

ART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- .1 Conform to requirements of General Conditions and Division 1.

1.2 SCOPE OF WORK

- .1 Provide all labour, materials and necessary equipment to supply and install the **Durex® “Flexlite Select ADH”** exterior insulation and finish system where shown on the Architectural drawings and as specified.

1.3 RELATED WORK SPECIFIED ELSEWHERE

- .1 Concrete walls: Section 03300
- .2 Masonry walls: Section 04200
- .3 Wind load bearing studs: Section 05400
- .4 Rough carpentry: Section 06100
- .5 Air barrier (other than air barrier (specified in this Section): Section 07196
- .6 Flashing: Section 07600
- .7 Caulking (other than caulking (specified in this Section): Section 07900
- .8 Cement board/glass mat coated gypsum board sheathing : Section 09250

NOTE: Add or delete trades which are related to **Durex® “Flexlite Select ADH” System work.**

1.4 DESIGN CRITERIA

- .1 All materials used shall conform to the requirements of applicable CSA and CGSB standards and the governing building codes and local by-laws.
- .2 Design system to meet the following standards:
 - .1 ASTM E283-84, Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors.
 - .2 ASTM E330-84, Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.
- .3 Design, locate and caulk all required control joints in accordance with the project specific details, as addressed in this specification or as recommended by **Durabond Products Limited**. Expansion joints shall be located at all dissimilar substrates and where possible substrate expansion may occur.
- .4 Design system terminations and roof-wall intersections with flashing (by others) to divert water away from the system.
- .5 Design, fabricate and install all prefabricated foamed insulation trim units. Top of window sills, architectural mouldings and other protruding details, shall a slope of not less than 10%.

- .6 Minimum insulation thickness at base of all reveals shall be not less than 25 mm (1").
NOTE: Include insulation trim units only if applicable to project.

1.5 QUALITY ASSURANCE

- .1 The manufacturer shall be a member in good standing of the EIFS Council of Canada.
.2 The System specified shall have current listing in the CCMC Evaluation Guide for EIFS.
.3 The System specified shall meet the requirements of the Ontario Association of Architects (OAA) Rain Penetration Control Guide.
.4 Periodic inspections shall be performed by a qualified third party.

1.6 SAMPLES

- .1 (Prior to application of mock-up), submit duplicate 600 x 600 mm (24" x 24") representative samples of the **Durex® "Flexlite Select ADH" System**, including secondary weather barrier and/or drainage mat, insulation, reinforcing mesh, fasteners, base coat and coloured finish texture in accordance with requirements in Division 1.

NOTE: Include (Prior to application of mock-up) only if mock-up is required. Correlate with Article 1.11.

1.7 SHOP DRAWINGS

NOTE: Include this Article only if shop drawings are required for the project.

- .1 Submit shop drawings in accordance with requirements specified in Division 1.
.2 Clearly indicate dimensions, tolerances and materials in large-scale details for terminations, drainage, description of related and abutting components and elevations of units with locations of expansion joints, control joints, and reveals.

NOTE: Include expansion joints and reveals only if applicable to the project.

1.8 DATA SHEETS

- .1 Submit product data sheets verifying that the **Durex® "Flexlite Select ADH" System** applied to the substrate as constructed on the project will meet or exceed the Specification requirements.

1.9 MAINTENANCE DATA

- .1 Provide maintenance data for **Durex® "Flexlite Select ADH" System** for incorporation into Maintenance Manual specified in Division 1.

1.10 QUALIFICATIONS OF APPLICATOR

- .1 Work of this Trade shall be executed by a qualified applicator approved by **Durabond Products Limited**. Applicator shall have been trained in the most recent application procedures and shall have a minimum of 5 years proven satisfactory experience in this type of work, having proper equipment and skilled personnel to expediently complete work of this Trade in an efficient and very best workmanlike manner.

1.11 MANUFACTURER'S APPLICATION REVIEW

- .1 Arrange for **Durabond Products Limited** to have a qualified technical representative visit the site prior to commencement of work to discuss with the General Contractor, Applicator and Architect, the application procedures to be used and to analyse conditions of surfaces to be faced with the **Durex® "Flexlite Select ADH" System** in order that alternative recommendations may be made to the Architect should adverse conditions exist.
- .2 Arrange for a qualified technical representative to visit the site periodically during installation and upon completion of work to review the application and quality of work.
- .3 The above application review shall be at no extra cost.

1.12 JOB MOCK-UP

NOTE: *Include this Article only if required for the project.*

- .1 Construct on site where directed, a mock-up system approximately 1200 mm x 1800 mm (4'-0" x 6'-0") in order to identify and solve any problems of installation and interfacing which may be encountered under site conditions. To resolve any problems that may occur, correct or remove and rebuild as directed by the Architect.
NOTE: *Revise size of mock-up to suit Architect's requirements.*
- .2 Construct the mock-up in the presence of the Architect, General Contractor and a representative of **Durabond Products Limited**. Construct mock-up using correct materials and details required.
- .3 Maintain the mock-up until completion of work. Approved mock-up shall serve as a standard for similar work throughout project. Refinish work that does not match approved mock-up.

1.13 DELIVERY

- .1 Deliver all required materials to the job site in original unopened containers with all identifying labels and markers clearly visible and intact. Upon delivery inspect materials for damages and advise **Durabond Products Limited** in writing of any unacceptable materials.

1.14 SPECIAL STORAGE AND PROTECTION

- .1 Store materials in a dry, vented, waterproof location, stacked off the ground, out of direct sunlight and other detrimental conditions. Store liquid materials at ambient temperatures above 5°C and below 35°C. Protect all materials from freezing.
- .2 If coatings have been applied, provide protective coverings to protect freshly applied coatings from damage due to inclement weather until coatings have fully set and cured.
- .3 Ensure that capping and flashing by others have been immediately and properly installed in co-ordination with the application of the **Durex® "Flexlite Select ADH" System**, unless temporary protection by others has been provided. If capping and flashing or temporary protection have not been provided advise Architect and General Contractor in writing.

1.15 ENVIRONMENTAL CONDITIONS

- .1 Do not proceed with application of base coat and/or finish coat at ambient air temperatures below 5°C, or above 35°C. Avoid coating surfaces directly exposed to hot sun or on surfaces where condensation has or will form due to presence of high humidity and lack of proper ventilation.
- .2 When necessary, provide temporary enclosures for exterior work and ensure that temporary heat is being provided in the area of work to maintain the required ambient air temperature prior to, during application and for a minimum 24 hours after application of coating.
NOTE: *As the above work can be costly, carefully co-ordinate to determine whether or not the General Contractor is to provide temporary enclosure and heat.*
- .3 Do not apply materials to wet, frozen nor frosted surfaces.
- .4 Do not proceed with applications of materials immediately prior to, during or immediately after inclement conditions, nor if wet weather is anticipated within 24 hours after application.
- .5 Do not apply finish coat in areas where dust is being generated.
- .6 Proceed with work only when surfaces and conditions are satisfactory for production of a first class application.
- .7 Protect applied coating from rapid evaporation during dry and hot weather, should adverse conditions exist, Consult **Durabond Products Limited** for recommendations .

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 All components of **Durex® "Flexlite" System** shall be manufactured/supplied by **Durabond Products Limited**, 55 Underwriters Road, Toronto, Ontario, Canada M1R 3B4, Tel: (416) 759-4474. No substitutions or addition of other materials shall be permitted.
- .2 **Air/Moisture Barrier:**
 - .1 **Durex® Flexcrete**, a two component, polymer modified cementitious Type III air barrier – (not recommended for wood substrates).
OR
Durex® Blue Shield, a single component, water-based copolymer rubber membrane, Type III air barrier.
OR
Other Code approved water penetration barrier, installed as per manufacturer's instructions.
NOTE: *The material properties and location of the water penetration barrier must be taken into account in the design and performance evaluation of the particular building envelope involved and is the responsibility of the project design authority.*

- .3 **Insulation Adhesive:**
- .1 Insulation adhesive for concrete, masonry, cementitious board and water resistant gypsum board substrates:
Durex® VCA 3.0 Insulation Adhesive mixed in strict accordance with **Durabond's** printed instructions.
- .2 Insulation adhesive for wood based substrates:
Durex® Mastic 100, a ready mixed dispersion adhesive.
- .4 **Drainage Layer: Durex® Flexcrete Insulation Adhesive**, applied in vertical channels.
- .5 **Drainage Vent: Durex® Drainage Vent**, a pre-fabricated corrugated sheet.
- .6 **Wall Flashing: Durex® Flex-Seal Wall Flashing**, a self-adhering, cold applied composite sheet air/vapour membrane, minimum 1.02 mm (40 mils) thick. Include **Durex® Flex-Seal Primer** for appropriate substrates.
OR
Durex® EIFS Tape, a self-adhering, cold applied composite sheet air/vapour membrane, minimum 0.76 mm (30 mils) thick. Include **Durex® Flex-Seal Primer** for appropriate substrates.
- .7 **Insulation:** Type I expanded polystyrene to CAN/CGSB-51.20-M87, minimum "RSI" value of 0.65 per 25 mm ("R" value of 3.75 per inch) thickness. Total thickness as indicated on drawings.
- .8 **Standard Reinforcing Fabric:** Standard duty, open weave glass fibre mesh weighing 152 g/m² (4.5 oz/yd²). **Durex® 040 mesh** in 1 m by 50 m (38" x 150') rolls.
- .9 **Detail Reinforcing Fabric:** Standard duty, open weave glass fibre mesh weighing 152 g/m² (4.5 oz/yd²). **Durex® 040 detail mesh** in 25 cm by 50 m (10" x 150') rolls, or **Durex® Adhesive Back detail mesh** in 30 cm by 50 m (12" x 150") rolls.
- .10 **High Impact Fabric:** high impact 15, open weave glass fibre mesh weighing 509 g/m² (15 oz/yd²). **Durex® 330 mesh** in 1 m by 22.8 m (38" x 75') rolls.
NOTE: Include the above paragraph only if applicable to project.
- .11 **Base Coat: Durex® Flexcrete** with **Durex® Flexcrete "B"** or **Durex® Monobase** mixed in strict accordance to **Durabond's** printed instructions.
- .12 **Finish Primer Coat:** Primer coat shall be **Durex® Brush Coat** colour number _____.
NOTE: Durex® Brush Coat shall be the same colour number as the **Durex® Architectural Coating** finish.
- .13 **Finish Coat:** Finish coat shall be **Durex® Architectural Coating** _____, colour number _____.
NOTE: Refer to the **Durex® Architectural Coatings Colour Chart Index** for selection of the finish coat desired for the project. Choose from a selection of standard colours or a custom colour sample.
- .14 **Sealant:** A low modulus sealant, as recommended and approved in writing by sealant manufacturer. Standard colour selected by Architect.
- .15 **Foamed-in-place insulation:** Class 1, single or two component, polyurethane foam with flame spread rating of 25, fuel contributed 0 and smoke developed 20. Must be ozone friendly and containing no fluorocarbons and have a density of 27.2 kg/m³ (1.75 lbs/ft³) and a minimum "RSI" value of 0.91 per 25mm ("R" value of 5 per inch) thickness

2.2 MIXES

- .1 Perform all mixing under conditions as set forth in Article 1.14: Environmental Conditions.
- .2 Prepare and mix primer, insulation adhesive, scratch coat, base coat, and finish coat in strict accordance with **Durabond's** written instructions to obtain a homogeneous consistent mixture. Other than those specified by **Durabond**, do not add any other additives, rapid binders, antifreeze, accelerators, fillers or pigments to the mixtures without written approval from **Durabond Products Limited**.
- .3 Mix air barrier and respectively **Durex, Flexcrete, Durex, VCA 3.0 Insulation Adhesive** and **Durex,**

Monobase in accordance

with one of the following formulas by weight:

FLEXCRETE:	Durex, Flexcrete	1 pail
	Durex, Flexcrete 'B'	1 bag

VCA 3.0 INSULATION ADHESIVE:

Durex, VCA 3.0 Insulation Adhesive (liquid)	1 pail
Durex, VCA 3.0 Insulation Adhesive (powder)	1 bag

Pour the **Durex, Flexcrete** or **Durex, VCA 3.0 Insulation Adhesive (liquid)** into an empty clean mixing container. While under slow mixing action add the **Durex, Flexcrete "B"** or **Durex, VCA 3.0 Insulation Adhesive (powder)** in the required mixing proportions. Mix well until the mixture is free of lumps. Do not over mix or use excessive mixing speed.

OR

MONOBASE:	Durex, Monobase	1 bag
	Potable Water	3.5 - 4 litres

Pour potable water into empty clean mixing container. While under slow mixing action add the **Durex, Monobase** in the required mixing proportions. Mix well until the mixture is free of lumps. Do not over mix or use excessive mixing speed.

- .4 Allow the mixed materials to stand for a few minutes until they begin initial stiffening. Mix only enough materials that can be used within 45 minutes. Re-temper the mix and use. Discard all materials that have begun to stiffen for a second time.

PART 3 - EXECUTION

3.1 EXAMINATION

- .1 Examine surfaces to receive the **Durex, "Flexlite Select ADH" System** for defects, which will adversely affect execution and quality of work.
- .2 Ensure substrate surfaces, including each applied scratch coat and base coat, are dry, solid and sound, free of weak and powdery surfaces, free from ice, snow and frost, oil, grease, releasing agents and other deleterious materials detrimental to a positive bond.
***NOTE:** Deteriorating, weak, powdering or flaking surfaces may require further preparation work prior to installation of the **Durex, "Flexlite Select ADH" System.** Check with **Durabond Products Limited** for questionable substrate materials and conditions.*
- .3 Ensure substrate tolerance within 3.2 mm in 2,430 mm (1/8" in 8'-0").

- .4 Ensure that flashing at all openings, roof-wall intersections, terminations and other areas as required, have been installed to divert water away from the **Durex, "Flexlite Select ADH" System**.
- .5 Report in writing to Architect all adverse conditions which will be detrimental to work of this Trade.
- .6 Do not start work until unsatisfactory conditions have been corrected.
- .7 Commencement of work shall indicate acceptance of substrate conditions.

3.2 PREPARATION

- .1 Thoroughly clean and wash (existing) surfaces, including each applied scratch coat and base coat, (and including existing coated surfaces) by wire brushing or other approved methods to remove all dirt, dust, grease, oil, latent, loose coatings and other contaminants detrimental to newly applied system.
NOTE: Include reference to "existing" and "new" for retrofit projects.
- .2 Where necessary, mask all surrounding surfaces to provide neat, clean, true juncture lines with no over-spray of the coatings on surrounding surfaces.
- .3 Co-operate and co-ordinate with other trades penetrating or abutting the work of this Trade. Ensure that components by other trades are in position before application of work of the **Durex, "Flexlite Select ADH" System**.

3.3 APPLICATION

- .1 **General:**
 - .1 Install the **Durex, "Flexlite Select ADH" System** in strict accordance with approved mock-up and **Durabond's** printed instructions (and reviewed shop drawings).
NOTE: Correlate requirement for shop drawings with Article 1.6.
- .2 **Air/Moisture Barrier:**
 - .1 Apply **Durex, Adhesive Back** detail mesh at all vertical and horizontal sheathing board joints.
NOTE: Include the above paragraph only if applicable to project.
 - .2 Apply a coat of **Durex, Flexcrete** over the entire substrate surface, applying sufficient pressure in the trowelling process to ensure full contact with the substrate.
OR
Apply a coat of **Durex, Blue Shield** over the entire substrate surface, by trowel or spray.
 - .3 Allow a minimum of 24 hours for drying and curing.
 - .4 At all locations where the substrate material changes install a 30 mm (12") strip of **Durex, Flex-Seal Wall Flashing** or **Durex, EIFS Tape** in strict accordance with **Durabond Products Limited**.
- .3 **Adhesive/Drainage Layer and Insulation:**
 - .1 Using a 12.7mm (1/2") dispersion trowel apply the adhesive to the insulation boards to form vertical ribbons. Use sufficient pressure such that the board's surface is visible between the ribbons.
 - .2 Immediately after applying the insulation adhesive, before initial set begins, firmly press the insulation board into place. Begin installation at one end, from a baseline, to form an uninterrupted surface.
 - .3 Install the insulation boards to the substrate in running bond pattern and with joints offset with respect to joints in the substrate by a minimum of 150 mm (6").
 - .4 Interlock board joints at all corners.

- .5 Pre-cut insulation boards to fit around openings, penetrations, etc. Use L-shaped boards to avoid aligning the insulation board edges with the corners of openings.
- .6 Butt the insulation boards to moderate tight fit. Ensure a full thermal barrier throughout.
- .7 Gaps occurring in or between the insulation boards shall be filled with foamed-in-place insulation.
- .8 Provide all reveals in insulation boards in accurate alignment over the entire wall surfaces as indicated on architectural drawings. Ensure reveals are true to size, straight, plumb and level throughout.

NOTE: Include the above paragraph only if applicable to project.

- .9 Rasp the entire insulation surface and edges to a tolerance of not more than 3 mm (1/8") in 3 m (10').

.4 Drainage Vent:

- .1 Install the **Durex® Drainage Vent** with fasteners and/or adhesive to provide a continuous strip at system termination at grade, above roof and at openings or vent the sealed joint at 610 mm (24") on centre.

.5 Back Wrapping:

- .1 At all terminations of the system and along both edges of all expansion joints and control joints, apply base coat and embed reinforcing fabric to the edge and to the back side of the insulation board by a minimum of 102 mm (4"), prior to installing the insulation.
- .2 Cut the reinforcing fabric to allow for a minimum of 50 mm (2") overlap at each end of the board.

.6 Base Coat and Reinforcing Fabric:

- .1 Ensure that the insulation boards have been rasped and the surface is dry and free of loose insulation, dirt, yellowing from UV exposure, etc. and that detail work has been completed.
- .2 All areas where back wrapping has been installed, apply a layer of base coat and embed the remaining length of detail reinforcing fabric onto the face of the insulation board. Using an edging tool, smooth the corner to render it square.
- .3 Reinforce all corners of openings where no control joints are detailed with an additional strip of reinforcing fabric, 230 mm by 305 mm (9" x 12") installed diagonally across the corners.
- .4 Apply a layer of base coat over the insulation surface, applying sufficient pressure in the trowelling process to ensure full contact with the insulation. Immediately place the reinforcing fabric onto the wet base coat and trowel the fabric from the centre to the edges, filling all voids in the fabric until the mesh is completely embedded.
- .5 Provide high impact reinforcing fabric where indicated on drawings. Tightly abut all edges; do not lap high impact reinforcing fabric. Embed the fabric into the wet base coat and trowel the fabric from the centre to the edges, filling all voids in the fabric until the mesh is completely embedded. Allow the high impact base coat layer to dry a minimum of 24 hours before applying the standard reinforcing fabric.

NOTE: Include above paragraph only if applicable to project.

- .6 Install reinforcing fabric tight, straight and free of wrinkles, ripples and waves.

- .7 Overlap the detail reinforcing fabric with the standard reinforcing fabric by 100 mm (4") at all locations where detail reinforcing fabric has been installed.
- .8 Install the standard reinforcing fabric overlapping fabric joints by a minimum of 63 mm (2 1/2") and double wrapping inside and outside corners a minimum of 203 mm (8").

.7 **Final Base Coat:**

- .1 In hot, dry weather, if the scratch coat surface is exceptionally dry, lightly dampen the surface with a fog mist of clean potable water. Do not over-saturate with water, as it will impair the bonding of the final base coat.
- .2 Trowel apply the final base coat, applying sufficient pressure to ensure full bond with the initial base coat.
- .3 Use a straight edge tool to darby the surface and bring it to a straight, even and true surface.
- .4 When the base coat has taken initial set, use a wood or sponge float and work the surface with light circular motions to remove all high points and to fill low points.
- .5 Final surface shall be smooth, straight and true to a tolerance of not more than 3.2 mm in 3 m. (1/8" in 10'-0"). Surface shall be free of trowel marks, irregularities and visible mesh pattern.
- .6 Allow a minimum of 3 days for curing and drying.

.8 **Finish Coat Primer:**

- .1 Evenly apply the primer throughout with a high pile roller at the rate of 2.8 m²/litre (600 ft²/pail). Substrate shall not be visible through the applied primer.
- .2 Avoid excessive build-up in any one area.
- .3 Allow minimum 4 hours for curing prior to application of finish coat.

.9 **Finish Coat:**

- .1 Apply final texture coat within 3 days after application of primer coat. Longer periods may be scheduled between operations provided that the primed surface is kept clean and in good condition.
- .2 Apply final texture coat in strict accordance with **Durabond's** printed instructions for the selected finish.
- .3 Finish texture and colour shall match the approved site mock-up.
- .4 Do not apply finish coat primer or finish coat onto surfaces which will be caulked.

3.4 **JOINTS**

- .1 Provide expansion joints in alignment with building expansion joints.
- .2 Install expansion joints at all locations where dissimilar substrates meet.
- .3 Install expansion joints at all locations of maximum stress, in the direction as shown on drawings.
- .4 Install control joints and/or reveals horizontally and vertically so to divide the wall surface into panels of not more than 30 m² (325 ft²). Neither dimension within the panel should be greater than 2.5 times the other.

- .5 Unless otherwise noted, provide all joints 12.7 mm (1/2") wide.
NOTE: As a rule of thumb, fulfill requirements 1 and 2 and then arrange other requirements to best suite the intended aesthetics of the building.

3.5 CAULKING

- .1 Caulk all expansion joints within the **Durex, "Flexlite Select ADH" System**.
- .2 Caulk all expansion joints between the **Durex, "Flexlite Select ADH" System** and abutting building components.
- .3 Apply sealant and/or sealant primer in strict accordance with the sealant manufacturer's printed instructions.
NOTE: Apply sealant and/or sealant primer to base coat only.

3.6 SPECIAL CLEANING

- .1 Clean off all spotting and blemishes from work not intended to receive the **Durex, "Flexlite Select ADH" System** and leave work in clean condition.
- .2 Entirely reinstate at this Trade's own expense, any surface not to be coated, but soiled and attributable to this Trade due to spillage, mixing of material or any other cause.