

PART 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® "ICF Coating System"** where shown on the Architectural drawings and as specified.

1.3 RELATED WORK SPECIFIED ELSEWHERE

- | | |
|----------------------------|---------------|
| .1 Sheathing | Section 06100 |
| .2 Concrete Formwork: | Section 03200 |
| .3 Sealants: | Section 07900 |
| .4 Flashing & Sheet Metal: | Section 07600 |

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, locate and caulk all required expansion joints in accordance with the project specific details, as addressed in this specification or as recommended by **Durabond Products Limited**.
- .3 Design system terminations and roof-wall intersections with flashing (by others) to divert water away from the system.
- .4 Materials of this Section shall provide continuity of thermal barrier at building enclosure elements in conjunction with insulation materials.

NOTE: Depending on the construction and composition of the insulating concrete form, the **Durex® "ICF Coating System"** may require additional expanded polystyrene insulation installed onto the ICF with adhesive and/or fasteners.

- .5 Design, fabricate and install all prefabricated foamed insulation trim units.

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

1.5 SAMPLES

- .1 (Prior to application of mock-up) Submit duplicate 300 x 300mm (12" x 12") samples of (each) colour and texture in accordance with requirements specified in Division 1.

NOTE: Include (Prior to application of mock-up) only if mock-up is required. Correlate with Article 1.10. Include (each) if more than one colour and/or texture are required for the project.

1.6 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, 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.

- .3 A qualified registered professional engineer shall review each shop drawing submitted.

1.7 TEST REPORTS

- .1 Submit product data including certified copies of test reports verifying that the **Durex® “ICF Coating System”** System applied to substrata as constructed on project will meet or exceed requirements of the Specification.

1.8 MAINTENANCE DATA

- .1 Provide maintenance data for the **Durex® “ICF Coating System”** for incorporation into Maintenance Manual specified in Division 1.

1.9 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 minimum 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.

1.10 MANUFACTURER’S APPLICATION REVIEW

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

1.11 JOB MOCK-UP

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

.1 When and where directed by the Architect, install a mock-up of the system approximately 3 m x 3 m (10' x 10') in order to identify and solve any installation and interfacing problems which may be encountered under on the project. To resolve any problems that may occur, correct or remove and rebuild as directed by Architect.

NOTE: Revise size of mock-up to suit Architect's requirements. Also, more than one mock-up may be required if more than one colour and/or texture are required for the project.

.2 Construct the mock-up in the presence of Architect, General Contractor and **Durabond's** technical representative using the correct materials and details as required.

.3 Maintain the mock-up until completion of work. Approved mock-up shall serve as a standard for similar work throughout the project. Refinish work that does not match approved mock-up.

1.12 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.

1.13 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 coverings to protect freshly applied coatings from damage due to inclement weather until coatings have fully set and cured.

.3 Ensure that all capping and flashing by others have been immediately and properly installed in co-ordination with the application of the **Durex® "ICF Coating 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.

1.14 ENVIRONMENTAL CONDITIONS

.1 Do not proceed with the application of base coat or finish coat at ambient air temperatures below 5°C, or above 35°C. Avoid coating surfaces directly exposed to hot sun or surfaces where condensation has or will form due to the 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 minimum 24 hours after application.

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 or frosted surfaces.
- .4 Do not proceed with application of materials immediately prior to, during, or immediately after inclement conditions, or 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 coatings from rapid evaporation during dry and hot weather. Consult **Durabond Products Limited** for recommendations should adverse conditions exist.

PART- 2 PRODUCTS

2.1 MATERIALS

- .1 All components of the **Durex® "ICF Coating System"** shall be manufactured/supplied by **Durabond Products Limited**, 55 Underwriters Road, Scarborough, Ontario, Canada, M1R 3B4 (416) 759-4474, unless otherwise approved in writing by **Durabond Products Limited**.
- .2 **Insulation:** DUREX Insulation Board; Type I expanded polystyrene to CAN/CGSB-51.20-M87, minimum "RSI" value of 0.65 per 25 mm thickness ("R" value of 3.75 per inch), measuring 1.2 m (4'-0") by 0.6 m (2'-0"), total thickness as indicated on drawings.

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

- .3 **Insulation Adhesive:** DUREX Flexcrete mixed with DUREX Flexcrete "B" in strict accordance with Durabond's printed instructions.

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

- .4 **Standard Reinforcing Mesh:** open weave, glass fibre mesh, weighing 152 g/m² (4.5 oz/yd²). DUREX 040 mesh in 1 m x 50 m (38" x 150') rolls.
- .5 **Detail reinforcing Mesh:** 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') or DUREX Adhesive Back detail mesh in 30 cm by 50 m (12" x 150') rolls.
- .6 **High Impact Mesh:** 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.

- .7 **Scratch Coat and Base Coat:** Both scratch coat and base coat shall be DUREX Uniplast mixed with Acrybond 'S' or DUREX Flexcrete mixed with DUREX Flexcrete "B" or DUREX Monobase mixed in strict accordance to Durabond's printed instructions.

NOTE: Refer to product data sheet for selection of base coat or consult Durabond Products Limited.

- .8 **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 coat).

- .9 **Finish Coat:** The finish coat shall be DUREX _____ Architectural Coating, Colour number _____.

NOTE: Refer to the DUREX Architectural Coatings Colour Chart Index for selection of finish coat desired for the project. Choose from a selection of standard colours or a custom colour sample.

- .10 **Sealant:** A low modulus sealant, as recommended and approved in writing by sealant manufacturer. Standard colour selected by Architect.

- .11 **Foamed-in-place Insulation:** Class 1, single or two component, polyurethane foam with a 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 (adhesive) scratch coat, base coat, primer and finish coat in strict accordance with Durabond's printed instructions to obtain a homogenous consistency of mixture. Other than those specified by **Durabond Products Limited**, do not add any other additives, rapid binders, antifreeze, accelerators, fillers or pigments to the mixtures without approval from **Durabond Products Limited**.
- .3 Mix both scratch and base coats in accordance with the following formula by weight:

UNIPLAST	DUREX Acrybond 'S'	5 litres
	DUREX Uniplast Grey Medium	1 bag

Pour the DUREX Acrybond "S" into an empty clean mixing container. While under slow mixing action add the DUREX Uniplast Grey Medium in the required mixing proportions. Mix well until the mixture is free of lumps. Do not over mix or use excessive mixing speed.

OR

FLEXCRETE	DUREX Flexcrete	1 pail
	DUREX Flexcrete "B"	1 bag

Pour the DUREX Flexcrete into an empty clean mixing container. While under slow mixing action add the DUREX Flexcrete "B" 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® "ICF Coating System"** for conditions and defects which will adversely affect the 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® "ICF Coating System"**. Check with **Durabond Products Limited** for questionable substrate materials and conditions.

- .3 Ensure that any concrete between forms, or at the perimeter of openings and protrusions, and/or form ties, are removed by others prior to the application of **Durex® "ICF Coating System"**.
- .4 Ensure substrate tolerance within 3.2 mm in 2,430 mm (1/8" in 8'-0").
- .5 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® "ICF Coating System"**.
- .6 Report in writing to Architect all adverse conditions which will be detrimental to work of this Trade.
- .7 Do not start work until unsatisfactory conditions have been corrected.
- .8 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 properly installed before application of the **Durex® "ICF Coating System"**.

3.3 APPLICATION

.1 **General:**

- .1 Repair any dings, dents and damaged ICF areas with insulation prior to the application of the **Durex® "ICF Coating System"**. Damaged areas shall not be filled with other materials including base coat.
- .2 Do not apply the **Durex® "ICF Coating System"** directly to dimensional framing lumber/blocking or external form ties.
- .3 Install the **Durex® "ICF Coating System"** in strict accordance with approved mock-up and Durabond's printed instructions (and reviewed shop drawings).

NOTE: Correlate requirements for shop drawings with Article 1.6.

.2 **Insulation and Attachment:**

NOTE: Include this Section only if applicable to project.

- .1 Utilizing a 4.76 mm (3/16") 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.

OR

Apply the insulation adhesive to back of insulation boards using the "ribbon and dab method". Apply a ribbon of adhesive to the perimeter of the insulation board, 50 mm wide by 19 mm thick (2" x 3/4"). Apply dabs approximately 100 mm (4") in diameter by 19 mm (3/4") thick at 200 mm (8") o.c. throughout the back of the board.

- .2 Immediately after applying the insulation adhesive, before initial set begins, firmly press the insulation board into place.
- .3 Pre-cut boards to fit snugly around openings, penetrations, etc., using L-shape boards to fit around rectangular openings such that insulation board edges do not align with the corners of openings.
- .4 Butt the insulation boards to a moderate tight fit.

- .6 Interlock board joints at all corners.
- .7 Gaps occurring in or between the insulation boards shall be filled with foamed-in-place insulation or insulation. Ensure a full thermal barrier throughout.
- .8 Provide all reveals in insulation boards as indicated. Ensure reveals are true to size, straight, plumb and level throughout. Ensure all reveals are in accurate alignment over entire wall surfaces.

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

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

.3 Scratch Base Coat and Reinforcing Fabric:

- .1 Ensure that the insulating concrete form surface (or adhered insulation board surface) has been rasped to a tolerance not greater than 3 mm in 3 m (1/8" in 10') and that the surface is dry and free of loose insulation, dirt, yellowing from UV exposure, etc. and that detail work has been completed.
- .2 Provide all reveals in insulation boards as indicated. Ensure reveals are true to size, straight, plumb and level throughout. Ensure all reveals are in accurate alignment over entire wall surfaces.

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

- .3 All areas where back wrapping has been installed, apply a layer of scratch 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.
- .4 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.
- .5 Apply a layer of scratch 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 scratch coat and trowel the fabric from the centre to the edges, filling all voids in the fabric until the mesh is completely embedded.
- .6 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 scratch 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.

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

- .8 Overlap the detail reinforcing fabric with the standard reinforcing fabric by 100 mm (4") at all locations where detail reinforcing fabric has been installed.
- .9 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").

.4 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 scratch coat.
- .3 Use a straight edge tool to darbie 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.
- .6 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
- .7 Allow a minimum of 3 days for curing and drying.

.5 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.

.6 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 CONTROL JOINTS

- .1 Provide joints in alignment with building expansion joints.
- .2 Install joints at all locations where dissimilar substrates meet.
- .3 Install joints at all locations of maximum stress (such as corners of openings), in the direction as shown on drawings.
- .4 Install joints 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, fulfil requirements 1 and 2 and then arrange the other requirements to best suit the intended aesthetics of the building.

3.5 CAULKING

- .1 Caulk all joints within the **Durex® "ICF Coating System"**.
- .2 Caulk all joints between the **Durex® "ICF Coating 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 **Durex® "ICF Coating 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.