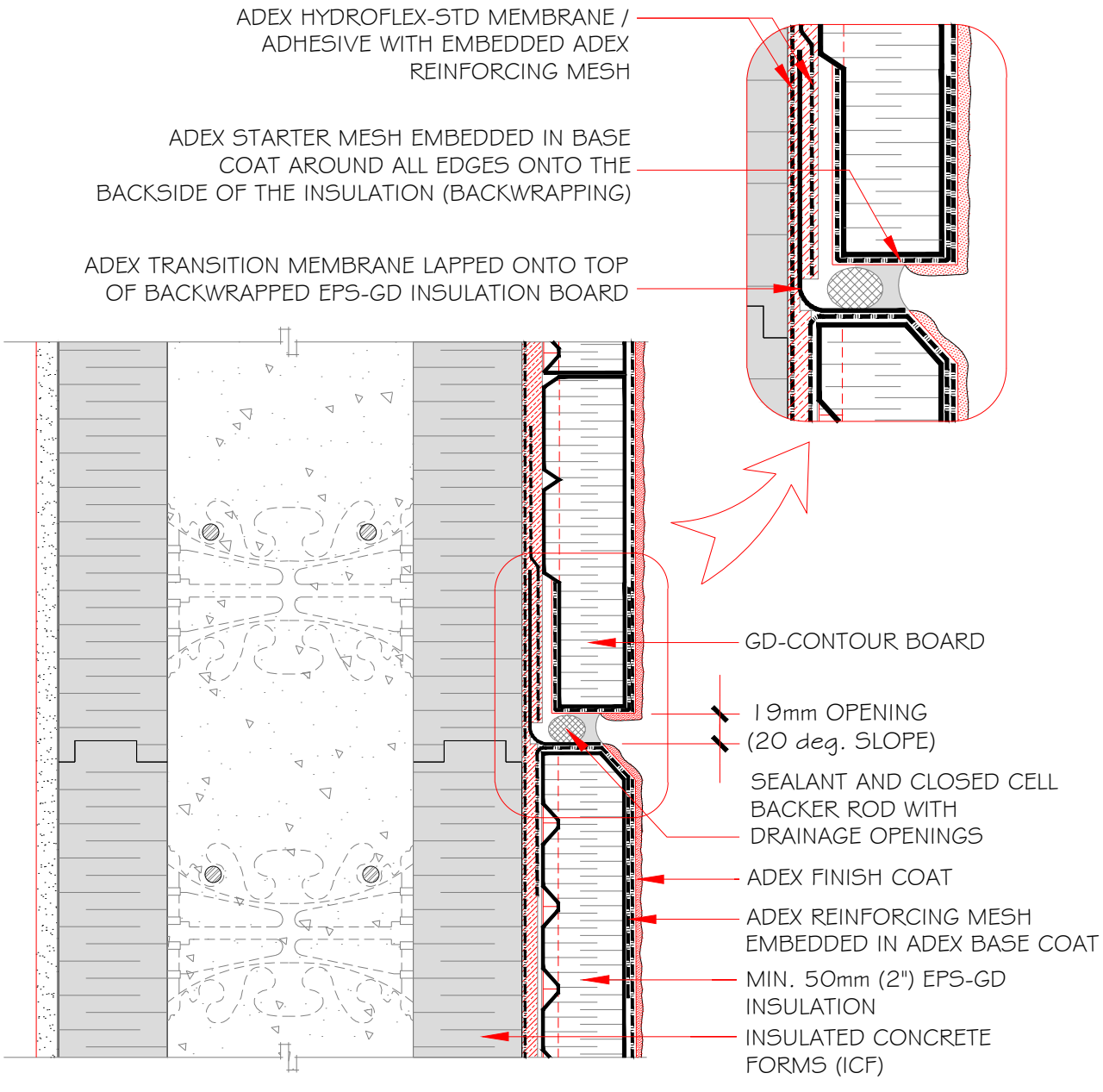
Horizontal Control Joint - Option 1



DRAWINGS ARE NOT TO SCALE

System : adex-RS|ICF

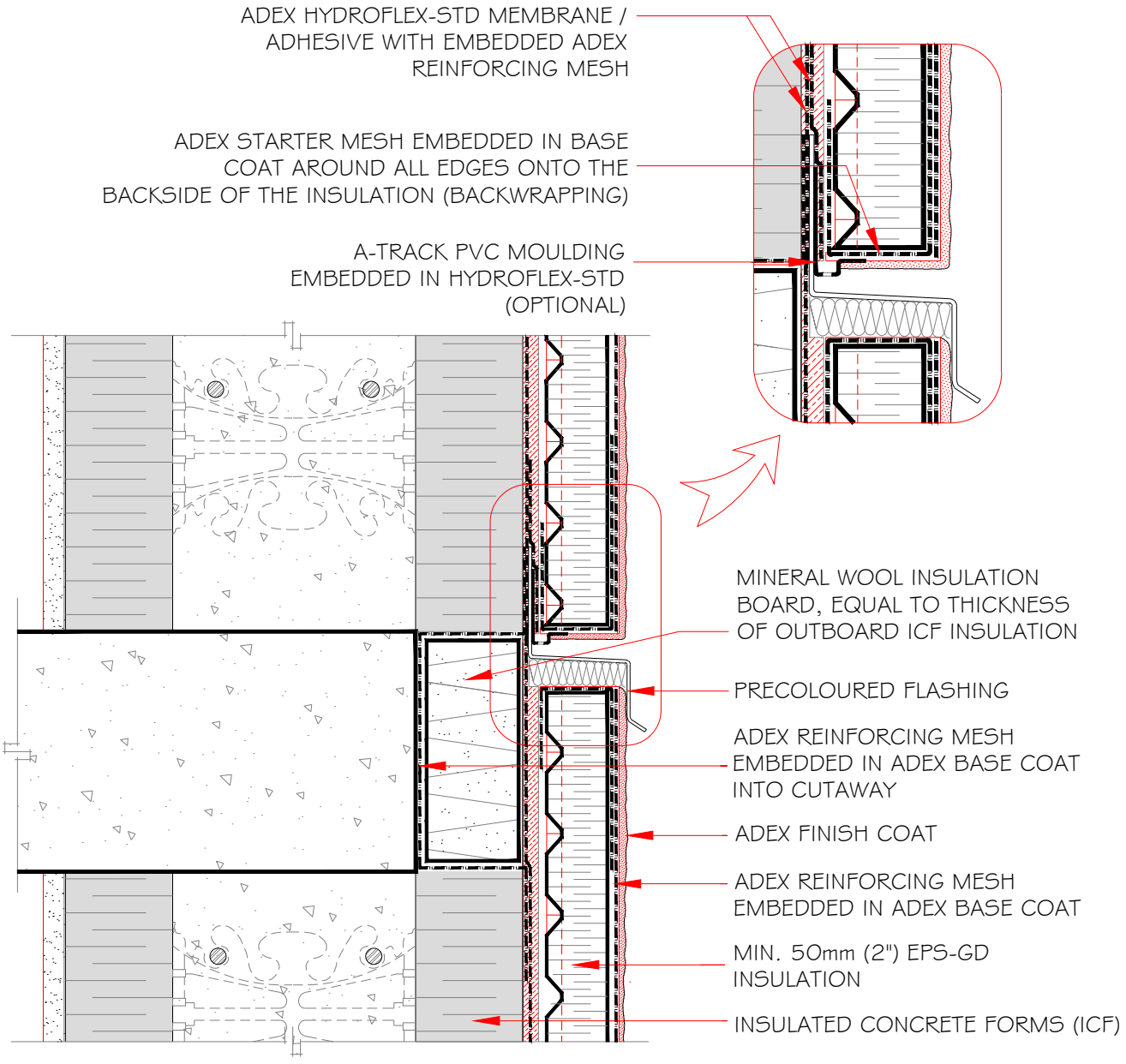
Horizontal Control Joint - Option 2



DRAWINGS ARE NOT TO SCALE

System : adex-RS|ICF

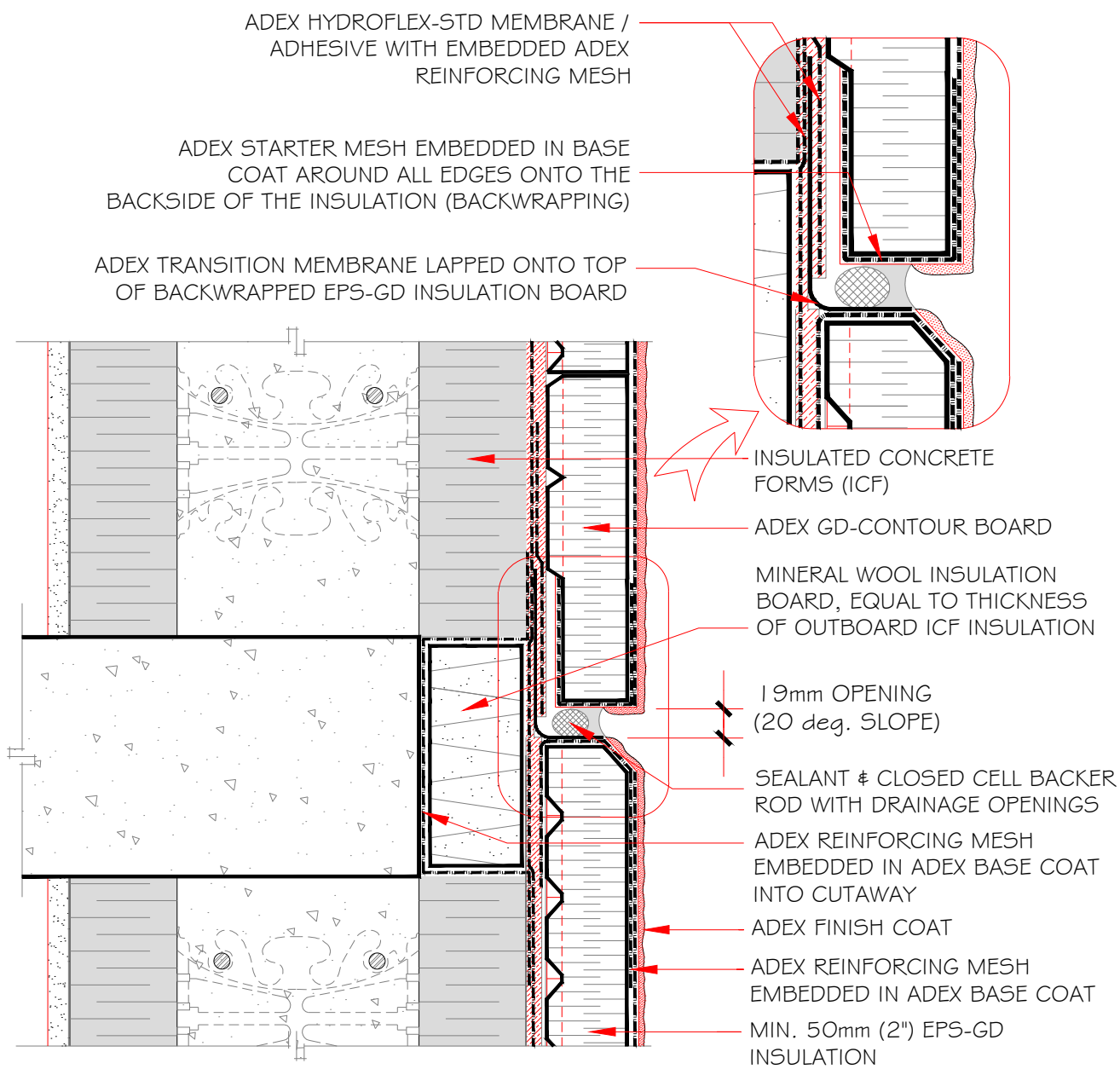
Horizontal Control Joint with Fire-break - Option 1



WHERE APPLICABLE, TO BE REVIEWED BY AUTHORITY HAVING JURISDICTION. DRAWINGS ARE NOT TO SCALE.

System : adex-RS|ICF

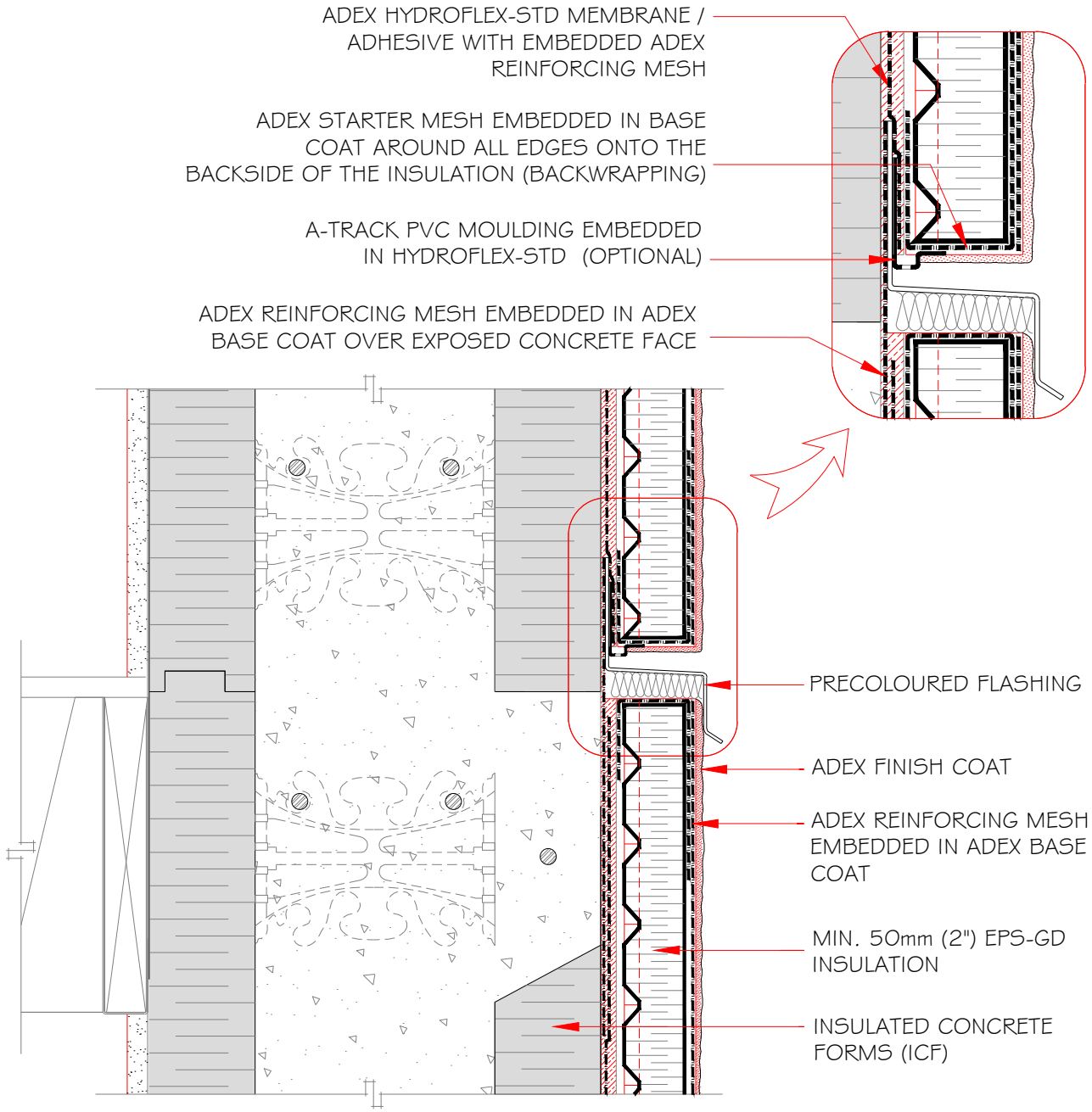
Horizontal Control Joint with Fire-break - Option 2



WHERE APPLICABLE, TO BE REVIEWED BY AUTHORITY HAVING JURISDICTION. DRAWINGS ARE NOT TO SCALE.

System : adex-RS|ICF

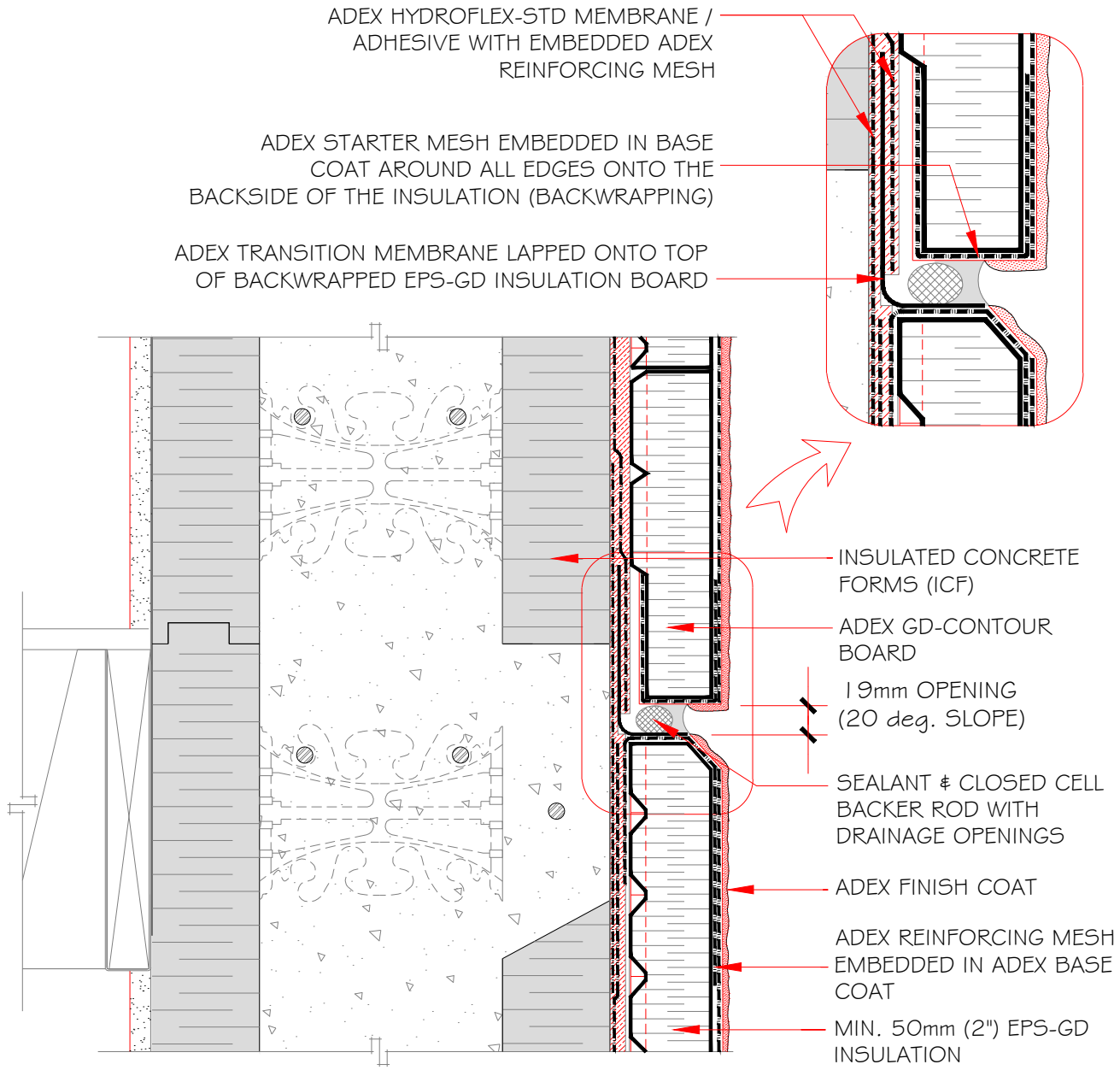
Horizontal Control Joint with Fire-break - Option 3



WHERE APPLICABLE, TO BE REVIEWED BY AUTHORITY HAVING JURISDICTION. DRAWINGS ARE NOT TO SCALE.

System : adex-RS|ICF

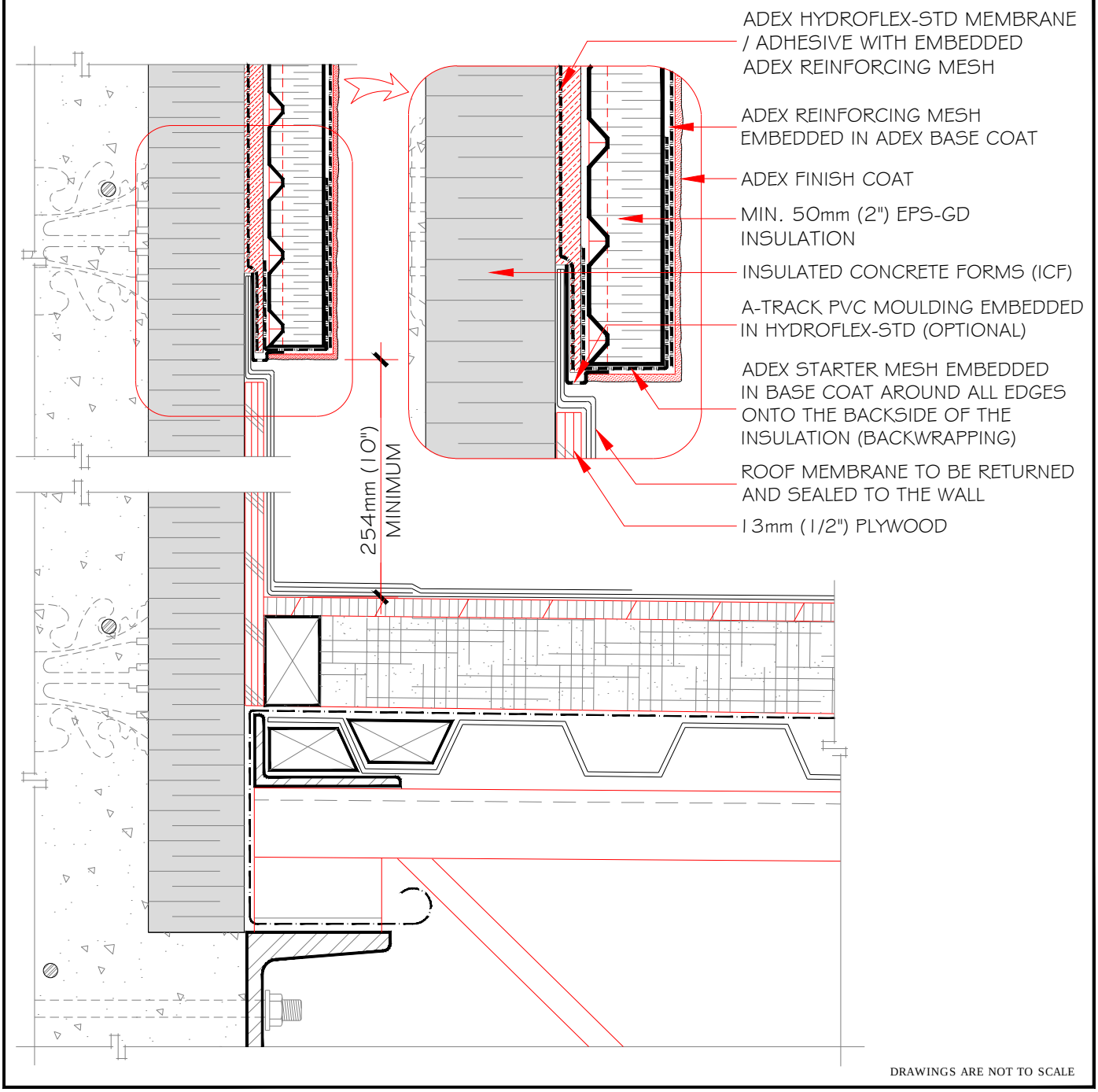
Horizontal Control Joint with Fire-break - Option 4



WHERE APPLICABLE, TO BE REVIEWED BY AUTHORITY HAVING JURISDICTION. DRAWINGS ARE NOT TO SCALE.

System : adex-RS|ICF

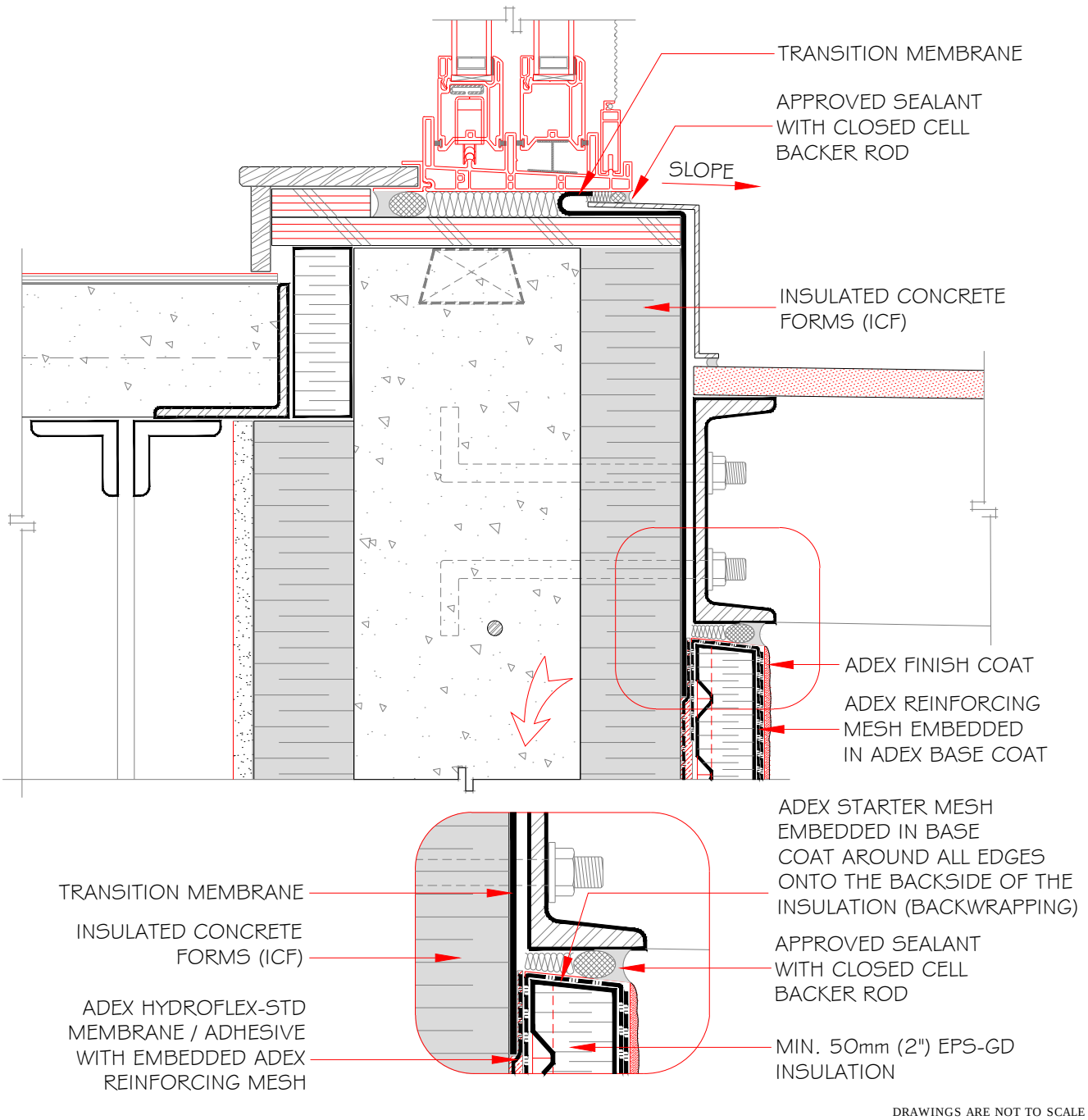
Wall/roof junction



DRAWINGS ARE NOT TO SCALE

System : adex-RS|ICF

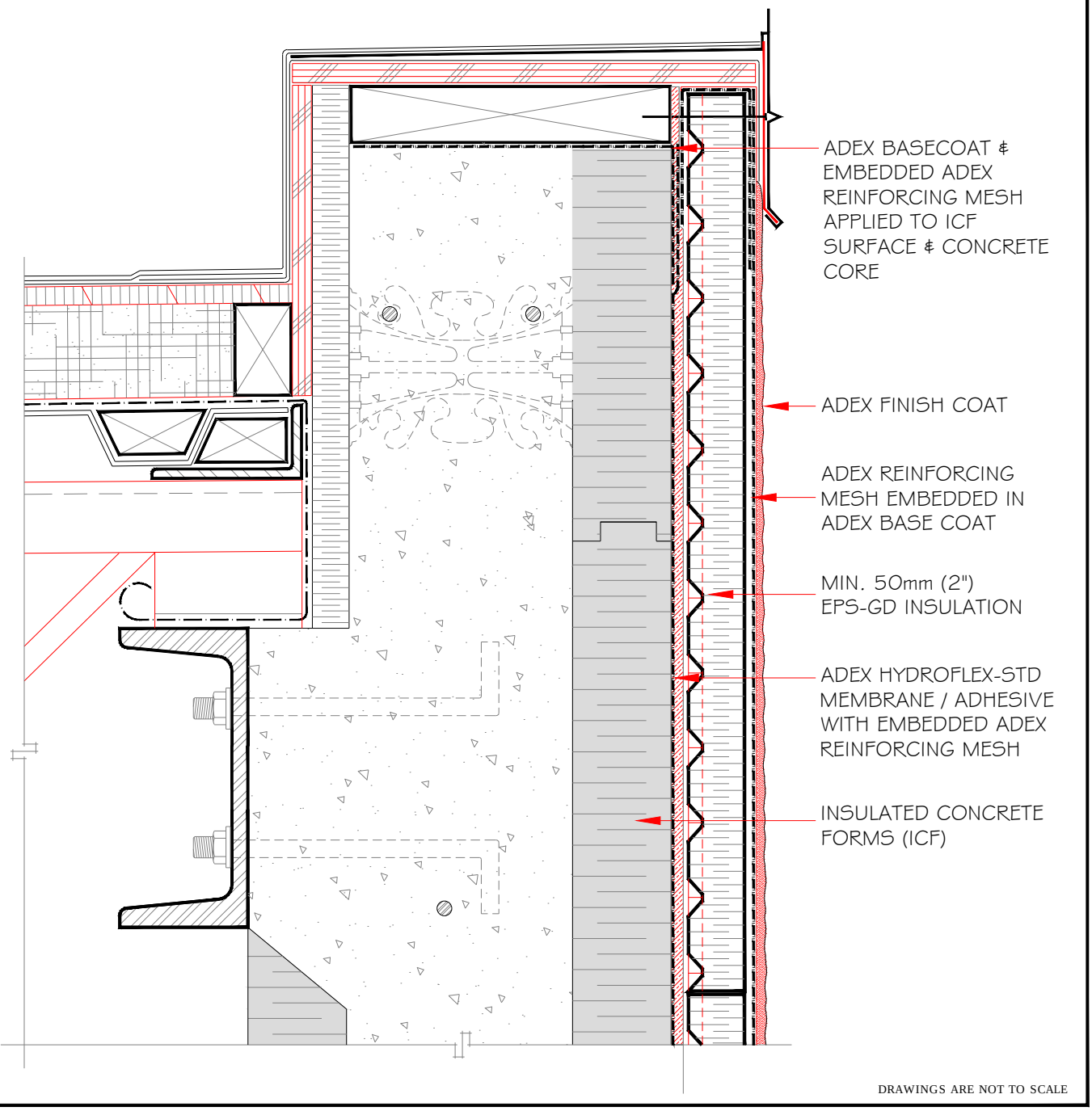
Balcony junction



DRAWINGS ARE NOT TO SCALE

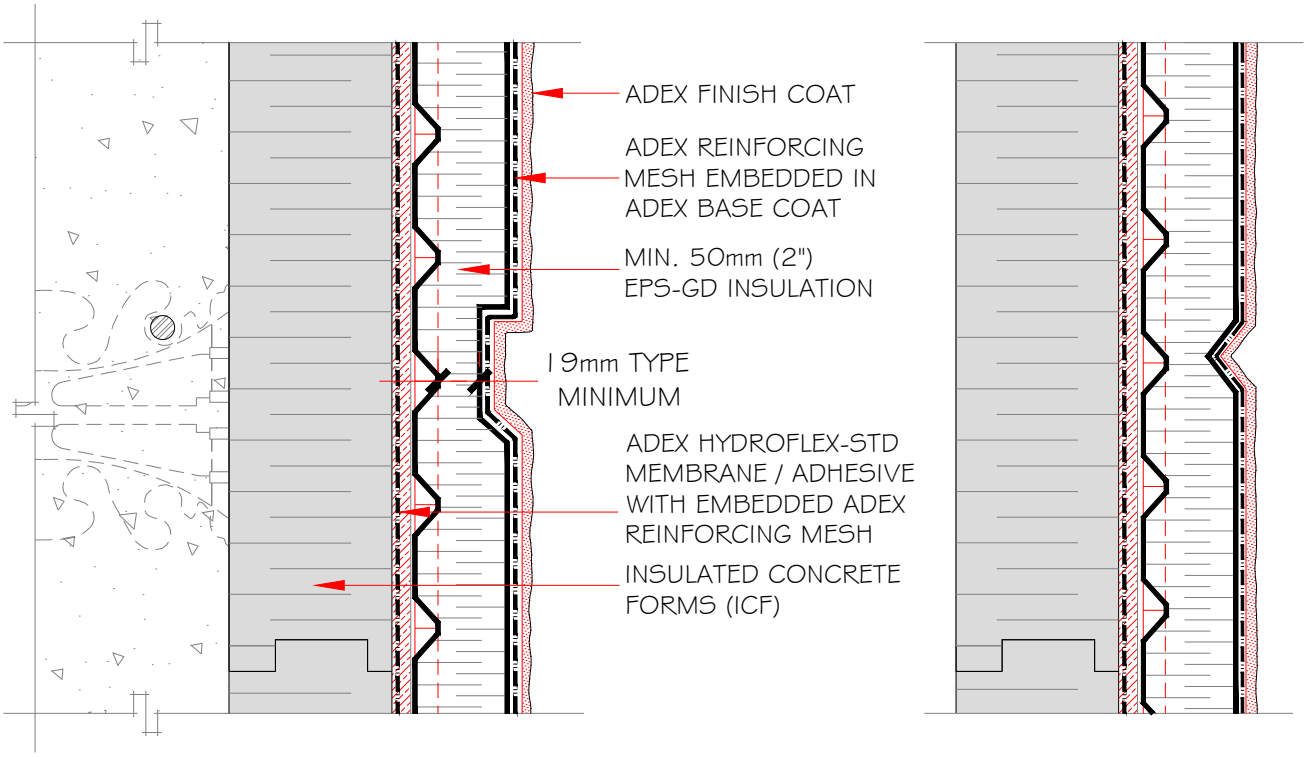
System : adex-RS|ICF

Parapet



System : adex-RS|ICF

Aesthetic joints

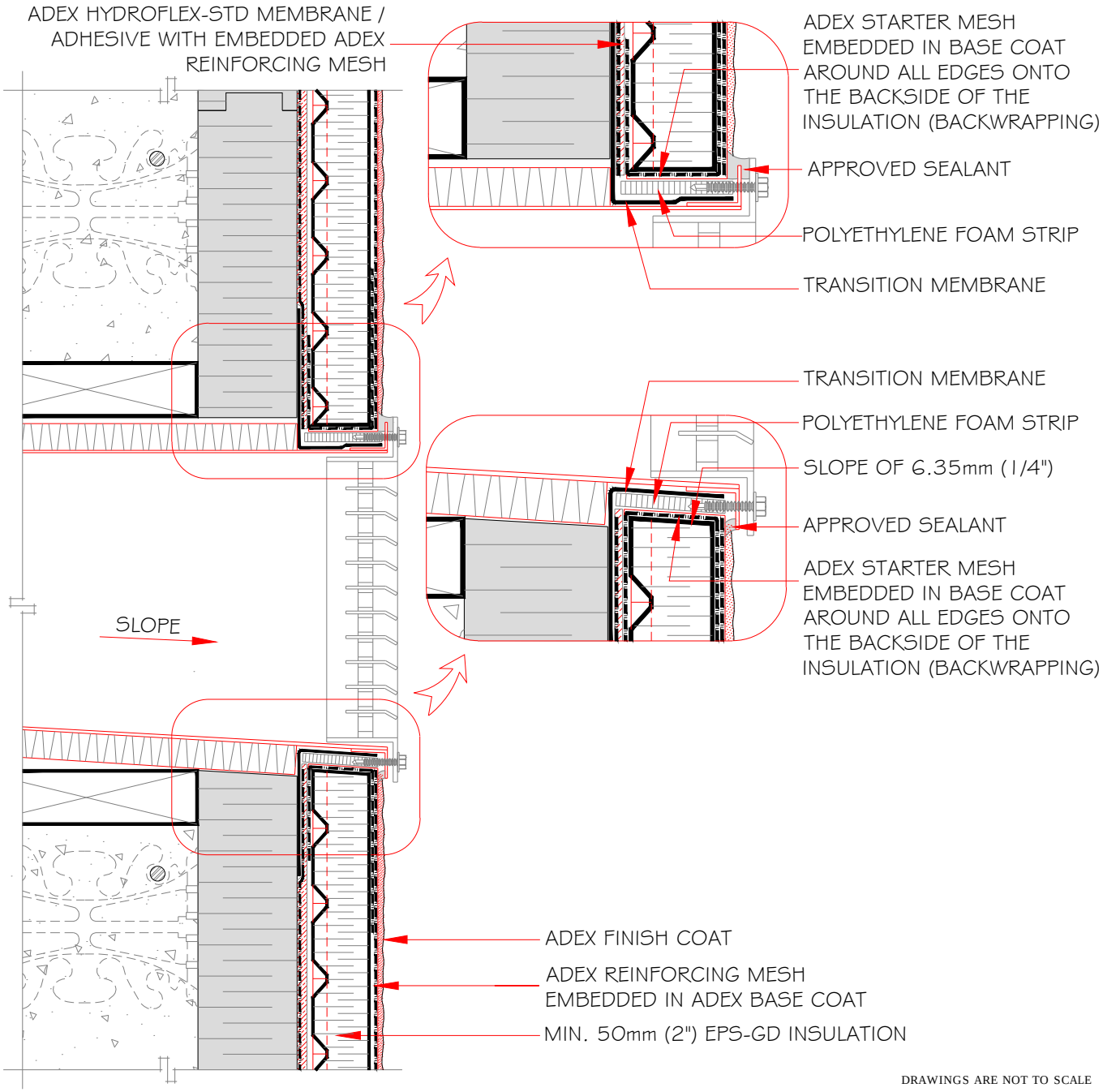


NOTE: AESTHETIC JOINTS SHALL NOT BE LOCATED AT THE CORNERS OF OPENINGS OR AT INSULATION PANEL JOINTS AND SHOULD ALWAYS ALLOW FOR WATER EVACUATION.

DRAWINGS ARE NOT TO SCALE

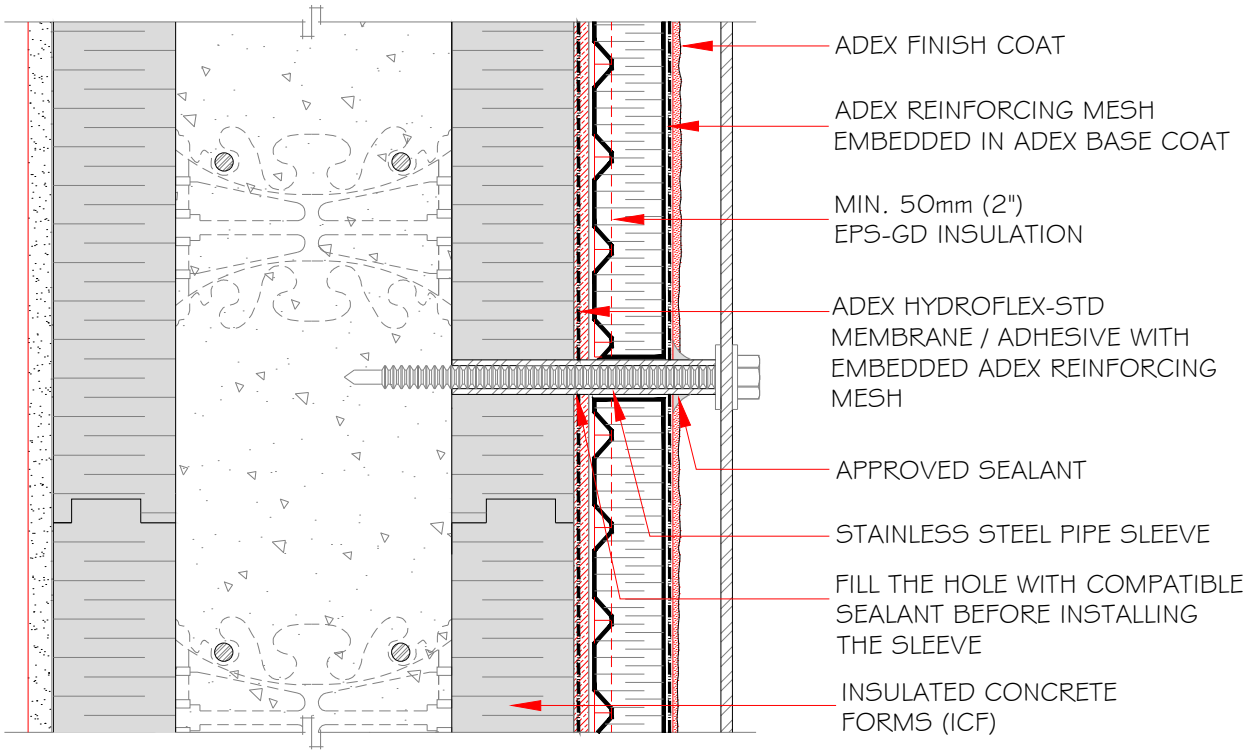
System : adex-RS|ICF

Wall penetrations



System : adex-RS|ICF

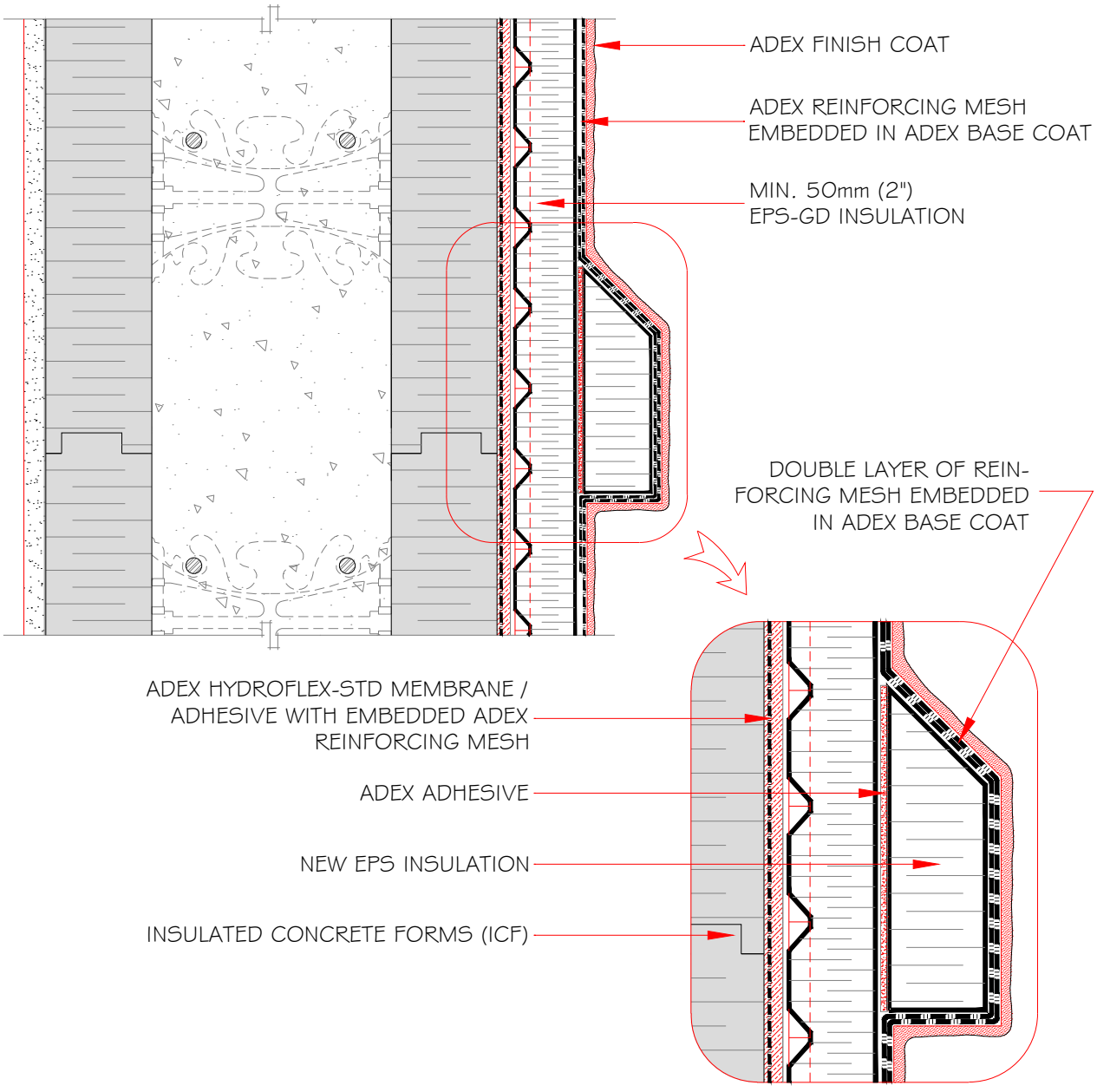
Accessories attachment



DRAWINGS ARE NOT TO SCALE

System : adex-RS|ICF

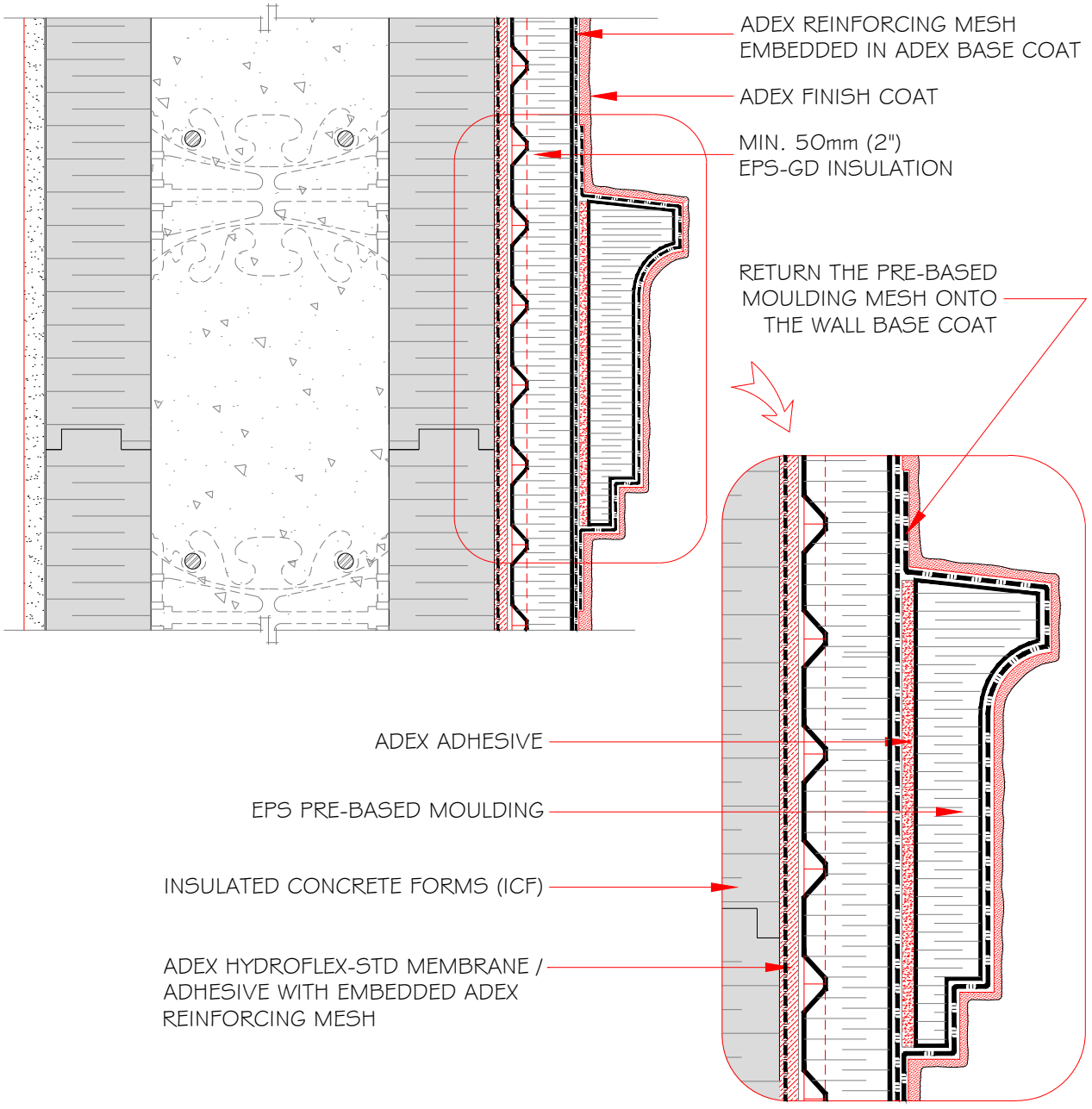
Decorative band



DRAWINGS ARE NOT TO SCALE

System : adex-RS|ICF

Pre-based moulding



DRAWINGS ARE NOT TO SCALE