

Guide Specification for DARMEX Systems Canada EIF (Basic Drainage – Adhesive) System 4

SPEC NOTES:

*Use this specification section when a comprehensive specification is required to specify the proprietary **EIF (Basic Drainage – Adhesive) System 4** by DARMEX Systems Canada.*

*The **DARMEX Systems Canada System 4** consists of an DARMEX Systems Canada approved weather barrier, adhesive fastened EPS insulation board / drainage cavity, base coat, reinforcing mesh, primer, finish coat and applicable accessories to form an energy efficient exterior wall designed to provide positive drainage for incidental moisture.*

For completion by the registered professional having responsibility for the project.

Review all requirements noted herein and carefully choose those that meet project requirements. Where a series of items are surrounded with [...] brackets the Specifier must select one and delete the remainder, including all boxed items, e.g. SPEC NOTES. Items surrounded with (...) brackets are additional information / comments that should be left in the specification.

*Adding or deleting items in this specification must be done with care and caution and with a complete and thorough understanding of what is required. The Specifier may consult with an **DARMEX Systems Canada** representative to assist reviewing the final specification for accuracy and compliance with DARMEX Systems Canada warranty requirements.*

PART 1 - GENERAL

1.1 Description:

- .1 Section Includes: All labour, materials, tools and other equipment, services and supervision required to complete the installation of the adhesive attached **EIF System 4** by DARMEX Systems Canada to locations indicated on drawings and in accordance with this specification and details by DARMEX Systems Canada.
- .2 Work under this Contract shall also include, but not necessarily be limited to the supply and/or installation of the following:

SPEC NOTE: *Review DARMEX Systems Canada technical literature for component requirements.*

- a Weather barrier (joint tape and coating, barrier coating).
 - b EPS insulation board and adhesive strip cavity.
 - c System base coat, reinforcing mesh, primer and finish coat.
 - d System control and expansion joints.
 - e System flashings, trims and accessories.
 - f System caulking and sealant.
- .3 Unless otherwise noted, the following work or conditions are not included under this Section of work and are supplied and/or installed by others:
 - a Substrates and correction of defects and deficiencies in substrates, which may adversely affect specified work, including small crack repair and patching.
 - b Cleaning substrate surface in preparation for acceptance of weather barrier.
 - c Painting of non-coloured finish coat (if applicable).

1.2 Related Sections:

SPEC NOTE: Delete, revise or add to the example selections noted below to suit project requirements. Include such items as windows, louvers and other penetrations within **EIF System 4**.

- .1 Refer to the following Sections for related work:
 - .a Section 03 30 00 - Cast-in-place concrete (surface for applied EIF System).
 - .b Section 04 22 00 - Concrete masonry (surface for applied EIF System).
 - .c Section 06 10 00 - Rough carpentry (sheathing / surface for applied EIF System).
 - .d Section 07 60 00 - Flashing and sheet metal.
 - .e Section 07 92 00 - Caulking and sealants.
 - .f Section 09 20 00 – Plaster and Gypsum Board.
 - .g Section 09 91 00 - Painting (of finish coat where noted).

1.3 Reference Standards:

- .1 The latest edition (at time of Bidding) of the following 'Reference Standards' shall govern all work:

SPEC NOTE: Carefully select applicable references and standards to suit project. Warranties will not apply unless these code standards are applied.

- .a [Local Building Code applicable to project site] [National Building Code of Canada] [[B.C.] [Alberta] Building Code] [Vancouver Building By-Law].
- .b Workers' Compensation Board (WCB) Industrial Health and Safety Regulations.
- .c Association of Wall and Ceiling Contractors (AWCC) Specification Manual.
- .d British Columbia Wall and Ceiling Association (BCWCA) Stucco Resource Guide.
- .e Alberta Wall and Ceiling Association (AWCA) Stucco Resource Guide.
- .f North West Wall and Ceiling Bureau (NWCB) Stucco Resource Guide.
- .g Canadian Standards Association (CSA) standards:
 - CAN/CSA A23.1-00, Concrete Materials and Methods of Concrete Construction.
 - CSA-B111-1974 (R1998), Wire Nails, Spikes and Staples.
- .h Underwriter's Laboratory of Canada (ULC) standards:
 - ULC ORD-C263.5-1999, Exterior Insulation and Finish Systems (EIFS).
 - CAN/ULC-S101-1989, Fire Endurance Tests of Building Construction and Materials.
 - CAN/ULC-S102-1988 (R2000), Surface Burning Characteristics of Building Materials and Assemblies.
 - CAN/ULC-S701-01, Thermal Insulation, Polystyrene, Boards and Pipe Covering.
 - CAN/ULC-S770-2000, Determination of Long-Term Thermal Resistance of Closed-Cell Thermal Insulating Foams.
- .i Association Society for Testing and Materials (ASTM):
 - ASTM C1481-00 Standard Guide for Use of Joint Sealants with Exterior Insulation and Finish Systems (EIFS).
 - ASTM C1382-97, Test Method for Determining Tensile Adhesion Properties of Sealants When Used in Exterior Insulation Finish System (EIFS) Joints.
 - ASTM E2110-00 Standard Terminology for Exterior Insulation and Finish Systems (EIFS).
 - ASTM E2098-00 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.
 - ASTM E2134-01 Standard Test Method for Evaluating the Tensile Adhesion Performance of an Exterior Insulation and Finish System (EIFS).

1.4 Quality Assurance:

- .1 Only applicators certified by and acceptable to DARMEX Systems Canada shall be engaged in this work, with certification to be in place prior to Bidding the work. Apprentices may be employed provided they work under the direct supervision of certified journeyman applicators.
- .2 All **EIF System 4** materials shall be manufactured or pre-approved by DARMEX Systems Canada.
- .3 **EIF System 4** preparation, detailing and application shall be in strict accordance with latest DARMEX Systems Canada specification and detail requirements.
- .4 Site inspections must be performed routinely as required by a qualified designated professional. All concerns that arise must be communicated and fully corrected without delay.

1.5 Regulatory Requirements:

- .1 All **EIF System 4** materials and assembly shall meet the approval requirements of local (Code) authorities having jurisdiction and be acceptable to the professional building envelope consultant having responsibility.
- .2 Conform to applicable Reference Standards noted for all **EIF System 4** materials and assembly.
- .3 Conform to WCB safety regulations and precautions and those of local authorities having jurisdiction in regard to the handling, storage, mixing, application and disposal of all **EIF System 4** related materials.

1.6 Submittals:

- .1 Submit manufacturer's product technical literature, specifications and recommendations for review.
- .2 Submit texture and colour samples as noted for review and/or selection.
- .3 Submit two sets of Material Safety Data Sheets (MSDS) prior to commencement of work for review and for posting at job site as required.

1.7 Samples and Mock-Ups:

- .1 When requested, provide two (2) minimum 203 mm (8") square samples of each **EIF System 4** finish coat texture and colour specified on acceptable assemblies / surfaces or acceptable facsimiles using same tools and techniques to be used in actual installation for review and approval. When approved, samples shall become acceptable standard of quality for appropriate on-site surface with one of each sample retained on-site and the other at the Consultant's office.
- .2 When requested, prepare a designated surface area (in each texture / colour scheme) to requirements specified herein, with specified system showing workmanship for review and approval. When approved, surface area shall become acceptable standard of finish quality and workmanship for similar on-site work.

1.8 Delivery, Storage and Handling:

SPEC NOTE: *General Contractor to provide suitable site for delivery, storage and handling of materials as well as a suitable site for mixing of components.*

- .1 Deliver all packaged / manufactured EIF System materials in original sealed and labelled containers.
- .2 Keep materials dry, off the ground, under cover, free from exposure, dampness and freezing and in accordance with DARMEX Systems Canada's written requirements.
- .3 Remove any wet or deteriorated materials unsatisfactory for installation from the site.

1.9 Project / Site Requirements:

- .1 UNLESS specifically pre-approved by the specifying body and DARMEX Systems Canada, perform no work when the ambient air and substrate temperatures are below 4°C (39°F) or above 38°C (100°F) for a minimum of 24 hours before, during and after application of **EIF System 4** materials.
- .2 Do not use frozen **EIF System 4** materials (weather barrier, adhesive, base and finish coats) or apply same to frozen surfaces or surfaces containing frost.
- .3 In addition, protect all **EIF System 4** materials, substrate and applied components from contaminants, freezing temperatures, high humidity, uneven and excessive evaporation during hot, dry or windy weather, rain or water splash and other weather for a period of 48 hours before and after installation.
- .4 Provide adequate protection (tenting) and heating if there will be a projected drop below noted temperatures or from wind / heat and evaporation and maintain in place until materials are adequately cured to ensure full performance of the **EIF System 4**.
- .5 Apply **EIF System 4** materials to clean and prepared surfaces free from dust, dirt or other deleterious substances.
- .6 Take necessary care to identify and protect adjacent surfaces from damage from **EIF System 4** application and promptly remove all droppings.
- .7 Report any unsatisfactory conditions in writing to the Consultant. Commencement of work shall imply acceptance of surfaces or conditions.

1.10 Cooperation:

- .1 Cooperate with other trades to identify all areas of conflict or requirements for preparatory and installation of **EIF System 4**.
- .2 The parapets of all **EIF System 4** finished walls must be immediately protected to prevent water infiltration behind the system during application by suitable means and after completion with cap flashing provided by others.

1.11 Warranty:

- .1 When specified materials are provided and installed in strict accordance with DARMEX Systems Canada **EIF System 4** requirements by an DARMEX Systems Canada certified applicator a written ten (10) year extended limited material defect warranty will be provided by DARMEX Systems Canada.

PART 2 - PRODUCTS

2.1 General:

- .2 All materials and components shall meet DARMEX Systems Canada **EIF System 4** requirements. All products shall be obtained from DARMEX Systems Canada, as manufacturer, or its approved supplier or distributor. Any substitution shall be pre-approved by the manufacturer in writing.
- .3 All other related trim accessories, including flashings, and expansion and control joints, shall meet applicable Reference Standards and DARMEX Systems Canada **EIF System 4** requirements as well as those of local authorities having jurisdiction.

2.2 Substrate/ Substrate Systems:

- .1 All substrates shall be engineered and manufactured by corporations other than DARMEX Systems Canada.
- .2 Prior to the application of **System 4** the plain must not exceed ± 3.2 mm ($\frac{1}{8}$ ") in a 1.2 mm ($\frac{1}{16}$ ") radius.
- .3 The contractor will be responsible in determining that the type and condition of the substrate meets DARMEX Systems Canada's requirements prior to applying **System 4**.
- .4 Recommended substrates below. For substrates other than our recommended list please contact DARMEX Systems Canada.
 - .a Weather-resistant glass mat faced gypsum sheathing.
 - .b Weather-resistant exterior cement board.
 - .c Poured-in-place concrete, cleaned and free of contaminants.
 - .d Exterior grade gypsum sheathing (Not recommended and only to be used where the registered professional having authority for the project has selected exterior gypsum and where minimum exposure to weather is expected. i.e. – soffits, covered loading docks, etc.).
 - .e Unit masonry (contact DARMEX Systems Canada for proper application).
 - .f Exterior grade plywood: Moisture content must not exceed 19% (according to the National Building Code of Canada 2005) code prior to application of weather resistant membrane.
 - .g Insulated Concrete Form (ICF) System.

2.3 Weather Resistant & Vapour/Air Barrier Materials:

- .1 Weather Barrier Joint Tape: minimum 2.1 oz/yd² reinforced spun-bonded non-woven polyester fabric tape in widths to suit DARMEX Systems Canada application requirements. - DARMEX Systems Canada Protec Tape 4" x 180'.
- .2 Weather Barrier Joint Coating: trowel applied weather resistive pre-mixed polymer based non-cementitious flexible coating.
- DARMEX Systems Canada Protec-J coating.

- .3 Weather Barrier Coating: spray-applied or roll-on weather resistive pre-mixed polymer based non-cementitious flexible coating.
 - DARMEX Systems Canada Protec-C coating.
- .4 Vapour and Air Barrier: polymer-based fibre-reinforced product when mixed 1 to 1 by weight with portland cement forms a coating that is a barrier to moisture and air infiltration.
 - DARMEX Systems Canada PolyShield.
- .5 Starter Strip / Weep Screed: extruded rigid UV resistant PVC base strip complete with perforated vertical flange and weep holes in bottom track.
 - Uni-track by Wind-lock Corporation.
 - DARMEX Systems Canada Perforated Aluminum Track
- .6 Metal Flashings: minimum 26 gauge pre-finished galvanized steel or aluminum (as noted), colour as selected by the Consultant. Flashings to be installed over window heads, doors, parapets and other penetrations or terminations and at floor lines. Flashings details shall be in accordance with DARMEX Systems Canada **EIF System 4** detail requirements to fit building design, with sloping sills and drip edges.

Aluminum flashing, if used, shall be separated from **EIF System 4** base and finish coats by an impervious membrane or coating.
- .7 Sealants: non-hardening low modulus exterior type as recommended by DARMEX Systems Canada to suit **EIF System 4** requirements and in accordance with Section 07900 requirements. Sealant shall be compatible with system base coat.
- .8 Sealant Backer Rod: to ASTM D1056 and D1565, closed cell flexible rod, oversized minimum of 30% and compatible with and as recommended by sealant manufacturer.

2.4 Insulation Materials:

SPEC NOTE: Modify to suit project in strict accordance with DARMEX **EIF System 4** requirements.

- .1 Insulation: Type 1 expanded polystyrene foam sheets (EPS) to CAN/ULC-S701-01 with a minimum density of 1 lb/ft³, minimum compressive strength of 70 kPa (10 psi), maximum water absorption of 4% in accordance with ASTM D2842, maximum flame spread rating of 25 and a maximum smoke developed rating of 450 when tested in accordance with CAN4/ULC-S102, Class A and a minimum five (5) year "aged" thermal resistance value of RSI 0.67 (R 3.85) per 25 mm (1"), with thickness as indicated on project drawings.

Insulation shall be manufactured under a third party inspection program approved by DARMEX Systems Canada.
- .2 Insulation Adhesive: to suit substrate requirements and as recommended by IDARMEX Systems Canada.
 - .a DARMEX Systems Canada Polybase-Dry: premixed polymer modified portland cement.
 - .b DARMEX Systems Canada Polybase-Wet: site mixed polymer based acrylic and Type 10 portland cement
 - .c DARMEX Systems Canada Polybase-Dry NC: premixed non-combustible polymer modified portland cement.
 - .d DARMEX Systems Canada Jade Bond: polymer based, non-cementitious adhesive mixture for bonding cornices, quoins, etc. to approved substrates.

2.5 Fasteners:

- .1 All fasteners shall meet Reference Standard requirements noted and be selected to suit material fastened and substrate condition and shall bear tight against attachment item and penetrate into wood or steel framing members through sheathing.
- .2 Insulation Fasteners: DARMEX Systems Canada approved corrosion resistant (hot dipped galvanized steel, stainless steel) screws to ASTM C646 complete with plastic disc washer for insulation of sufficient length to penetrate insulation and sheathing into stud framing.
- .3 Other Fasteners: to [CSA B111-1974] [FS FF-N-105] for staples and nails and ASTM C646 for screws, of suitable corrosion resistant material (hot dipped galvanized steel or stainless steel) compatible with material being secured and of lengths required to penetrate substrate.
 - .a Nails: 11 mm ($\frac{7}{16}$ ") flat head 11 gauge roofing nails.
 - .b Screws: 76 mm (3") x No 8 Wafer Head screws, self-tapping, plated Grabber Item 3163 Z or equivalent.
 - .c Staples: of length to fix sheathing paper securely to sheathing material.

2.6 Accessories:

SPEC NOTE: *Select appropriate accessories and trim materials to meet project requirements (i.e., delete those not applicable).*

- .1 Provide accessories and/or trim where and as detailed on drawings and as required to complete the work in accordance with DARMEX Systems Canada **EIF System 4** requirements, best trade practices and to Reference Standards noted.
- .2 Provide accessories fabricated from hot dipped galvanized steel, zinc alloy, extruded exterior grade PVC or aluminum of types and of materials pre-approved by the design authority and DARMEX Systems Canada Use pre-finished materials where required or noted.
- .3 Use only PVC or zinc alloy accessories in areas where exposure to corrosive elements or salt is a concern.
- .4 Provide accessories complete with a nailing flange and an embedment flange to key into base coat with depth of accessory dependent on the required thickness of base coat, without the finish coat if required by DARMEX Systems Canada **EIF System 4** detail requirements.
- .5 Expansion and Control Joints: proprietary system pre-approved by to suit project requirements and DARMEX Systems Canada **EIF System 4** detail requirements complete with pre-fabricated corners and interface joint assemblies.

2.7 Base and Finish Coat Materials:

- .1 Water: potable, clean and free from injurious amounts of oil, acid, alkali, organic matter or other deleterious substances.
- .2 Cement: Type 10 or 20 portland cement to CSA A5-98.
- .3 Base Coat: pre-manufactured proprietary polymer modified portland cement or polymer based acrylic mixture and portland cement.

SPEC NOTE: *Select appropriate base coat material in consultation with IDARMEX Systems Canada.*

- .a DARMEX Systems Canada Polybase-Dry: premixed polymer modified portland cement.
 - .b DARMEX Systems Canada Polybase-Wet: polymer based acrylic mixture site mixed with Type 10 portland cement.
- .4 Reinforcing Fabric: balanced open weave fibreglass mesh, alkali resistant / treated for compatibility with other system materials x minimum 965 mm (38") wide or 241 mm (9½") wide for detail mesh.

SPEC NOTE: *Select appropriate reinforcing fabrics in consultation with DARMEX Meshes will be identifiable by colour.*

- .a Regular / Standard Mesh: 4.5 oz / yd².
 - Regular Mesh 38" x 150' by DARMEX Systems Canada.
 - .b Detail Mesh: 4.5 oz / yd² (detail) and 4.5 oz / yd² (self-adhesive).
 - Detail Mesh 9.5" X 150' by DARMEX Systems Canada.
 - Self-Adhesive Mesh 4" x 150' by DARMEX Systems Canada.
 - Wide Self-Adhesive Mesh 38" x 150' by DARMEX Systems Canada.
 - .c High Impact Resistance Mesh: minimum 15 oz / yd².
 - Armour Mesh 38" x 75' by DARMEX Systems Canada.
 - .d Ultra High Impact Resistance Mesh: minimum 20 oz / yd².
 - Ultra Armour Mesh 38" x 75' by DARMEX Systems Canada.
- .5 Finish Coat Primer: non-oxidizing, non-crystallizing, and non-re-emulsifiable type priming agent conforming to ASTM C 932 (colour to match finish coat).
 - DARMEX Prime.

SPEC NOTE: *Use DARMEX Prime to suit project requirements as a colour coordinated surface primer for use with DARMEX Systems Canada Finish Coat, to enhance colour consistency, improve bond strength and coverage, and to increase working time in hot, dry weather. Refer to DARMEX Systems Canada literature for additional information.*

- .6 Finish Coat: pre-manufactured proprietary polymer based acrylic mixture.

SPEC NOTE: *Select from DARMEX finishes indicated below to suit project requirements in consultation with DARMEX. Refer to DARMEX Systems Canada literature for additional information.*

- .a DARMEX FlexCoat Finish: pre-manufactured 100% pure acrylic based UV / fade, mildew, fungus and weather resistant integrally coloured coating with [Fine Sandfloat] [Medium Sandfloat] [Medium Scroll XL] textured finish, colour(s) as selected by the Consultant.
- .b DARMEX Perfector Finish: pre-manufactured acrylic weather resibased UV / fade, mildew, fungus and weather resistant integrally coloured coating with [Fine Sandfloat] [Medium Sandfloat] [Definition Medium] textured finish, colour(s) as selected by the Consultant.

SPEC NOTE: *Select colour(s) from DARMEX Systems Canada colour chart and indicate name and number below and/or on Exterior Finish Schedule and/or on drawings noting location and extent.*

- .7 Colourant: proprietary fade resistant colour pigment liquid mix including deep base tint if required, colour(s) as selected by the Consultant from DARMEX Systems Canada's complete range.
- DARMEX Systems Canada [DARMEX Systems Canada Colour Chart] [Custom (colour to match selected paint)] [Specialty (deep tint)] Colourant.

Colour(s) of finish coat shall be [] [as indicated on Exterior Finish Schedule].

2.8 Mixing of Base and Finish Coats:

- .1 Ensure mixer and other equipment are clean and free of contamination during mixing and application of materials.
- .2 All materials and ingredients used shall be clean and uncontaminated.
- .3 Do not use household detergents, plasticizers or other admixtures.
- .4 Do not use frozen, caked or lumpy material and remove all contaminated materials from the job site.
- .5 Mechanically mix base and finish coats in strict accordance with DARMEX Systems Canada's written instructions using accurate measuring devices and known volumes for all materials and full bag increments. Do not over mix and size batches for complete use within one hour after mixing.
- .6 Add and mix selected colourant to finish coat in strict accordance with DARMEX Systems Canada's written directions and in correct proportions to match pre-approved sample colours.

PART 3 - EXECUTION

3.1 Examination:

- .1 Prior to commencement of work of this section, review all conditions and thoroughly inspect all substrates and surfaces scheduled to receive DARMEX Systems Canada **EIF System 4** and report in writing to the Contractor and Consultant any conditions or surfaces that will adversely affect proper installation.
- .2 No work shall commence until all such adverse conditions and defects have been corrected and surfaces and conditions are acceptable.
- .3 Verify that substrate material is acceptable and that surface / assembly meets minimum DARMEX Systems Canada **EIF System 4** installation requirements. The substrate surface shall have no planar irregularities greater than 6 mm ($\frac{1}{4}$ ").

SPEC NOTE: *Acceptable substrate material: exterior grade: plywood, oriented strand board (OSB), water resistant gypsum board (Densglass®), cementitious board or other material acceptable to DARMEX Systems Canada and Code governing authorities having jurisdiction.*

- .4 Ensure that all accessories, trims and penetrations by others are tight and fastened securely in place and that fixtures, conduits, pipes, cables and outlets are properly plugged, capped or covered before commencing installation of DARMEX Systems Canada **EIF System 4** materials.
- .5 Protect all adjacent surfaces and areas from damage during application operations and make good any damage caused by failure to provide such protection.

SPEC NOTE: *A pre-construction meeting is recommended with the Owner / Consultant, General Contractor and DARMEX Systems Canada **EIF System 4** applicator and representatives responsible for the windows, framing / sheathing, flashing, roofing, sealants and any other building components interfacing with the work of this specification.*

3.2 Installation of Vapour & Air Barrier:

- .1 Surfaces to receive weather resistant membrane shall be dry, clean and free of any loose materials, grease, mildew or any other material detrimental to membrane bond.
- .2 Install vapour & air barrier in strict accordance with DARMEX Systems Canada **EIF System 4** detail requirements
- .3 Install weather resistant membrane tape over substrate panel joints in strict accordance with DARMEX Systems Canada **EIF System 4** detail requirements. Joints shall not exceed 25mm (1") in width.
- .4 Install vapour & air barrier over entire sheathing substrate including joint tape using a trowel to an approximate thickness of 3mm (1/8"). Ensure working time and conditions, application method, rate and finish texture are in strict accordance with DARMEX Systems Canada requirements.

3.3 Installation of Weather Resistant Membrane:

- .1 Surfaces to receive weather resistant membrane shall be dry, clean and free of any loose materials, grease, mildew or any other material detrimental to membrane bond.
- .2 Install weather resistant membrane in strict accordance with DARMEX Systems Canada **EIF System 4** detail requirements.
- .3 Install weather resistant membrane tape over substrate panel joints in strict accordance with DARMEX Systems Canada **EIF System 4** detail requirements. Joints shall not exceed 25 mm (1") in width.
- .4 Install weather resistant membrane joint coating over joint tape using a stainless steel trowel to fully embed tape with a minimum 2 mm (+¹/₁₆") of coating, ensuring that there are no wrinkles and that no sign of mesh colour will show after the coating has dried. All fabric corners and overlaps shall be a minimum of 76 mm (3").
- .5 Apply Protec- C weather resistant membrane coating over entire sheathing substrate including joint tape / coating using a 19 mm roller (2 coats) or by spray to a minimum 12 mil (.3mm) wet thickness.

3.4 Installation of Trim Accessories:

- .1 Install all trim accessories in strict accordance with DARMEX Systems Canada **EIF System 4** detail requirements.
- .2 Install insulation panel starter strip / weep screed, level and true to lines.
- .3 Fasten trims through perforated flange or crotch of trim as recommended by the manufacturer.

3.5 Installation of Insulation:

- .1 Install insulation in strict accordance with DARMEX Systems Canada **EIF System 4** detail requirements.
- .2 Apply full height vertical strips of insulation adhesive at spacing, location and applied thickness over weather barrier membrane using trowel and method in accordance with DARMEX Systems Canada **EIF System 4** requirements. Apply only enough adhesive to ensure that its working time is not compromised before insulation board is pressed into place.

SPEC NOTE: *Insulation board must be applied before adhesive strips skin over.*

- .3 Install insulation panels complete with fabric wrapped edges over adhesive properly aligned, level and true to planes.
- .4 All gaps between insulation panels greater than 3 mm ($\frac{1}{8}$ ") shall be completely filled with full depth slivers of rigid insulation before applying base coat.
- .5 Any irregularity of insulation panel surfaces greater than 2 mm ($\frac{1}{16}$ ") shall be sanded flush with adjacent panels surfaces with entire insulation surface rasped if required to provide a flat surface acceptable for installation of base coat.
- .6 Refer to DARMEX Systems Canada **EIF System 4** details of insulation at roof lines and parapets, door and window head, jambs and sills, deck interfaces and at wall penetrations.

3.6 Application of Base and Finish Coats:

- .1 Install base coat, primer, and finish coats in strict accordance with DARMEX Systems Canada **EIF System 4** requirements using recommended tools and techniques to achieve texture and finish specified with application of coats to be within temperature and humidity limits noted for each coat.
- .2 Ensure that the surface temperature of substrate is above 4°C (39°F) for a minimum of 24 hours during and after application of coats. Low temperature and high humidity will lengthen cure time.
- .3 Ensure that enough workers are present to apply materials in one continuous operation to finish entire sections of wall and soffit areas at one time.
- .4 Spread on an even coat of material using a trowel, always working away from a wet edge. Use pairs of applicators, with first person, applying material and the second, floating or trowelling the finish to desired texture.
- .5 Interrupt coat applications only at natural breaks in construction, i.e., at changes of plane, at openings, at expansion / control joints or at system terminations.
- .6 Avoid application of separate batches of finish side-by-side or application of finish coat materials in direct sunlight and excessive wind and late in the day if dew is imminent or if temperature below 4°C (39°F) is expected within 24 hours.
- .7 Apply base coat and reinforcing mesh (as noted below) to insulation surfaces and primer and finish coat over base coat using thickness, coverage rate and within application time limitations noted by DARMEX Systems Canada to provide surface texture and finish noted.
- .8 Maximum deviation from true plane of base coat surfaces shall be 3 mm ($\frac{1}{8}$ ") in 1524 mm (60") as measured by a straight edge placed at any location on surface.

3.7 Installation of Reinforcing Fabric:

- .1 Install reinforcing fabric in strict accordance with DARMEX Systems Canada design and requirements.
- .2 Install continuous regular reinforcing fabric over wet base coat and fully embed 2 mm ($+\frac{1}{16}$ ") into base coat by trowelling from centre to edge of fabric so that there are no wrinkles and

that no sign of mesh colour will show after the base coat has dried. All fabric corners and overlaps shall be a minimum of 75 mm (3").

- .3 Use the following fabrics to meet impact resistance required:

SPEC NOTE: *Select appropriate reinforcing fabrics in consultation with DARMEX Systems Canada.*

- .a Regular / Standard Mesh: 4.5 oz / yd².
 - Regular Mesh 38" x 150' by DARMEX Systems Canada.
 - .b Detail Mesh: 4.5 oz / yd² (detail) and 4.5 oz / yd² (self-adhesive).
 - Detail Mesh 9.5" X 150' by DARMEX Systems Canada.
 - Self-Adhesive Mesh 4" x 150' by DARMEX Systems Canada.
 - Wide Self-Adhesive Mesh 38" x 150' by DARMEX Systems Canada.
 - .c High Impact Resistance Mesh: minimum 15 oz / yd².
 - Armour Mesh 38" x 75' by DARMEX Systems Canada.
 - .d Ultra High Impact Resistance Mesh: minimum 20 oz / yd².
 - Ultra Armour Mesh 38" x 75' by DARMEX Systems Canada.
- .4 At first floor locations and in high traffic areas and in areas subject to abuse provide fabrics to meet High Impact or Ultra High Impact Resistance noted above.
- .5 Install heavy reinforcing fabric under lighter fabric. Embed first layer of heavier fabric into base coat and allowed base coat to dry a minimum of 24 hours. Apply another coat of vase coat over first application and embed second layer of lighter fabric as noted.
- .6 Install detail mesh to suit DARMEX Systems Canada **EIF System 4** detail requirements. At windows and other openings, install 203 x 305 mm (8" x 12") "butterfly" strips of regular fabric embedded into base coat in addition to reinforcing fabric at a 45 degree angle at each corner.

3.8 Curing of Base and Finish Coats:

SPEC NOTE: *Climactic conditions may dictate the need for additional protection requirements.*

- .1 Cure base and finish coat materials in strict accordance with DARMEX Systems Canada system requirements.
- .2 Do not moist cure base or finish coats or spray surfaces with water for at least 72 hours or until adequately hard.

3.9 Caulking and Sealants:

- .1 Install bond breaker / backing material in **EIF System 4** panel joints in accordance with material manufacturer's requirements to depths as shown on the drawings or as recommended by the sealant manufacturer.
- .2 Install backup material so that sealant depth will not be greater than the joint width, nor less than 6 mm (¼"), maximum width 25 mm (1"), unless otherwise shown or recommended.
- .3 Apply sealant in accordance with recognized current industry standards and manufacturers' written instructions and to completely dry surfaces at air and material temperatures above minimums established in material manufacturer's specification requirements.
- .4 Employ only proven application techniques that will ensure a full and uniform continuous bead of sealant without runs, sags, gaps or air pockets and with equal joint bond on both surfaces.

- .5 Fill sealant rabbets to form a neat concave surfaced face, slightly below adjoining surfaces. Tool joints only as recommended by material manufacturer.
- .6 Where horizontal joints are between a horizontal surface and a vertical surface, fill joint to form slight cove, so that joint will not trap dirt.
- .7 Do not allow sealant or priming compound to overflow, spill, or to migrate onto adjoining surfaces. Use masking tape or other precautionary devices to prevent staining of all adjoining surfaces.

3.10 Field Quality Control:

- .1 All surfaces, preparations and components for the **EIF System 4** application shall be inspected. Further, representative(s) of DARMEX Systems Canada shall be allowed to conduct independent site inspections, as DARMEX Systems Canada deems necessary.
- .2 Coating surfaces shall be considered to lack uniformity and soundness if any of the following defects are apparent to the Inspection Agency inspector:
 - .a Cracks resulting from incorrect application methods.
 - .b Evidence of poor coverage (i.e., not applied to thickness specified or shown) on walls and soffits, particularly at joints, corners and re-entrant angles.
 - .c Damage due to or the result of poor application of patching coat at scaffold fixing points.
 - .d Damage due to touching before a coat is sufficiently dry or any other contributory cause.
 - .e Damage due to application on moist surfaces or caused by inadequate protection from the weather.
 - .f Damage and/or contamination of coats due to wind blown contaminants (dust, etc.).
- .3 All **EIF System 4** surfaces and any other element of the work rejected by the Inspection Agency, DARMEX Systems Canada and/or Consultant shall be made good. Small affected areas may be touched up; large affected areas or areas without adequate coverage or with cracking shall be removed and redone.

3.11 Protection:

- .1 Provide adequate protection (plastic sheets) for all newly applied coatings to retard evaporation, and against direct sunlight / intense heat, dust, dirt, rain and snow, and from freezing and from the wind for at least 24 hours and/or until coatings are completely dry and cured. Curing periods shall exceed the manufacturers recommended minimum time requirements.
- .2 Ensure that barriers or screens and signs are provided by others to warn of or limit or direct traffic away from or around work area and to protect newly applied coatings from hazardous contact.

3.12 Clean-Up:

- .1 Remove all excess materials from the project site.
- .2 Clean equipment and dispose of wash water as well as all other cleaning and protective materials, in accordance with the safety requirements of authorities having jurisdiction.