This section includes sheet Hi-Tuff Thermoplastic Polyolefin (TPO) Adhered Roofing System, incorporates maximum 12’,10’,8’,6’or 4’ wide white, gray or tan 45, 60, or 80mil thick scrim-reinforce membrane. Lexcor Insulation is mechanically fastened to the roof deck or secured with Lexcor Insultac II™ Adhesive, Lexcor Insultac II™ Pump Grade Adhesive, or Lexcor Lexphalt Foamed Polyurethane Adhesive. Adjoining sheets of membrane are overlapped approximately 3” and joined together with a minimum 1-1/2” wide heat weld. This system includes base Lexcan flashings, primary flashings to roof protrusions, and integral roofing control and expansion joints. Cant strips are not required for single ply applications.

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Word processing versions of this specification are available. Contact your Lexcan representative for further information.

This specification is presented as a guide only. The specifying authority remains responsible to verify all regulatory requirements and installation methods, including the suitability of a product or system for a particular application, other than those agreed upon in advance, made in writing and relating to a specific project.

This specification section includes performance, proprietary, and descriptive type descriptions; most choices are in square brackets [ ], edit text to avoid conflicting requirements.

# General

## SECTION INCLUDES

In this article, select the components or assemblies that are intended to be part of the content of this section and will not be included in other sections.

### Substrate preparation

### Sheathing over deck surface.

### Vapour retarder.

### Insulation.

### Membrane roofing.

### Membrane Accessories

### Membrane Flashings

### Roofing Accessories.

## RELATED SECTIONS

In this article, indicate those sections that inter-rely on this section. The listing below is only partial and should be edited to include those sections specific to the project that describes subjects or products that affect this section directly. No sections are listed for this is a Specification Guide and not part of a Building Specification. Typical Sections include: steel, concrete, wood deck, roof deck, wood blocking and curbing: wood nailers, sheet metal flashing and trim, roof hatches, unit skylights, plumbing specialties: roof drains, sumps, hoppers, HVAC: prefabricated curbs for equipment, electrical lighting protection.

### Section [05 31 23 - Steel Roof Decking]: Roof deck substrate.

### Section 06 10 13 - Wood Blocking and Curbing: [Wood nailers] [cant strips].

### Section 07 26 00 - Vapour Retarders.

### Section 07 27 00 - Air Barriers.

Include the following paragraph where reroofing is involved.

### Section 07 50 05 - Preparation For Re-roofing.

### Section 07 62 00 - Sheet Metal Flashing and Trim: Counter flashing and [\_\_\_\_\_].

### Section 07 63 00 - Sheet Metal Roof Specialties: Counter flashing and [\_\_\_\_\_].

### Section 07 72 33 - Roof Hatches: Counter flashing and [\_\_\_\_\_].

### Section 08 62 00 - Unit Skylights: Skylight frame [and integral curb]: Counter flashing and [\_\_\_\_\_].

### Section 08 45 23 - Translucent Panel Wall and Roof Assemblies: Counter flashing and [\_\_\_\_\_].

The following related work may be listed by Division rather than specific sections, due to the fact that the mechanical and electrical consultants are not necessarily "in-house" If section numbers are known, delete reference to Divisions.

### [Division 22 – Plumbing] [Section 22 42 01 - Plumbing Specialties]: Roof [hoppers] [sumps] [drains].

### [Division 23 – Heating, Ventilating, and Air-Conditioning (HVAC)] [Section [\_\_\_\_]]: Prefabricated curb for mechanical equipment.

### [Division 26 – Electrical] [Section [\_\_\_\_]]: Lightning protection

## REFERENCES

Edit this article after editing the rest of this section. Only list reference standards below, that are included within the text of this section, when edited for a project specification - delete other references that do not apply. Comparable Canadian and US are listed for some products.

### [ASTM C578-13 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.]

### [ASTM C612-10 - Standard Specification for Mineral Fiber Block and Board Insulation.]

### [ASTM C726-12 - Standard Specification for Mineral Fiber Roof Insulation Board.]

### [ASTM C1002-07(2013) - Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.]

### [ASTM C1177/C1177M-13 - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing.]

### [ASTM C1396/C1396M-13 - Standard Specification for Gypsum Board.]

### [ASTM D6878/D6878M-13 - Standard Specification for Thermoplastic Polyolefin Based Sheet Roofing.]

### [CSA-A231.1-06/A231.2-06 (R2010) - Precast Concrete Paving Slabs/Precast Concrete Pavers.]

### [CAN/ULC-S107-10 - Methods of Fire Tests of Roof Coverings.]

### [CAN/ULC-S701-11 - Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering.]

### [CAN/ULC-S702-09 - Standard for Mineral Fibre Thermal Insulation for Buildings (Includes Amendment 1, 2012).]

### [CAN/ULC-S704-11 - Standard for Thermal Insulation, Polyurethane and Polyisocyanurate Boards, Faced.]

### [CRCA (Canadian Roofing Contractors' Association) - CRCA Roofing Specifications Manual.]

### [FM (Factory Mutual) - Roof Assembly Classifications.]

Edit the following paragraph to reference a provincial roofing association's manual.

### Province of [\_\_\_\_\_] Roofing Contractors Association - Roofing Specifications Manual.

### [ULC-BM-14 - Building Materials Directory (2014 Edition).]

## SYSTEM DESCRIPTION

### Assembly of components include Hi-Tuff TPO Adhesive Adhered Roofing System with [vapour barrier][vapour retarder], [fully adhered][mechanically attached] insulation, and adhesive applied membrane, as well as all related roofing accessories in strict accordance with specifications and details approved by the roof system manufacturer.

## ADMINISTRATIVE REQUIREMENTS

### Section [ ]: Project management and coordination procedures.

### Coordination:

#### Coordinate with other work having a direct bearing on work of this section.

#### Coordinate the work with the installation of associated metal flashings, as the work of this section proceeds.

### Pre-installation Meetings:

#### Convene [one (1) week] [[\_\_\_\_] weeks] before starting work of this section.

#### Review preparation and installation procedures and coordinating and scheduling required with related work.

## SUBMITTALS

Do not request submittals if this specification section or drawings sufficiently describe the products of this section

### Section [ ]: Submission procedure

### Product Data: Provide characteristics on membrane materials, flashing materials, insulation, vapour retarders, [protective coating].

### Samples: Submit [two (2)], [<[\_\_\_\_\_] mm><<[\_\_\_\_\_] inch>>] in size illustrating [insulation] [coloured coating].

### Shop Drawings:

#### Tapered insulation, roof cricket infill, setting plan layout, and details.

#### Membrane layout on detailed roof plan, complete with full assembly section, vertical parapet details, joint or termination detail conditions, and conditions of interface with other materials.

### Manufactures field reports: Indicate procedures followed; ambient temperatures, humidity, wind velocity during application, [\_\_\_\_\_].

### Sustainable Design:

#### Section[ ]: LEED documentation procedures.

#### Provide required LEED documentation for Product [recycled content] [regional materials] [low-emitting materials].

#### Manufacturer's Certificate: Certify that Products meet or exceed [specified requirements].

## QUALITY ASSURANCE

### Roofing Contractor shall be an approved applicator of the roofing system supplier. The Prequalified contractors are: [\_\_\_\_\_].

### Workmen shall be trained and experienced in the installation of this type of roofing system and shall be under full time competent supervision.

### Comply with all industry recommended safety practices during construction.

### Perform Work to [CRCA Roofing Specifications Manual] [manufacturer's written instructions] [[\_\_\_\_] Manual]. Maintain [one (1) copy] [[\_\_\_\_] copies] of document on site.

## DESIGN *[REGULATORY]* REQUIREMENTS

Only include this article when required by applicable code criteria.

### Conform to applicable code for roof assembly fire hazard requirements.

Edit the following paragraphs as appropriate to code, Owner, or Owner's Insurance Underwriter requirements. Insurance underwriters will assess an Owner's building for floor and roof assembly types and determine insurance premiums accordingly. Delete paragraphs if inapplicable.

### [CAN/ULC-S107]: Class [A] Fire Hazard Classification.

The following paragraph applies to metal deck assemblies only.

### The specified roofing assembly must have been successfully tested by a qualified testing agency to resist the design uplift pressures calculated according to

#### *ANSI/SPRI WD-1 "Wind Design Standard Practice for Roofing Assemblies” American Society of Civil Engineers (ASCE 7) International Building Code (IBC). Or*

#### *[FM]: Roof Assembly Classification, Class [1] Construction, wind uplift requirement of [1-60] [1-90], in accordance with FM 1-28 "Design Wind Loads" and complies with FMG Property Loss Prevention Data Sheet 1-29 for enhancements at the perimeter and corners.*

#### *CSA A123.21 and Provincial Building Code wind uplift requirements; obtain applicable wind isotachs and Building Code hourly wind velocity pressure for 1 in 50 year return value, necessary for the selection of the proper roof system design specific to this project.*

## DELIVERY, STORAGE, AND PROTECTION

### Deliver all roofing materials in original, unopened containers, complete with labels indicating brand name, contents, usage instructions and safety precautions. Membrane rolls are to be left in their unopened packaging until prior to install.

### Protect membranes from cuts, abrasion or other abuse that might adversely affect performance in service.

### Adhesives, sealants and flashing accessories are to be stored in a clean, dry area at a temperature between 5°C and 27°C. When the temperature is expected to fall below 5°C, outside heated storage boxes should be provided on the roof for temporary storage of adhesives and sealants.

### Protect insulation, vapour retarder and other materials subject to water damage while stored on the job-site by covering them with a weatherproof tarpaulin and keeping them a minimum 15 cm (6") off of the deck or ground.

## SITE CONDITIONS

### Ambient Conditions:

#### Do not apply roofing membrane during inclement weather or when ambient temperature falls below **-5** degrees C or above **30** degrees C.

#### Install each roof layer on a dry substrate, free of snow and ice. Use only dry materials and apply only during weather that will not introduce moisture into the system.

#### Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.

### Schedule and execute work to prevent leaks and excessive traffic on completed roof sections. Care should be exercised to provide protection for the interior of the building and to ensure water does not flow beneath any completed section of the membrane system.

## WARRANTY

### Contractor's Warranty: Provide two (2) year warranty on roofing, dated from time of Substantial Performance. The contractor will repair, at their expense, any leaks in the roofing membrane and membrane flashing including any related Sheetmetal work.

### Manufacturer's Warranty: Roof System Manufacturer shall provide a written [Lexguard Classic, Essential, and Ultimate] warranty on supplier's standard form for a period of [5, 10, 20, 25, 30] years from the date of roofing system completion.

### Projects with extended wind speed warranty coverage greater than 90 km/h and projects requiring a 20 year or greater Lexguard Ultimate warranty will require a design review by Lexcan’s design department.

### All membrane and accessory components must be Lexsuco Corporation products or approved equal.

# Products

SPECIFIER: Rigid roof support panels are commonly used on steel roof decks to provide a smooth surface and leveling layer for the air/vapour retarder in a conventional roofing system and act as a thermal barrier under insulation products. Please ensure specified support panels are approved by roof system manufacturer.

## VAPOUR RETARDER SUPPORT PANELS

### GLASS FACED GYPSUM BOARD: Panels composed of gypsum core, reinforced, faced with glass mat conforming to ASTM C1177, Standard Specification for Glass Mat *(Gypsum Substrate for Use as Sheathing.)*

#### Thickness: [6.4 mm (¼ in)], [12.7 mm (½ in)], [15.9 mm (⅝ in)]

#### Specified product: [coated], [non-coated] Georgia-Pacific Gypsum LLC; DensDeck or comparable product as supplied by Lexsuco Corporation.

### LIGHTWEIGHT CEMENTITIOUS PANELS: Low density, fibre reinforced, water resistant cement support panels.

#### Thickness: 11.1 mm (7/16 in)

#### Specified product: Dexcell Cement Roof Board or comparable product as supplied by Lexsuco Corporation.

## VAPOUR RETARDER

SPECIFIER: Lexcor self-adhesive vapour retarder membranes do not require primer on metal decking. However, usually requires primer for concrete decks. Self-adhered membrane cannot be used under insulation boards adhered with hot ashphalt, Permate Kraft paper products will have to be considered in this type of application.

SPECIFIER: Lexshield self-adhesive vapour retarder adheres very well to a clean metal deck surface, no support panel is required.

### PRIMER ADHESIVE: Synthetic elastomeric based liquid adhesive used to bond self-adhesive membrane to [steel, concrete, wood] wood deck.

#### Specified product: Lexcor Multigrip Fire Retardant Primer by Lexsuco Corporation.

### POLYETHYLENE SHEET VAPOUR RETARDER: to CAN/CGSB -51.34-M86, sheet with moisture vapour transmission rate less than 2.4 ng/Pa•s• m2 (0.04 perms) when tested in accordance with ASTM E-96, procedure B Construction.

#### Thickness: [0.15 mm (6 mil)], [0.25 mm (10 mil)]

#### Specified product: Lexcor PE-[6,10] Vapour Retarder sealed with Lexcor Lexshield Tape by Lexsuco Corporation. Use Lexshield peel & stick Air and Vapour Barrier Membrane for protrusions and openings to secure vapour barrier continuity.

### POLYETHYLENE SELF ADHERED AIR/VAPOUR RETARDER: shall be a ‘peel and stick’ membrane consisting of cross laminated, high density polyethylene film laminated to a high tack, all temperature adhesive, backed with a [silicone release liner], [plastic release liner]. Vapour Barrier shall demonstrate a typical moisture vapour transmission rate of [11.5 ng/Pa•s• m2 (0.2 perms) when tested in accordance with ASTM E-96, procedure A, a typical tensile strength in excess of 48 kPa in accordance with ASTM D-882 and a minimum 180° peel strength of 400 g/cm after 6 weeks adhered to stainless steel at 22°C.

NOTE: Vapour Barrier membrane shall be appoved by manufacturer for installation down to -20°C (-4°F) without the aid of primers.

#### Thickness: 0.2 mm (8 mil)

#### Specified product: Lexcor LexShield™ Air/Vapour Barrier Membrane by Lexsuco Corporation.

### TEXTURED POLYETHYLENE SELF ADHERED VAPOUR RETARDER: Reinforced membrane with weaved polypropylene laminated to a non-weaved polyester top layer: moisture vapour transmission rate less than 2.4 ng/Pa•s• m2 (0.04 perms) when tested in accordance with ASTM E-96, procedure B Construction.

#### Thickness: 0.15 mm (6 mil)

#### Specified product: Lexcor Permate Stick Peel n’ Stick Type 1 Vapour Barrier by Lexsuco Corporation.

### ASPHALT LAMINATED REINFORCED KRAFT PAPER VAPOUR RETARDER: Fibreglass edge reinforced kraft Fibreglass edge reinforced Kraft vapour retarder conforming CAN/CGSB-51.33M89, Type II, *Vapour Barrier Sheet Excluding Polyethylene* to for Use in Building Construction.

#### Specified product: Lexcor Permate Vapour Barrier by Lexsuco Corporation.

### TWO PLIES OF NO. 15 ASPHALT PERFORATED FELT: Two plies of asphalt saturated organic roofing felt, perforated, conforming to CSA123.3-05, Type I, Asphalt Saturated Organic Roofing Felt, laminated and adhered to the substrate with hot asphalt.

#### Specified product: Lexcor No. 15 Perforated Roofing Felt by Lexsuco Corporation.

### MODIFIED BITUMEN MEMBRANE BASE SHEET: SBS roofing membrane, mopping grade, with [composite heavy-duty] [non-woven polyester reinforcement] [and glass mat], conforming to CGSB 37-GP-56M, *Membrane, Modified, Bituminous, Prefabricated and Reinforced for Roofing.*

#### Thickness: [2 mm (80-mil)] minimum

#### Specified product: [ ]

## INSULATION

### EXPANDED POLYSTYRENE INSULATION (EPS): An unfaced styrene polymer material produced by a mold/expansion process that results in coarse closed cells containing air. Insulation shall conform to CAN/ULC-S701, Type [1,2,3].

#### Thickness: [Base Layer size], [Top Layer size] [ ] *(can be specified as thick as 24”, typical sheet size is 48”x48” or 48”x96”. Shiplap can be added ½” or ⅝”.)* [mechanically attached, (4,6,8,10,12,16,20 fasteners/ board], [fully adhered]

#### Specified product: Izolon expanded polystyrene insulation board by Fransyl Ltd.

NOTE: EPS should not be used under an adhered membrane when a solvent based adhesive is used. Consult a Lexcan Technical Representative for special installation instructions where solvent adhesives are used. EPS is available in the following strengths: 12 psi, 18 psi, 23 psi, 30psi, 40 psi and 60 psi.

### EXPANDED POLYSTYRENE PREFABRICATED INSULATION BOARD: High density panels composed of high-density closed-cell polyisocyanaurate foam core with coated fibreglass facers. Panels shall conform to CAN/ULC S-704, factory laminated to an unfaced styrene polymer material produced by a mold/expansion process that results in coarse closed cells containing air. Insulation shall conform to CAN/ULC-S701, Type [1,2,3].

#### Thickness: [Base Layer Board Size]: 1220mm x 2440mm (4’- 0” x 8’- 0”) [mechanically attached, (4,6,8,10,12,16,20 fasteners/ board], [fully adhered]. Thickness, [50mm - 610mm] [2” – 24”] inches, [shiplapped edges all 4 sides]

#### Specified product: Izolon R+ (2 in 1) prefabricated insulation panel by Fransyl Ltd.

### POLYISOCYANURATE INSULATION: A rigid foam insulation produced from a chemical reaction between polyol and polymeric isocyanate that results in closed cells containing captive blowing agents. The foam core is integrally laminated to [organic felt paper, or inorganic fibreglass-reinforced facers]. Insulation shall conform to CAN/ULC S-704, *Standard for Thermal Insulation, Polyurethane and Polyisocyanurate Boards, Faced.*

#### Thickness: [Base Layer Board Size]: [(1220mm x 2440mm), (1220mm x 1220mm) (4’- 0” x 8’- 0”), (4’- 0” x 4’- 0”) [mechanically attached, (4,6,8,10,12,16,20 fasteners/ board], [fully adhered]. Thickness, [25mm - 115mm] [1” – 41/2”] inches.

#### Specified product: [Lexcor Isolex™, Lexcor Isolex™ II] manufactured by Lexsuco Corporation.

### TAPERED [CRICKET] INSULATION: Insulation panels are to measure 1220 mm (4') square and are to slope at the rate of 2%, with a minimum thickness of [50mm, 101.6 mm (4",2”) inches at the drains. Shiplapped edge 2”x 2”, panels are to be positioned and installed in accordance with the shop drawings.

#### Specified product: [Bizolon R+ (2 in 1) prefabricated insulation panel by Fransyl Ltd.], [Lexcor Isolex™, Lexcor Isolex™ II] manufactured by Lexsuco Corporation.

## COVERBOARDS

### HIGH DENSITY POLYISOCYANURATE PANEL: High density panels composed of high density closed cell polyisocyanaurate foam core with coated fibreglass facers. Panel shall be compliant with ASTM C 1289, Type II, Class 4, Grade 1, 2 and 3. Panels shall conform to CAN/ULC S-704, Standard for Thermal Insulation, Polyurethane, and Polyisocyanurate Boards, Faced.

### Thickness: 6.4 mm (1/4 in)

### Specified product: Lexcor Lexboard by Lexsuco Corporation.

## MEMBRANE MATERIALS

SPECIFIER: Lexcan and Hi-Tuff TPO membranes are available in highly reﬂective white, tan, and gray colours, in 45-mil, 60-mil and 80-mil thicknesses. (EXTRA High Slope with an additional flame retardant for higher-slope fire code approvals is also available). Sixteen special colours are also available (contact your local Lexcan representative for details). Hi-Tuff TPO is offered in 4, 5 and 6-ft perimeter sheets and 8, 10, and 12-ft ﬁeld sheets. All rolls come in 100’ lengths.

### Membrane: Thermoplastic Polyolefin (TPO) Membrane

#### Description: (White, Grey, Tan) Reinforced TPO roofing membrane. Formulated for long-term, direct exposure to the elements. Prefabricated membrane, conforming to ASTM D-6878, *Standard Specification for Thermoplastic Polyolefin Based Sheet Roofing*.

#### Thickness: [1.1 mm (45 mil)],[1.5 mm (60 mil)],[2.0 mm (80 mil)], [*add 75-mil for fleece-backed products]*

#### Specified product: [Lexcan Hi-Tuff TPO Reinforced Membrane][ Lexcan Hi-Tuff Fleece-backed CA TPO Membrane] by Lexsuco Corporation.

## ADHESIVE MATERIALS

SPECIFIER: Lexcan Hi-Tuff TPO Bonding Adhesive – 5.6 m᷾² (60 ft²) per gallon finished surface. Coverage rates are average and may vary due to conditions on the job site. .

LEXCOR INSULTAC II: Fleeceback Membrane installation adhesive low viscosity insulation adhesive is a two component, essentially VOC free, all purpose, low rise, polyurethane foamable adhesive that contains no solvents and sets in minutes. Application is quick and easy resulting in significant labor savings for the roofing contractor. See Lexcor Product Data sheet for packaging, coverage rates and list of dispensing equipment. In roof retrofit applications approved substrates shall be tested in conformance with “ANSI/SPRI IA-1 2010-Standard field test procedure for determining the mechanical uplift resistance of Insulation adhesives over various substrates.” Contact your Lexcan Representative for details.

### SOLVENT-BASED BONDING ADHESIVE: Solvent-based bonding adhesive used to attach membrane to substrate, either horizontally or vertically.

#### Specified Product: Lexcan Hi-Tuff TPO Bonding Adhesive by Lexsuco Corporation.

### WATER-BASED BONDING ADHESIVE: Water-based, formulated for compatibility with EPDM or TPO membrane and substrate materials

#### Specified Product: Lexcan BA-160 Bonding Adhesive by Lexsuco Corporation.

### POLYURETHANE FOAMABLE ADHESIVE: Two part, urethane based, low rise foaming adhesive [bead applied][spray applied] used for bonding fleeceback membrane to various surfaces. Insultac Adhesive can also be used as an insulation adhesive over compatible substrates. To attach insulation boards and Membrane Adhesive to manufacturers approved substrates.

#### Specified Product: Lexcor InsulTac II Insulation Adhesive.

### LOW-RISE POLYURETHANE FOAM: A low rise polyurethane foam used to attach insulation to manufacturers approved substrates. Consult membrane manufacturer for application rates.

#### Specified Product: Lexcor Lexphalt Foamed Polyurethane Adhesive by Lexsuco Corporation.

## INSULATION FASTENERS

### Description: Insulation securement screws are to be Factory Mutual listed and approved #12 diameter with round or flat head, corrosion treated to withstand 30 cycles of the Kesternich test with only a minimum amount of red rust showing. Fasteners must penetrate a minimum 19 mm (3/4") into steel decks or 25 mm (1") into wood decks. Holes for concrete anchors must be pre-drilled not less than 21 mm (1/2") deeper than the penetration depth of the fastener, with a drill bit recommended by the fastener manufacturer. Stress plates are to be 76 mm (3") diameter galvalume metal to fit screw.

### Specified Product: Lexcor Lexgrip™ Insulation Fasteners or [Lexcor Lexgrip™ Pre-Assembled Insulation Fasteners] treated with Cx-5 coating, complete with metal stress plate.

## WOOD NAILERS

### Description: Blocking and rough framing. No.1 Spruce conforming to National Grades Authority, Standard Grading Rules for Canadian Wood to CSA 0141-05. Wood for roofing to be pressure treated to CSA 080-97, Series (R2002). Plywood Sheathing to be exterior grade conforming to CSA 0121-M1978 or CSA 0151-M1978, select grade, good one side, thickness as indicated.

Select flashings compatible with membrane and associated materials. T-Joint Covers and pre-fabricated flashing accessories are also available.

## ACCESSORIES

### PARAPET/WALL FLASHING: TPO membrane as described in 2.5 cut to appropriate widths and lengths.

### FLASHINGS: Lexcan Hi-Tuff TPO Un-reinforced Membrane by Lexsuco Corporation.

### PERIMETER SECUREMENT: Lexcan Hi-Tuff TPO Stripbond II by Lexsuco Corporation

### COVERSTRIP: Lexcan Hi-Tuff TPO PS Coverstrip by Lexsuco Corporation.

### PRIMER: Lexcan Hi-Tuff TPO Primer by Lexsuco Corporation.

### MEMBRANE CLEANER: Lexcan Weathered Membrane Cleaner by Lexsuco Corporation.

### CUT EDGE SEALANT: Lexcan Hi-Tuff TPO Cut Edge Sealant by Lexsuco Corporation.

### WATER CUT OFF MASTIC: Lexcan Universal Single Ply Sealant by Lexsuco Corporation.

### POURABLE SEALER: Lexcan Thermoplastic Pourable Sealer by Lexsuco Corporation.

### TERMINATION SEALER TAPE: Lexcan Water Cut-Off Tape by Lexsuco Corporation.

### TERMINATION BAR: Lexcan Termination Bar by Lexsuco Corporation.

### PIPE FLASHINGS: Lexcan Hi-Tuff TPO Pre-formed Pipe Boots or Split Pipe Boots by Lexsuco Corporation.

### IRREGULAR ROOF PROTRUSIONS: Lexcan Hi-Tuff TPO Molded Sealant Pockets and Lexcan Thermoplastic Pourable Sealer by Lexsuco Corporation.

### TRAFFIC PADS: Lexcan Hi-Tuff TPO Walkways by Lexsuco Corporation.

### ROOF EDGE AND FLASHING METAL: Lexcan Hi-Tuff TPO Metal, matching the colour of the membrane by Lexsuco Corporation.

## ROOF SYSTEM FLASHING ACCESSORIES

SPECIFIER: Most Lexcor accessories can be custom fabricated to suit the projects unique features. Roof drains can be pre-assembled complete with flow control inserts and maxflow seal to seal a retrofit roof drain to an existing drainpipe rapidly and efficiently. Vent stack flashings can be ordered extra long so that they can be fastened to roof deck to make up the length for R-30 insulation thicknesses. If standard sizes are used wood blocking curb shall need to be shown on a detail to the construction documents.

### VENT STACK FLASHING: Vent caps shall be sealed to the pipe with Lexcor Flash-Tite™ Drain and Vent Seals. Vent pipes shall be flashed to the roof membrane with two part, telescoping vent stack covers featuring an 18” high base flange and a 127mm (5”) Cap. Vent Stack flashing shall be fabricated from seamless spun aluminum. Caps and base flanges are to match the size of vent pipe. Install in strict accordance with manufacturer’s directions and flash into the roof membrane in accordance with the roofing membrane manufacturer’s directions and good roofing practice. Vent Stack Flashing as supplied by Lexsuco Corporation, Lexcor Flash-Tite™ Standard Vent Stack Covers (Seamless spun mill finish VB-418-Cap model SCA-4).

### VENT STACK FLASHING (B VENT): B-Vent Flashings shall be fabricated from a single piece of spun aluminum metal this is free from joints. Flashing stack is to be fourteen inches (12,14,18”) high complete with Rain Collar. Base flanges are to match the size of vent pipe. Install in strict accordance with manufacturer’s directions and flash into the roof membrane in accordance with the roofing membrane manufacturer’s directions and good roofing practice. B-Vent Stack Flashing as supplied by Lexsuco Corporation, Lexcor Flash-Tite™ B-Vent Flashings.

### ROOF DRAINS: New Construction drain hoppers shall be 2 mm thick seamless spun aluminum and feature a 430 mm (17") diameter flashing flange, 250 mm (10") downspout, membrane stop and clamping ring studs. [Drains shall also include an integral deck clamp assembly composed of a 65 mm thick cast aluminum hopper reinforcement ring welded to the hopper and adjustable aluminum deck clamp mounted on 4 stainless steel rods]. Drains shall come complete with separable cast aluminum membrane clamping ring, 178 mm (7”) high cast aluminum strainer [and spun aluminum Flow Control Insert].

#### Specified Product: Lexcor Flash-Tite™ NC Aluminum Super Drains [with: Flash-Tite™ Integral Deck Clamp; Flash-Tite™ Flow Control Insert; Mechanical Joint Connector] by Lexsuco Corporation. Drain sizes to match drain pipe diameters.

### ROOF DRAINS: Retrofit drain hoppers shall be 2 mm thick seamless spun aluminum and feature a 430 mm (17") diameter flashing flange, 305 mm (12") downspout, membrane stop and clamping ring studs. Drains shall come complete with separable cast aluminum membrane clamping ring, 178 mm (7”) high cast aluminum strainer, stainless steel hardware [and spun aluminum Flow Control Insert].

#### Specified Product: Lexcor Flash-Tite™ RR Aluminum Super Drains [with: Flash-Tite™ Integral Deck Clamp; Flash-Tite™ Flow Control Insert; Flash-Tite™ Drain and Vent Seal; U-Flow Pipe Seal] by Lexsuco Corporation. Drain sizes to match drain pipe diameters.

### SUPPORTS: for Gas pipes; Structural Support Base shall consist of a Pressure moulded using a one or two part mix, utilising milled, sieved and graded Styrene Butadiene Rubber (SBR-Recycled Rubber). Accessory must be complete with 40mm x 20mm Aluminium Channel supplied recessed and bonded into the top face of the foot and BBJ insulclamps to support piping. Specified Product: Fix-it Foot Low 250 (250mm x 130mm x 50mm) supplied by Lexsuco Corporation.

### CONDUIT/PIPE SPLIT FLASHING: Two part stainless steel base and floating rain collar, complete with selvedge style seam, pre-applied seam sealant, stainless steel screws and nuts and EPDM rubber pipe seal strip. [Base flashing is to be insulated on the jobsite with moisture resistant rubber foam].

#### Specified Product: Lexcor Flash-Tite™ Conduit (Split) Flashing, model no. \_\_\_\_\_\_\_ by Lexsuco Corporation.

### HVAC & ELECTRICAL FLASHINGS : To be fabricated from seamless spun aluminum, complete with primer coated flanges. Use appropriate flashing for each application.

#### Specified Products: Lexcor Flash-Tite™ Electrical Wire Outlet Post [ 30 cm; 46 cm] high base, complete with rigid PVC cap fitting. Model no. \_\_\_\_\_\_ by Lexsuco Corporation.

#### Specified Products: Lexcor Flash-Tite™ Electrical Wire Socket or Switch Posts [ 30 cm; 46 cm] high base, complete with rigid PVC cap fitting. Model no. \_\_\_\_ by Lexsuco Corporation.

#### Specified Products: Lexcor Flash-Tite™ B-Vent Flashing, diameter to match chimney diameter, complete with adjustable galvanized steel rain collar by Lexsuco Corporation.

#### Specified Products: Lexcor Flash-Tite™ pre-fabricated mastic sealer pockets ("pitch pockets"). [130 mm (5"); 230 mm (9")] high x appropriate diameter to exceed diameter or width of protrusion by 50 mm (2"). Pockets to be sealed with Lexcan Pourable Sealer, a two-part urethane, self-levelling sealant by Lexsuco Corporation.

### ROOF HATCH UNIT[S]: Single leaf type, 762 mm x 914 mm [2’-6” x 3’-0”] inch size, listed by Lexcor: R-100 (Ladder Access) Roof Hatch.

This can be used for simple specifications, Short Form Specification sample. R-100G/DD/VG/SB/R20 (signifies a 30” x 36” galvanized steel hatch with double clear acrylic dome glazing, vandalproof grid, safety bar handle and R-20 insulation system.

**Metal Fabrication Alternatives:**

**G:** Grey primer coated Galvanized Steel; 14 ga. curb & door(s), 22 ga. door liners.

**A:** Mill finished Aluminum; 11 ga. curb & door(s), 18 ga. door liners.

**S:** Stainless Steel.

**C:** Copper (24 oz)

**F**: Galvanized Curb with Aluminum Lid.

**Other Options:**

**SB**: Safety Bar Handle.

**VG**: Vandal Guard.

**SS:** Stainless Steel Hardware.

**D:** Single clear acrylic dome glazing.

**DD**: Double clear acrylic dome glazing.

**DW**: Single white acrylic dome glazing.

**DDW:** Double dome; clear over white glazing.

16”: 16” (406 mm) high curb

18”: 18” (457 mm) high curb

24”: 24” (610 mm) high curb

**SR:** Safety Rail System

**R20**: R-20 Insulation System

**WGC**: Wind Gust Control Unit,

Minimum height the curb should be above the roof system is 8” I recommend that you go 12”

**Piston Forces**: Depending on the wind forces on the hatch if the force is pushing the door open from below then you want to choose the piston that (pulls the door closed)

#### Specified Product: Lexcor R-100G/WGC/SB/R30 by Lexsuco Corporation.

#### Steel Cover and Curb: 2.95 mm [11 gauge] thick primer coated galvanized steel and shall be neatly welded and ground at corners. Door shall have two layers of 66.1mm [2.6 inches] polyisocyanurate insulation; door liner shall be 18 gauge primer coated galvanized steel. Curb shall be *[<305mm; [12 inch]; 457mm [18 inch]; 610mm [24 inch] >> ]* high with two layers of 66.1mm [2.6 inch] polyisocyanurate insulation secured to the curb exterior. Curb shall have 89 mm [3.5 inch, pre-punched flanges. Curb and cap assembly shall be complete with extended flanges ready to receive roof flashings.

#### Roof Hatches Hardware:

##### Wind Gust Control Unit: shall be mounted on the inside of the hatch opposite to the steel hold open arm. Piston forces shall pull the door closed; or [push door open.

##### Roof hatch shall be completely assembled with heavy duty pintle, torsion bar operated doors, latching mechanism, *interior and/or [exterior]* padlock hasps and neoprene draft seal. Door shall be equipped with an steel hold open arm with foam rubber grip handle. All hardware shall be cadmium plated.

##### Hatch shall be equipped with 35mm [1’-3/8”] diameter Safety Bar coated with mil PVC colour coated roof safety green. Safety Bar shall be mounted on the *[right; left]* corner of hatch curb with out impeding operation of the door.

# Execution

## EXAMINATION

Select and edit the following paragraphs as appropriate to the deck type and project conditions. The following examination clauses are for new construction projects, contact your Lexcan representative for existing re-roofing Substrate Preparation.

### Verify actual site dimensions and location of adjacent materials prior to commencing work. Notify Consultant in writing of any conditions, which would be detrimental to installation.

### Verify deck is clean and smooth, free of depressions, waves, or projections, properly sloped to drains.

### Ensure mechanical and electrical systems have been co-ordinated and curbs have been constructed.

### Examine substrate for compliance of conditions that affect installation and performance of the roof system.

### Verify roof openings, curbs, pipes, conduit, sleeves, ducts, and vents through roof are solidly set, and wood nailing strips are in place.

## PREPARATION - CONCRETE DECK

### Fill surface honeycomb and variations with latex filler.

## VAPOUR RETARDER APPLICATION

Use following article when a self-adhesive vapour retarder is specified. Make sure that the substrate is approved for this type of installation.

### Application of Self Adhesive Vapour Retarder

#### Where the vapour retarder is applied to a support panel, use only vapour retarder support panels approved by the membrane manufacturer.

#### Where the self-adhesive vapour retarder is to be adhered to a cementitious panel, apply a light coat of primer as recommended by the membrane manufacturers.

#### All surfaces to be primed must be free of dust, or any residue that may hinder adhesion of the vapour retarder. Cover primed surfaces with vapour retarder as soon as possible.

Note: Consult membrane manufacturer for cold weather installation limitations and instructions

#### When applied directly to steel deck align the roll parallel to the flutes of the deck. Ensure that the vapour retarder overlaps are positioned on the top ribs of the deck and supported along their entire length.

#### Beginning at the bottom of the slope and without adhering the membrane, unroll onto the substrate for alignment. Do not immediately remove the release sheet.

#### Overlap each preceding sheet by 75 mm (3 in) at the side laps and 150 mm (6 in) at end laps. Stagger end laps by a minimum of 300 mm (12 in).

#### Once aligned peel back one end of the release sheet and adhere the exposed membrane to the substrate. Peel back the remaining release sheet at a 45º angle to avoid wrinkles in the membrane.

#### If the membrane is not properly aligned, do not adjust it. Instead, cut the roll and start again, making sure that it is properly aligned and that it overlaps the end of the misaligned piece by 150 mm (6 in).

#### Roll the self-adhesive vapour retarder onto the substrate with a 34 kg (75 lb) roller. Finish by aligning the edge of the roller with the lower end of the side laps and rolling up the membrane. Do not cut the membrane to remove air bubbles trapped under the laps. Squeeze out air bubbles by pushing the roller to the edge of the lap.

### Application of Heat Welded Vapour Retarder

Ensure roofing substrates and adjoining work or construction elements pose no fire hazards when heat welding equipment is used. Do not heat weld directly onto surfaces that are easily ignitable (wood or wood composites) or at locations where chimney or back draft effects could pull flames into concealed areas. Consult membrane manufacturer.

#### Primed surfaces must be dry when the vapour retarder is installed.

#### Heat weld the thermofusible vapour retarder onto the substrate in conformance with the manufacturer's written recommendations.

#### Unroll vapour retarder membrane dry onto substrate and align.

#### Overlap side laps a minimum of 75 mm (3 in) and end laps 150 mm (6 in). End laps shall be staggered a minimum of 300 mm (12 in). Begin work at bottom of slopes.

#### Torch membrane so a visible bead of bitumen appears as the membrane is unrolled, ensuring the vapour retarder's complete adherence.

#### Seal vapour retarder membrane at all perimeters, transitions and around each penetration to ensure continuity.

### Application of Polyethylene Vapour Retarder

#### Lay vapour retarder loose over support panel, or directly onto steel deck. Overlap all edges minimum of 100mm (4 in) and seal with butyl tape.

#### Where the polyethylene vapour retarder is applied directly to steel deck, align the roll parallel to the flutes of the deck. Ensure that the membrane overlaps are positioned on the top ribs of the deck and supported along their entire length.

#### Seal vapour retarder membrane at all perimeters, transitions and around each penetration to ensure continuity.

#### Seal the vapour retarder to the vertical surfaces at all roof penetrations, curbs and parapets.

### Installation of Fibreglass Reinforced Asphalt Coated Base Sheets

#### Starting at low point, and right angles to the slope, embed sheet in hot asphalt applied at a rate of 1 to 1.5 kg/m² (0.2 to 0.3 lb/ft²). Asphalt shall be Type [II] [III].

#### Overlap side laps by a minimum 75 mm (3 in) and end laps by 150 mm (6 in). Laps shall be staggered a minimum of 300 mm (12 in).

#### Coat the vapour barrier with hot asphalt applied at a rate of 1 to 1.5 kg/m² (0.2 to 0.3 lb/ft²). If asphalt is to be used to adhere the insulation, embed the specified insulation into the hot asphalt top coat.

#### Seal vapour retarder membrane at all perimeter transitions, and around each penetration to ensure continuity.

### Application of Kraft Laminated Vapour Retarder

Consult the manufacturer as needed for required instructions related to specified vapour retarder.

#### Apply vapour retarder to substrate with specified adhesive in conformance with the manufacturer's recommendations.

#### Overlap side laps a minimum of 100 mm (4 in) and end laps a minimum of 150 mm (6 in).

#### Seal side laps and end laps with recommended adhesive in conformance with manufacturer's recommendations.

#### Seal vapour retarder membrane at all perimeters, transitions and around each penetration to ensure continuity.

### Application of Type IV or Type VI Glass Ply Sheet

#### Starting at low point, at right angles to the slope, embed type IV or VI glass ply sheets in hot asphalt.

#### Asphalt shall be Type II, or III.

#### Interply mopping shall be applied at a rate of 1 kg/m² (0.2 lb/ft²).

#### Coat the vapour retarder with hot asphalt applied at a rate of 1 to 1.5 kg/m2 (0.2 to 0.3 lb/ft²).

#### If asphalt is to be used to adhere the insulation, embed the specified insulation into the hot asphalt top coat.

#### Seal vapour retarder membrane at all perimeters, transitions and around each penetration to ensure continuity.

### Installation of No. 15 Mopped Vapour Retarder

#### Starting at low point, at right angles to the slope, embed two plies of No. 15 perforated felt in hot asphalt. For 2-ply construction use side laps of ½ width of sheet plus 25 mm (1 in) and end laps of 150 mm (6 in).

#### Asphalt shall be Type II, or III. Interply mopping shall be applied at a rate of 1 kg/m².

#### Coat the vapour barrier with hot asphalt applied at a rate of 1 to 1.5 kg/m² (0.2 to 0.3 lb/ft²). If asphalt is to be used to adhere the insulation, embed the specified insulation into the hot asphalt top coat.

#### Seal vapour retarder membrane at all perimeters, transitions and around each penetration to ensure continuity.

## INSULATION APPLICATION

SECIFIER: If using perimeter strip, coordinate application with Carpentry section.

Select and edit either of the following articles; the first article is for glued application of insulation with supplementary mechanical fasteners at the roof area perimeter; the second optional article is for full roof area mechanical fastening of insulation. If a combination of glued application and supplementary mechanical fasteners is required, select and edit either article as appropriate. Each relevant paragraph must be edited to address single or double thickness insulation; constant or tapered thickness insulation.

SPECIFIER: Only include the following paragraph if a manufacturer actually publishes installation instructions - many do not. If the manufacturer does NOT publish such a document, ensure all install criteria that are important to the project, is specified below.

### *[Insulation shall be installed according to the insulation manufacturer instructions]*.

### Where there is no support panel, install insulation so that long dimensions of the board are parallel with the flutes of the steel deck and fully supported on the top rib.

Include lines 3 to 6 if fully adhering and/or adhering insulation with a combination of fastening.

### Attach with low-rise (Lexcor InsulTac II) insulation adhesive. Apply directly to the substrate using a ribbon style pattern. Make sure that substrate is clean and dry. Space ½”, [3/4’,1”] (13mm, 19mm,) diameter beads on [4”,6”,12”] (100mm,150mm) centres to achieve proper coverage rates for insulation attachment. As adhesive is applied, immediately place the insulation board into wet adhesive. Do not allow the adhesive to skin over

### Where more than one layer of insulation is used, stagger joints at least 300mm (12in) between layers.

### Position Insulation Board in adhesive, ensuring panels are butt-edged together with a maximum separation of 2 mm. Walk the boards into the adhesive and roll using the 30” wide, 100 – 150 pound weighted steel roller to ensure full embedment. Optimal set up time should be approximately 5 to 10 minutes.

### After the adhesive has dried, test each panel to ensure it is completely secured to the deck. If it is not 100% secure, the insulation panel must be removed and discarded. A new insulation panel must be adhered in its place. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL INSULATION PANELS ARE PROPERLY ADHERED TO THE SUBSTRATE.

### Mechanically fasten composite layer of insulation through the vapour retarder and into the deck using fasteners and plates specified in 2.6. Mark out any conduit runs on the surface of insulation prior to fastening. Ensure that plates have been sufficient clamping force so as not to compromise the vapour retarder. Do not overdrive the screws.

### Butt-edges together with a maximum separation of 2mm.

### Insulation shall be neatly cut to fit around penetrations and projections.

### Install tapered insulation around drains creating a drain sump.

### Insulation shall be neatly cut to fit around penetrations and projections.

### Do not install more insulation boards than can be covered with membrane by the end of the day or the onset of inclement weather.

### Do not drive fasteners into any utility lines such as electrical, conduit or gas pipes.

### Minimum penetration to fasten into a metal deck is 19 mm (3/4 in.), or [Minimum penetration to fasten into a concrete deck is (1)” (25.4mm).]

### Minimum number of fasteners required per 4’x8’ sheet is [4,6,8,10,12,16,20] in the field.

Use Item .16 method when insulation is too thick to fasten with screws maximum screw length aloud is 12”.

### Attach any 4’x 4’ tapered insulation with low-rise (Lexcor InsulTac II) insulation adhesive. Apply directly to the substrate using a ribbon style pattern. Make sure that substrate is clean and dry.

## COVER BOARD APPLICATION

### Attach with low-rise (Lexcor InsulTac II) insulation adhesive. Apply directly to the substrate using a ribbon style pattern. Make sure that substrate is clean and dry.

### Stagger joints at least 300mm (12 in) between layers. All tapered insulation joints should be overlapped by the cover board.

### Position Cover Board in adhesive, ensuring panels are butt-edged together with a maximum separation of 2 mm. Walk the boards into the adhesive and roll using the 30” wide, 100 – 150 pound weighted steel roller to ensure full embedment. Optimal set up time should be approximately 5 to 10 minutes.

### After the adhesive has dried, test each panel to ensure it is completely secured to the deck. If it is not 100% secure, the insulation panel must be removed and discarded. A new insulation panel must be adhered in its place. Ensure all insulation panels are properly adhered to substrate

## MEMBRANE APPLICATION

See Fleece-backed data sheet for membrane application.

### The contractor shall be responsible for the suitability of the substrate surface to accept the membrane. Ensure cover board surface or substrate is clean, flat and free from dirt, debris or sharp objects that might be detrimental to the performance of the membrane.

### The ambient temperature should be +5° C and rising when fully adhering the membrane.

### Unroll membrane sheets and position according to the approved shop drawings. For roofs with edge drainage, start at the low edge with the first sheet and install adjacent sheets by overlapping the lower sheets. For roofs with interior drainage, start with the first sheet centred on the drain valley and install adjacent sheets by overlapping the lower sheet. Outside perimeter sheets shall be brought to the base of the perimeter parapet or wall and turned up the wall (76.2mm) 3” and secured with a batten every 6” on center. Adjoining sheets are to overlap a minimum of 140 mm (5.5") on sides and wherever fasteners are included within the seam. End laps without fasteners are to be lapped a minimum of 140 cm (5.5").

### Optionally, the membrane may be extended up and over a parapet wall or a roof edge, provided it is secured along the perimeter edge using the Stripbond II™ or Lexcan PS Batten Bar method of perimeter securement. As shown in Lexcan detail H-E-018.

### Fold the sheet in half lengthwise to expose one-half of the sheet underside.

### Apply Hi-Tuff TPO Bonding Adhesive with a plastic core, medium nap roller to the underside of the roofing membrane and to the substrate at the combined net coverage rate of 5.7 m2 (60 Sq.Ft.) / gallon. Do not apply the Bonding Adhesives to areas on the membrane that are to be heat welded. Apply both adhesives evenly, without globs or puddles. Allow both adhesives to flash-off until they are tacky but do not string when touched with a dry finger.

### If the adhesive becomes contaminated by blowing dust, moisture, walking in it, etc. it should be allowed to completely dry (no longer tacky) and new adhesive applied to both surfaces.

### When the adhesives have sufficiently dried, carefully unroll the glued portion of the membrane back over the glued substrate, avoiding wrinkles, voids or air pockets. Immediately, roll with weighted steel roller or brush the membrane heavily with a push broom to ensure 100% complete contact.

### Fold back the other half of the sheet and repeat steps .3 through .7

### Layout subsequent sheets by positioning them so they overlap the previously adhered sheet by a minimum of 50 mm (3"). Seam overlaps should be overlapped downward (shingle fashion) to avoid catching water. Heat weld the subsequent sheet to the first sheet as per section [*3.7*] below. Once the weld has cooled, completely fold the subsequent sheet back over the splice to expose the entire underside of the subsequent sheet. Apply Hi-Tuff TPO Bonding Adhesive as per section [*.6*] above

## SPLICING MEMBRANE SHEETS

Verify compatibility of flashing materials with roofing system materials.

### Field's seams must be welded with an automatic hot air welder operated by an individual thoroughly trained and competent in the machine's operation. Small work and repairs can be done efficiently with a hand welder. However, hand-held welders are not an accepted means of field seaming.

### Hot air weld all seams a minimum of 38 mm (1.5”) wide.

### Dirty, dusty or contaminated membrane or membrane exposed for more than seven days prior to welding must be cleaned with Lexcan Weathered Membrane Cleaner. With a clean scrub pad saturated with Cleaner, aggressively scrub the seam area of the roof membrane. Follow with a final one swipe pass, being careful not to re-deposit contaminants back onto the cleaned area. Ensure that the Seam Cleaner and adjacent Bonding Adhesive have completely flashed off before welding. Follow standard welding procedures with a 20% reduction in speed.

### All splices are to be probed along their entire length with a seam probing tool to verify that the welder is operating effectively. The membrane must be allowed to cool prior to testing. In addition, there should be a destructive peel strength test performed at the start of each day and each time the robot welder is reused after being allowed to cool. The destructive test sample should be 5 cm (2") wide and should show membrane delamination from the scrim prior to weld failure. Roofing contractor must date the test samples and submit them to the system manufacture.

### Cut membrane edges shall be sealed by applying Hi-Tuff TPO Cut Edge Sealant along the exposed edge.

## PERIMETER FLASHING AND SECUREMENT

### Install the (roof edge system; gravel stop; drip edge) according to an approved Lexcan detail and in accordance with the manufacturer's directions. Nailers are required at all roof edges, gravel stops or drip edges.

### DIRECT FASTENER PERIMETER SECUREMENT METHOD: Hi-Tuff TPO membrane shall be brought to roof edges, parapets, walls, expansion joints, curbs and all other roof penetrations that exceed 60 cm (24”) in any dimension and turned up the wall (76.2mm) 3” and secured with a batten every 6” centered at the vertical plan to the parapet (12") centres with Lexcor Lexgrip Membrane Fasteners and Plates.

### Reinforced Hi-Tuff TPO flashing membrane shall be extended up all parapet walls, curbs, roof edges, etc. If using the Direct Fastener Method of perimeter securement, the flashing membrane must extend a minimum of 140 mm (5-1/2”) beyond the Perimeter edge out onto the flat area of the roof.

### Hi-Tuff TPO membrane shall be used for all vertical flashings and shall extend from a seam just beyond the perimeter fastener row, up to the curb or parapet. Apply with Hi-Tuff TPO Bonding Adhesive as per sections 3.5.6 to 3.5.7. Be careful not to wrinkle the membrane or bridge it at the vertical / horizontal juncture (crease the membrane first). Brush the membrane heavily with a push broom to ensure complete contact.

### Unless approved detail shows otherwise, membrane must either terminate in a reglet, be fastened according to paragraph .6 below, or be carried over the top of wall or parapet and counter-flashed with sheet metal or a stone cap. All metal work must be installed to be wind resistant and sealed and waterproofed in an acceptable manner.

### If terminating membrane part way up to a wall or parapet, apply Lexcan Water Cut-Off Tape to the backside of membrane edge. Press membrane against wall and roll with a steel hand roller. Fasten Lexcan Termination Bar along the upper edge of the membrane into the wall, using appropriate fasteners on 15 cm (6") centres. Apply Lexcan Universal Single Ply Sealant along the upper edge of the Termination Bar and over the top of all fastener heads.

## PROTRUSION AND CORNER FLASHINGS

### Install pre-formed metal flashings; drain hoppers, etc. according to the manufacturer's installation instructions.

### Flash all corners, vent pipes, posts, curbs and pre-formed flashings in strict accordance with current Lexcan installation instructions and details. Use Hi-Tuff TPO Bonding Adhesive as per section 3.6, above. Do not apply the Bonding Adhesives to areas on the Flashing that are to be seamed. Seam as per section 3.7 above.

### All flashing shall be mechanically fastened at the top, under or through appropriate counterflashing with approved fasteners and in accordance with Lexcan details.

### Membrane connections to drains are to be sealed with All-Purpose Sealant or Lexcan Water Cut-Off Tape and clamped with a clamping ring to ensure a 100% continuous seal, as per Lexcan details. Field seams shall not run through drains.

## TRAFFIC WALKWAYS

### Ensure membrane to receive traffic pads is clean and dry. If the membrane is not clean and dry, follow the steps in section 3.6.3 before proceeding with the remainder of this section.

### Position the walkway pad and cut to desired length. Wherever possible, walkway pad shall not cover seams. When installed adjacent to a seam, the pad should be kept a minimum 50 mm (2”) from the edge of the seam on the bottom sheet and 15 cm (6”) away from the edge of the seam on the top sheet.

### When covering seams is unavoidable; the lap seam should be completed per section 3.6 above and thoroughly probed, with any deficiencies corrected prior to pad installation.

### Where drainage around the pads is desired, cut pads to a uniform length and space the sections 50 mm (2”) apart.

### Weld the perimeter of the walkway pad to the membrane following standard welding procedures. Leave 25 mm to 50 mm (1” to 2”) gaps in the weld on the low slope edge every 60 cm (2 ft.) to prevent the accumulation of water under the pad.

## METAL COUNTERFLASHING, CAP, SCUPPERS AND FASCIA FLASHINGS

### Allow warranty inspector to inspect all membrane flashings and roofing before installation of metal counterflashing and fascia.

### Install all metal counter-flashing and fascia in strict accordance with CRCA 'FL' specifications and good roofing practice.

### Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance and performance. Mitre all corners. Irregular or badly fabricated work will not be accepted. Hem all edges 12 mm (1/2") and cut corners of straight edges on a 45° angle. Remove all burrs and metal scrap.

### Use concealed fastening and clamping (termination) bars to secure fascia and counter-flashing.

### Use standard 2.44 m (8') metal lengths. Space joints symmetrically and evenly in relation to the module, columns, pre-cast panels or other distinguishing features of the building. Use tight-fitting S-lock joints. Fabricate joints to permit free movement of metal without leaking.

### Apply isolation membrane or coating to separate dissimilar metals or metal from concrete.

## TEMPORARY NIGHT SEAL

### At the end of each day or at the threat or onset of inclement weather, the insulation shall be protected by extending the membrane beyond the insulation and sealing it to the deck with an approved temporary sealant. Ensure membrane edge is either mechanically fastened or sufficiently ballasted to protect against wind uplift.

### When resuming works cut and dispose of the portion of membrane contaminated with the night sealant.

## FIELD QUALITY CONTROL

Only include this article if special field inspection services will be involved.

### Obtain written report from manufacturer verifying compliance of Work, in handling, installing, applying, protecting and clearing of product.

### The Manufacturer’s representative will regularly review the fieldwork, to verify the satisfactory completion of the work in accordance with the Manufactures Membrane System Warranty.

### Once the project is in progress work will be continuous, weather permitting, until completion.

### Do not conceal or cover any phase of the work until after it has been inspected and approved by the Roof System Manufacture.

### Roofing System Manufacturer (Lexcan) must be notified in writing that the project is ready for a Final Inspection within 120 days of substantial completion of the roofing system. All trades that have work to do on the roof must be completely finished. All TPO seams and details will be probed and voids will be clearly marked with a red crayon. If a Final Inspection indicates that deficiencies are still outstanding, then additional Final Inspections will be conducted until all work has been completed to the Manufactures satisfaction.

## CLEANING

This article is intended to supplement cleaning requirements specified in Division 01 sections. Edit this article to supplement Division 01 statements.

### In areas where finished surfaces are soiled by Work of this section, consult manufacturer of surfaces for cleaning advice and conform to their instructions.

## PROTECTION OF FINISHED WORK

### Protect building surfaces against damage from roofing work.

### Where traffic must continue over finished roof membrane, protect surfaces.

END OF SECTION