SECTION 08 36 13

OVERHEAD SECTIONAL DOORS

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\*\* NOTE TO SPECIFIER \*\* Upwardor ; premium insulated sectional overhead door products.  
.  
This section is based on the products of Upwardor , which is located at:  
8025 Lawson Rd.  
Milton, ON, Canada L9T 5C4  
Toll Free Tel: 800-667-3367  
Tel: 905-876-3667  
Email: [request info (info@upwardor.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=Upwardor+&coid=48112&rep=&fax=&message=RE:%20Spec%20Question%20(08360upw):%20%20&mf=)  
Web: [www.upwardor.com](http://www.upwardor.com)   
 [ [Click Here](http://www.arcat.com/arcatcos/cos48/arc48112.html) ] for additional information.  
Canadian owned and operated since 1973, Upwardor is known world wide for our quality products, continuous innovation, exceptional customer service and commitment to excellence. At Upwardor,® we are leaders in manufacturing premium insulated sectional overhead doors and operating systems for residential garages, and commercial applications including warehouses, car dealerships, car/truck washes, to name a few. With several international patents in place and CE-Certification Accreditation, our products incorporate leading-edge technologies, energy efficiency and trend-setting designs.  
Upwardor® offers a wide selection of sectional overhead garage doors for both residential and commercial applications. With four commercial lines; Thermalex®, AL976, Solalite, and Pow'Air'Dor™, and a residential line, Stylistic® 3000 (which includes Escarpment Collection of wood grain colors and our newest addition, Bronte Creek Collection, an authentic replication of an historical carriage house door), we are confident that we have a product to suit your needs. Please browse our website to obtain more detailed information.  
Upwardor® distributes its products for new construction and retro-fit, through a large network of professional door dealers worldwide. Our excellent customer service policy has enabled us to maintain our long term dedicated customers, in addition to continually growing our dealer distribution.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Residential overhead sectional door.
    2. Commercial overhead sectional door.
    3. Operating Hardware, tracks, and support.
    4. Electric Operators and Controls.
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 05 50 00 - Metal Fabrications.
    2. Section 06 11 00 - Wood Framing.
    3. Section 07 90 00 - Joint Protection.
    4. Section 08 71 53 - Security Door Hardware.
    5. Section 08 83 13 - Mirrored Glass Glazing.
    6. Section 09 90 00 - Painting and Coating.
    7. Section 11 21 23.13 - Vending Machines.
    8. Section 27 05 39 - Surface Raceways for Communications Systems.
    9. Section 26 05 00 - Common Work Results for Electrical.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
    2. ASTM B 209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (ASTM B209-10 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate).
    3. ASTM B 221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (ASTM B221-12 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes).
    4. ASTM E 330 - Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
    5. CAN/CGSB 12.1-M90 - Tempered or Laminated Safety Glass.
    6. CSA-C22.1-12 - Canadian Electrical Code, Part I (22th Edition), Safety Standard for Electrical Installations.
    7. CAN/CSA-C22.2 No. 100-04 (R2009) - Motors and Generators.
    8. NEMA MG1 - Motors and Generators.
  1. DESIGN / PERFORMANCE REQUIREMENTS

\*\* NOTE TO SPECIFIER \*\* Use the applicable building code to determine the actual loading required and edit the following paragraph accordingly. Coordinate with the manufacturer for the selection of doors to meet the required criteria.

* + 1. Wind Loads: Design and size components to withstand loads caused by pressure and suction of wind acting normal to plane of wall as calculated in accordance with applicable code.
       1. Design pressure of \_\_\_\_\_\_\_\_ lb/sq ft (\_\_\_\_\_\_\_\_kPa).

\*\* NOTE TO SPECIFIER \*\* Edit the following paragraph for power operators as required. Delete if not required.

* + 1. Wiring Connections: Requirements for electrical characteristics.
       1. 115 volts, single phase, 60 Hz.
       2. 230 volts, single phase, 60 Hz.
       3. 230 volts, three phase, 60 Hz.
       4. 460 volts, three phase, 60 Hz.
    2. Single-Source Responsibility: Provide doors, tracks, motors, and accessories from one manufacturer for each type of door. Provide secondary components from source acceptable to manufacturer of primary components.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data: Manufacturer's data sheets on each product to be used, including:
        1. Preparation instructions and recommendations.
        2. Storage and handling requirements and recommendations.
        3. Installation methods.
     3. Shop Drawings: Indicate opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, installation details.

\*\* NOTE TO SPECIFIER \*\* Delete the following paragraphs if LEED is not applicable.

* + 1. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
       1. List of proposed materials with recycled content. Indicate post-consumer recycled content and pre-consumer recycled content for each product having recycled content.
       2. Product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content.
       3. Product Data for Regional Materials: Submit data, including location and distance from Project of material manufacturer and point of extraction, harvest or recovery for main raw material.

\*\* NOTE TO SPECIFIER \*\* Delete selection samples if colors have already been selected.

* + 1. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
    2. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.
    3. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
    4. Closeout Submittals:
       1. Operation and Maintenance Data: Provide manufacturer's operation and maintenance instructions that include recommendations for periodic checking and adjustment and periodic cleaning and maintenance of all components. Include electrical control adjustments and data for spare part sources.
       2. Warranty Documentation: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer
  1. QUALITY ASSURANCE
     1. Installer Qualifications: Company specializing in performing the work of this section with minimum 3 years documented experience and approved by the manufacturer.

\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
       1. Finish areas designated by Architect.
       2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
       3. Refinish mock-up area as required to produce acceptable work.
  1. DELIVERY, STORAGE, AND HANDLING
     1. Store products in manufacturer's unopened packaging until ready for installation.
     2. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
  2. SEQUENCING
     1. Ensure that locating templates and other information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.
     2. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
  3. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

\*\* NOTE TO SPECIFIER \*\* Select warrantee for the products(s) specified as required from the following paragraphs and delete the ones not required.

* 1. WARRANTY
     1. Provide manufacturer's Lifetime limited warranty for Miltown Collection Residential Garage Doors.
     2. Stylistic 3000 Provide manufacturer's Lifetime limited warranty with standard 3 year limited hardware warranty on all moving and non-moving parts for Stylistic 3000 Residential Garage Doors.
     3. Provide manufacturer's Lifetime limited warranty with 6 year warranty on optional continuous pivoting bracket and hardware for all moving and non-moving parts for Stylistic 3000 Residential Garage Doors.
     4. Provide manufacturer's 15-Year Limited Warranty on motor and parts for Eagle 500 Residential door operators.
     5. Provide manufacturer's Lifetime Limited Warranty on motor and parts for Eagle 700 Residential door operators.
     6. Provide manufacturer's 5 year manufacturer's limited warranty for AL976 and Solalite Commercial Sectional Overhead Doors.
     7. Provide manufacturer's 10 year manufacturer's limited warranty for AL976 and Solalite Commercial Sectional Overhead Doors.
     8. Provide 5 year manufacturer's warranty for degradation of finish, including cracking, rust through or delamination for Thermalex TX380 Commercial Sectional Overhead Doors.
     9. Provide 10 year manufacturer's warranty for degradation of finish, including cracking, rust through or delamination for Thermalex TX450, TX450-20, TX500, TX500-20 Commercial Sectional Overhead Doors.
     10. Provide manufacturer's 5 year manufacturer's limited warranty for electric operating equipment for Commercial Sectional Overhead Doors.
     11. Provide manufacturer's 10 year manufacturer's limited warranty for electric operating equipment for Commercial Sectional Overhead Doors.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer Upwardor; 8025 Lawson Rd., Milton, ON, Canada L9T 5C4. ASD. Phone: 905-876-3667. Phone Toll Free: 800-667-3367. Email: \_\_\_\_\_\_\_\_\_. Web: www.upwardor.com

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* Edit the following paragraphs to include the products required and applicable to project requirements. Delete the paragraphs that are not applicable.

* 1. RESIDENTIAL OVERHEAD SECTIONAL DOORS

\*\* NOTE TO SPECIFIER \*\* Miltown Collection Residential Garage Door are available up to a maximum width of 18 feet and a maximum height of 10 feet 0 inches.

* + 1. Insulated Steel Sectional Overhead Doors: Miltown Collection Residential Garage Door with standard tongue and groove joint and a true thermal break.
       1. Door Assembly: Rigid steel fully insulated construction with a metal foam metal sandwich panel.

\*\* NOTE TO SPECIFIER \*\* Consult with manufacturer for available configuration sizes. Note that standard panel section heights are 18 inches, 21 inches and 24 inches.

* + - * 1. Size: As indicated on the Drawings.
        2. Panel Thickness: 1-3/4 inch (44.45 mm) nominal.
        3. Tongue and groove joint with closed cell foam tape.
        4. Panel Style:

\*\* NOTE TO SPECIFIER \*\* Select panel style required from the following paragraphs and delete the ones not required.

Sheridan raised panel.

Bronte Creek, carriage house.

Trafalgar, ribbed panel.

* + - * 1. Panel Thermal Break: Chemically sealed and bonded
        2. Exterior Steel: 26 gauge (0.46 mm) nominal, high strength hot dipped galvanized steel with an embossed wood grain texture.
        3. Interior Steel: \_\_ gauge (\_\_ mm) nominal, high strength hot dipped galvanized steel with a stucco embossed texture.
        4. Insulation: Zero ODP Polyurethane/Continuous.
        5. Thermal Values: R-Value 16.3, U-Value 0.06.
        6. Horizontal Reinforcement Strip: 20 Gauge, 3 per panel.
        7. End Stiles: Galvanized: 20 Gauge.
        8. Window Style:

\*\* NOTE TO SPECIFIER \*\* Select window style required from the following paragraphs and delete the ones not required.

Yorkland Window, Acrylic Single Panel

Hyde Park, Acrylic Single Panel

Madison, Acrylic Single Panel

Madison-LP, Acrylic Single Panel

Sparkel Single Pane

Sparkel-LP Single Pane

Cathedral, Short panel, single pane with insert

Watertown, Short panel, single pane with insert

Sherwood, Short panel, single pane with insert

Stockton, Short panel, single pane with insert

Williamsburg, Short panel, single pane with insert, 2 piece set.

Cascade, Short panel, single pane with insert

Williamsburg, Short panel, single pane with insert, 8 piece set.

Heratage-LP, Long panel, single pane with insert.

Stockton-LP, Long panel, single pane with insert.

Arched Heritage-LP, Long panel, single pane with insert.

No window.

* + - * 1. Panel Finish: Exterior and interior steel skins, hot dipped, galvanized, primed and pre-finished with a polyester topcoat. Color as follows:

\*\* NOTE TO SPECIFIER \*\* Select panel color required from the following paragraphs and delete the ones not required.

White

Light Oak

Almond

Sandstone

Walnut

Medium Oak

Brown

Rosewood

* + - 1. Lock: Interior mounted slide lock.
      2. Track: Provide track as recommended by manufacturer to suit loading required and clearances available.
      3. Standard rollers.

\*\* NOTE TO SPECIFIER \*\* Select one of the following operation paragraphs and delete the one not required.

* + - 1. Manual Operation.
      2. Electric Openers: Eagle Series Garage Door Opener
         1. Size:

Eagle 500 1/2 HP.

Eagle 700 3/4 HP.

* + - * 1. Power Supply:

120 V/60 Hz

220 V/60 Hz

* + - * 1. Safety Features:

Infra-red Photo-Eye Reversal System.

Automatic Force Learning System automatically reverses door if it comes in contact with any obstruction

Soft Start, Soft Stop System with gentle initial door travel that ramps up to full speed midway, and slows down at the end.

* + - * 1. Controls

Multi-bit Code System. with over 284 trillion possible random digital code combinations

Anti-Theft System. Senses when someone is trying to pry open the door from fully closed, at rest position and automatically applies counter force to prevent the door from opening.

Wireless Keyless Entry System. Capable of programing up to three operators on one keyless entry.

\*\* NOTE TO SPECIFIER \*\* Stylistic 3000 Residential Garage Door are available in widths of 8 feet to 18 feet and a maximum heights of 6 feet 6 inches to 10 feet 0 inches.

* + 1. Insulated Steel Sectional Overhead Doors: Stylistic 3000 Residential Garage Door with Pinch Resistant Joint on Interior and Exterior and a Sweeping Action Weather Seal between every joint.
       1. Door Assembly: Rigid steel fully insulated construction with a metal foam metal sandwich panel.

\*\* NOTE TO SPECIFIER \*\* Consult with manufacturer for available configuration sizes. Note that standard panel section heights are 18 inches, 21 inches and 24 inches.

* + - * 1. Size: As indicated on the Drawings.
        2. Panel Thickness: 1-3/8 inch (35mm) nominal.
        3. Exterior and a Sweeping Action Weather Seal.

\*\* NOTE TO SPECIFIER \*\* Select the following optional pivoting bracket if required from the following paragraph and delete if not required. Bracket offers additional barrier against air infiltration.

* + - * 1. Continuous Pivoting Bracket .
        2. Panel Style:

\*\* NOTE TO SPECIFIER \*\* Select panel style required from the following paragraphs and delete the ones not required.

Sheridan raised panel.

Bronte Creek, carriage house.

Trafalgar, ribbed panel.

* + - * 1. Panel Thermal Break: Chemically sealed and bonded
        2. Exterior Steel: 26 gauge (0.46 mm) nominal, high strength hot dipped galvanized steel with an embossed wood grain texture.
        3. Interior Steel: \_\_ gauge (\_\_ mm) nominal, high strength hot dipped galvanized steel with a stucco embossed texture.
        4. Insulation: Zero ODP Polyurethane/Continuous.
        5. Thermal Value: R-Value 12.
        6. Horizontal Reinforcement Strip: 20 Gauge, 3 per panel.
        7. End Stiles: Galvanized: 20 Gauge.
        8. Window Style:

\*\* NOTE TO SPECIFIER \*\* Select window style required from the following paragraphs and delete the ones not required.

Yorkland Window, Acrylic Single Panel

Hyde Park, Acrylic Single Panel

Madison, Acrylic Single Panel

Madison-LP, Acrylic Single Panel

Sparkel Single Pane

Sparkel-LP Single Pane

Cathedral, Short panel, single pane with insert

Watertown, Short panel, single pane with insert

Sherwood, Short panel, single pane with insert

Stockton, Short panel, single pane with insert

Williamsburg, Short panel, single pane with insert, 2 piece set.

Cascade, Short panel, single pane with insert

Williamsburg, Short panel, single pane with insert, 8 piece set.

Heratage-LP, Long panel, single pane with insert.

Stockton-LP, Long panel, single pane with insert.

Arched Heritage-LP, Long panel, single pane with insert.

No window.

* + - * 1. Panel Finish: Exterior and interior steel skins, hot dipped, galvanized, primed and pre-finished with a polyester topcoat. Color as follows:

\*\* NOTE TO SPECIFIER \*\* Select panel color required from the following paragraphs and delete the ones not required.

White

Light Oak

Almond

Sandstone

Walnut

Medium Oak

Brown

Rosewood

* + - 1. Lock: Interior mounted slide lock.
      2. Track: Provide track as recommended by manufacturer to suit loading required and clearances available.
      3. Standard rollers.

\*\* NOTE TO SPECIFIER \*\* Select one of the following operation paragraphs and delete the one not required.

* + - 1. Manual Operation.
      2. Electric Openers: Eagle Series Garage Door Opener
         1. Size:

Eagle 500 1/2 HP.

Eagle 700 3/4 HP.

* + - * 1. Power Supply:

120 V/60 Hz

220 V/60 Hz

* + - * 1. Safety Features:

Infra-red Photo-Eye Reversal System.

Automatic Force Learning System automatically reverses door if it comes in contact with any obstruction

Soft Start, Soft Stop System with gentle initial door travel that ramps up to full speed midway, and slows down at the end.

* + - * 1. Controls

Multi-bit Code System. with over 284 trillion possible random digital code combinations

Anti-Theft System. Senses when someone is trying to pry open the door from fully closed, at rest position and automatically applies counter force to prevent the door from opening.

Wireless Keyless Entry System. Capable of programing up to three operators on one keyless entry.

* 1. COMMERCIAL OVERHEAD SECTIONAL DOORS

\*\* NOTE TO SPECIFIER \*\* AL967 sectional overhead aluminum door are suitable for openings up to 24 feet wide by \_\_\_ feet high.

* + 1. Aluminum Full View Doors: AL967 Aluminum Stile and rail aluminum with full width glazing panels and aluminum infill panels.
       1. Nominal Thickness: Nominal 1-3/4 inches (45 mm) thick.
       2. Door Sections: Extruded aluminum ASTM B221 (ASTM B221M), 6063-T6 stiles and rails; minimum 0.070 inches (2 mm) thick with 3 mm (0.115 inches) thickness at hardware locations; tongue and groove rails. Provide doors over 14 feet (4.24 m) wide with stile and rail reinforced with integral strut bar.
       3. Glazed Panels: Set in continuous vinyl bead with removable PVC snap-on molding.

\*\* NOTE TO SPECIFIER \*\* Select one of the following glazing paragraphs and delete those not required.

* + - * 1. Double pane of 1/2 inch (13 mm) insulating glass unit
        2. Single pane of 1/8 inch (3 mm) tempered glass
        3. Single pane of 1/8 inch (3 mm) polycarbonate
        4. Single pane of 1/8 inch (3 mm) acrylic
      1. Solid Infill Panels:

\*\* NOTE TO SPECIFIER \*\* Select one of the following panel paragraphs and delete those not required.

* + - * 1. 0.050 inch (1.3 mm), sheet aluminum ASTM B209M (ASTM B209), stucco embossed.
        2. 3/8 inch (10 mm) anti-dent sheet aluminum, stucco embossed.
        3. Insulated Thermalex 2000 panels, stucco embossed.

\*\* NOTE TO SPECIFIER \*\* Select one of the following finish paragraphs and delete those not required.

* + - 1. Finish and Color:
         1. Anodized Finish: Clear anodized.
         2. Anodized Finish: Bronze anodized.
         3. Powder coat finish bronze light.
         4. Powder coat finish bronze medium.
         5. Powder coat finish bronze dark.
         6. Powder Coating Finish: Color as selected by Architect from manufacturer's standard colors.
      2. Weatherstripping:
         1. Sill: Low temperature resilient vinyl astragal, one-piece; fitted to bottom of door panel, full length contact.
         2. Jamb: Aluminum and vinyl for full height of jamb, placed in moderate contact with door panels.
         3. Head: Low temperature, one-piece full length top retainer/seal.
         4. Panel Joint: Bulb-type, one-piece full length resilient weatherseal.

\*\* NOTE TO SPECIFIER \*\* Note, a locking door is usually associated with manually operated door assemblies; an electric disconnect is usually used with electric door assemblies.

* + - 1. Lock: Inside center or side mounted, adjustable keeper, spring activated latch bar with feature to retain in locked or retracted position; with interior or exterior handle with lock keyed as specified in Section 08 70 00 - Hardware.
      2. Lift Type:

\*\* NOTE TO SPECIFIER \*\* Select one of the following lift type paragraphs and delete the ones not required.

* + - * 1. Standard lift.
        2. Vertical lift.
        3. High lift.
        4. Low headroom

\*\* NOTE TO SPECIFIER \*\* Select the one of following paragraphs as required and delete the one not required.

* + - 1. Track, Hinge and Roller Assembly: Provide as recommended by manufacturer to suit loading required and clearances available.
      2. Track, Hinge and Roller Assembly Provide high humidity corrosion resistant package as recommended by manufacturer to suit loading required and clearances available.
      3. Bottom Bracket: Galvanized steel, minimum 2.66 mm (12 gauge) thick with removable aluminum roller holder.
      4. Galvanized Torsion Springs: Provide with cable drums suitable for lift type specified, with galvanized steel aircraft grade lifting cables designed to suit door weight at a safety factor of 5:1

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the ones not required. 10,000 cycles are standard.

* + - * 1. 10,000 cycles.
        2. 25,000 cycles.
        3. 50,000 cycles.
        4. 75,000 cycles.
        5. 100,000 cycles.
        6. 125,000 cycles.
      1. Operation:

\*\* NOTE TO SPECIFIER \*\* Select one of the following Operation paragraphs and delete the ones not required.

* + - * 1. Manual: Maximum exertion of 110 N (25 lbs) force.
        2. Pneumatic operation.
        3. Electric Semi-automatic.
        4. Electric Fully automatic.

\*\* NOTE TO SPECIFIER \*\* Select from the following three operation options.

* + - 1. Power Door Operation: Motor and motor control listed and classified by UL/CSA as suitable for the purpose specified. Conform to applicable code for motor and motor control requirements.

\*\* NOTE TO SPECIFIER \*\* Pneumatic operation is suitable for explosive environments, or other non-automated environments that do not have an electrical power source. This comes with control panel and FRL Unit (filter/regulator/lubricator).

* + - * 1. Model # AOVP: Pneumatic operation only; no electrical controls or devices.

Lever valve to activate open and close cycle; constant or momentary signal.

Pneumatic open and close push buttons mounted on control box cover; constant or momentary signal.

\*\* NOTE TO SPECIFIER \*\* Electrically controlled panels are suitable for all types of overhead door applications. It is specifically designed to handle all types of corrosive and high cycle environments and can operate up to 5 feet (1500 mm) per second, with minimal maintenance and a low energy footprint.

* + - * 1. Model # EVP: Electric valve panel complete with directional valve, speed control valve, noise suppression muffler, FRL unit, transformer 120 VAC to 24 VAC, fittings, tubing, LED indicating lights for visual troubleshooting, in NEMA 4X enclosure with clear view cover for walk by inspections.

\*\* NOTE TO SPECIFIER \*\* Select one or more of the following options.

Reversing pressure switch to reverse door upon contact with object; safety edge on bottom of door not required.

NEMA 4X thru beam photo eye with water proof housings for safety reverse when photo eye is obstructed.

Emergency pneumatic panel mounted push buttons for open and close functions in the event of power failure.

Compressor auto drain with variable timer to drain compressor of water and debris from tank.

NEMA 4X push button station for open/close.

3/8 ports for systems using 2 inch (50 mm) operator.

* + - * 1. Model # CVP: Fully automated control valve panel with directional valve, two-speed control valves, one for open and one for close, noise suppression muffler, FRL unit, Auto/Man selector switch, transformer 120 VAC to 24 VAC, timer to close, panel mount NEMA 4X pushbuttons for open/close, fittings, tubing, LED indicating lights for visual trouble shooting in NEMA 4X enclosure with clear view cover for walk by inspections.

\*\* NOTE TO SPECIFIER \*\* Select one or more of the following options.

Reversing pressure switch to reverse door upon contact with object; safety edge on bottom of door not required.

NEMA 4X thru beam photo eye with water proof housings for safety reverse when photo eye is obstructed.

Emergency pneumatic panel mounted push buttons for open and close functions in the event of power failure.

Compressor auto drain with variable timer to drain compressor of water and debris from tank.

NEMA 4X panel-mounted push buttons for open/close.

NEMA 4X push button station for open/close.

3/8 ports for systems using 2 inch (50 mm) operator.

In-ground vehicle loop detector for automatic open.

Motion detector for automatic open.

Transmitter/receiver.

Traffic lights for signaling traffic.

\*\* NOTE TO SPECIFIER \*\* Solalite Translucent sectional overhead aluminum door can withstand demanding environmental conditions, and is impact resistant, corrosion resistant and moisture resistant. They are suitable for openings up to 24 feet wide by \_\_\_ feet high.

* + 1. Translucent Aluminum Doors: Solalite stile and rail aluminum thermally-broken frame with full width glazing panels and aluminum infill panels.
       1. Nominal Thickness: Nominal 2 inches (50.8 mm) thick.
       2. Door Sections: Extruded aluminum ASTM B221 (ASTM B221M), 6063-T6 stiles and rails; minimum 0.070 inches (2 mm) thick with 3 mm (0.115 inches) thickness at hardware locations; stile and rail with reinforced integral strut bar; interlocking rails with continuous hinge.

\*\* NOTE TO SPECIFIER \*\* Select the following optional thermal break paragraph if required. Delete if not required.

* + - * 1. Provide a thermal break at perimeter framing including meeting rails, end stiles and top and bottom rails.
      1. Glazed Panels: Set in continuous vinyl bead with removable PVC snap-on molding.

\*\* NOTE TO SPECIFIER \*\* Select one of the following glazing paragraphs and glazing type. Delete those not required. Full view panel may be used on doors up to 10 foot wide.

* + - 1. Oval Cut Out Window: 18 inches by 8 inches (457 mm by 203 mm):
         1. Single pane of 1/8 inch (3 mm) polycarbonate
         2. Single pane of 1/8 inch (3 mm) acrylic
         3. Single pane of 1/4 inch (6 mm) polycarbonate
         4. Single pane of 1/4 inch (6 mm) acrylic
      2. Full View Glazed Panel: Runs the full width of the door.
         1. Five wall, translucent polycarbonate 5/8 inch (6 mm) thick, in clear, light or dark bronze tint.
         2. Single pane of 1/8 inch (3 mm) polycarbonate
         3. Single pane of 1/8 inch (3 mm) acrylic
         4. Single pane of 1/4 inch (6 mm) polycarbonate
         5. Single pane of 1/4 inch (6 mm) acrylic
      3. Solid Infill Panels:

\*\* NOTE TO SPECIFIER \*\* Select one of the following panel paragraphs and delete those not required.

* + - * 1. 0.050 inch (1.3 mm), sheet aluminum ASTM B209M (ASTM B209), stucco embossed.
        2. 3/8 inch (10 mm) anti-dent sheet aluminum, stucco embossed.
        3. Insulated Thermalex 2000 panels, stucco embossed.

\*\* NOTE TO SPECIFIER \*\* Select one of the following finish paragraphs and delete those not required.

* + - 1. Finish and Color:
         1. Anodized Finish: Clear anodized.
         2. Anodized Finish: Bronze anodized.
         3. Powder coat finish bronze light.
         4. Powder coat finish bronze medium.
         5. Powder coat finish bronze dark.
         6. Powder Coating Finish: Color as selected by Architect from manufacturer's standard colors.
      2. Weatherstripping:
         1. Sill: Low temperature resilient vinyl astragal, one-piece; fitted to bottom of door panel, full length contact.
         2. Jamb: Aluminum and vinyl for full height of jamb, placed in moderate contact with door panels.
         3. Head: Low temperature, one-piece full length top retainer/seal.
         4. Panel Joint: Bulb-type, one-piece full length resilient weatherseal.

\*\* NOTE TO SPECIFIER \*\* Note, a locking door is usually associated with manually operated door assemblies; an electric disconnect is usually used with electric door assemblies.

* + - 1. Lock: Inside center or side mounted, adjustable keeper, spring activated latch bar with feature to retain in locked or retracted position; with interior or exterior handle with lock keyed as specified in Section 08 70 00 - Hardware.
      2. Lift Type:

\*\* NOTE TO SPECIFIER \*\* Select one of the following lift type paragraphs and delete the ones not required.

* + - * 1. Standard lift.
        2. Vertical lift.
        3. High lift.
        4. Low headroom

\*\* NOTE TO SPECIFIER \*\* Select the one of following Hardware Component paragraphs as required and delete the one not required.

* + - 1. Door Hardware Components:

\*\* NOTE TO SPECIFIER \*\* Select the one of following paragraphs as required and delete the one not required.

* + - * 1. Track, Hinge and Roller Assembly: Provide as recommended by manufacturer to suit loading required and clearances available.
        2. Bottom Bracket: Galvanized steel, minimum 2.66 mm (12 gauge) thick with removable aluminum roller holder.
        3. Torsion Springs: Provide with cable drums suitable for lift type specified, with galvanized steel aircraft grade lifting cables designed to suit door weight at a safety factor of 5:1

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the ones not required. 10,000 cycles are standard.

10,000 cycles.

25,000 cycles.

50,000 cycles.

75,000 cycles.

100,000 cycles.

125,000 cycles.

* + - 1. Door Hardware Components with Corrosion Package:

\*\* NOTE TO SPECIFIER \*\* Select the one of following paragraphs as required and delete the one not required.

* + - * 1. Track, Hinge and Roller Assembly Provide high humidity corrosion resistant package as recommended by manufacturer to suit loading required and clearances available.
        2. Bottom Bracket: Powder coated steel, minimum 2.66 mm (12 gauge) thick with removable aluminum roller holder.
        3. Galvanized Torsion Springs: Provide with cable drums suitable for lift type specified, with stainless steel aircraft grade lifting cables designed to suit door weight at a safety factor of 5:1

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the ones not required. 10,000 cycles are standard.

10,000 cycles.

25,000 cycles.

50,000 cycles.

75,000 cycles.

100,000 cycles.

125,000 cycles.

* + - 1. Operation:

\*\* NOTE TO SPECIFIER \*\* Select one of the following Operation paragraphs and delete the ones not required.

* + - * 1. Manual: Maximum exertion of 110 N (25 lbs) force.
        2. Pneumatic operation.
        3. Electric Semi-automatic.
        4. Electric Fully automatic.

\*\* NOTE TO SPECIFIER \*\* Select from the following three operation options.

* + - 1. Power Door Operation: Motor and motor control listed and classified by UL/CSA as suitable for the purpose specified. Conform to applicable code for motor and motor control requirements.

\*\* NOTE TO SPECIFIER \*\* Pneumatic operation is suitable for explosive environments, or other non-automated environments that do not have an electrical power source. This comes with control panel and FRL Unit (filter/regulator/lubricator).

* + - * 1. Model # AOVP: Pneumatic operation only; no electrical controls or devices.

Lever valve to activate open and close cycle; constant or momentary signal.

Pneumatic open and close push buttons mounted on control box cover; constant or momentary signal.

\*\* NOTE TO SPECIFIER \*\* Electrically controlled panels are suitable for all types of overhead door applications. It is specifically designed to handle all types of corrosive and high cycle environments and can operate up to 5 feet (1500 mm) per second, with minimal maintenance and a low energy footprint.

* + - * 1. Model # EVP: Electric valve panel complete with directional valve, speed control valve, noise suppression muffler, FRL unit, transformer 120 VAC to 24 VAC, fittings, tubing, LED indicating lights for visual troubleshooting, in NEMA 4X enclosure with clear view cover for walk by inspections.

\*\* NOTE TO SPECIFIER \*\* Select one or more of the following options.

Reversing pressure switch to reverse door upon contact with object; safety edge on bottom of door not required.

NEMA 4X thru beam photo eye with water proof housings for safety reverse when photo eye is obstructed.

Emergency pneumatic panel mounted push buttons for open and close functions in the event of power failure.

Compressor auto drain with variable timer to drain compressor of water and debris from tank.

NEMA 4X push button station for open/close.

3/8 ports for systems using 2 inch (50 mm) operator.

* + - * 1. Model # CVP: Fully automated control valve panel with directional valve, two-speed control valves, one for open and one for close, noise suppression muffler, FRL unit, Auto/Man selector switch, transformer 120 VAC to 24 VAC, timer to close, panel mount NEMA 4X pushbuttons for open/close, fittings, tubing, LED indicating lights for visual trouble shooting in NEMA 4X enclosure with clear view cover for walk by inspections.

\*\* NOTE TO SPECIFIER \*\* Select one or more of the following options.

Reversing pressure switch to reverse door upon contact with object; safety edge on bottom of door not required.

NEMA 4X thru beam photo eye with water proof housings for safety reverse when photo eye is obstructed.

Emergency pneumatic panel mounted push buttons for open and close functions in the event of power failure.

Compressor auto drain with variable timer to drain compressor of water and debris from tank.

NEMA 4X panel-mounted push buttons for open/close.

NEMA 4X push button station for open/close.

3/8 ports for systems using 2 inch (50 mm) operator.

In-ground vehicle loop detector for automatic open.

Motion detector for automatic open.

Transmitter/receiver.

Traffic lights for signaling traffic.

\*\* NOTE TO SPECIFIER \*\* Themolex insulated steel panel sectional overhead doors for applications that demand the highest levels of thermal efficiency, air infiltration and wind load resistance. They are suitable for openings up to 24 feet wide by \_\_\_ feet high.

* + 1. Insulated Panel Sectional Overhead Doors Door: Themolex insulated steel panel doors with insulated windows or full view insulated glazing panels as specified.

\*\* NOTE TO SPECIFIER \*\* Select the model required from the following paragraphs. Delete the models not required.

* + - 1. Door Model: Themolex TX380:
         1. Nominal Thickness: 1-1/2 inches (38 mm)
         2. Panels: Steel construction ASTM A653/A653M galvanized to Z180 (G60; outer and inner stucco embossed steel sheet of 26 gauge (0.46 mm) thickness with horizontally ribbed profile; shiplapped weather joints at meeting rails; insulated with foamed in place insulation. Panels fabricated with single continuous sheet steel reinforcement strips, 32 mm (1-1/4 inch) wide by 0.91 mm (20 gauge) thick mounted top and bottom for hinge mounting.

\*\* NOTE TO SPECIFIER \*\* Select one of the following finish paragraphs and delete those not required.

* + - * 1. Panel Finish and Color:

Precoat exterior Brown

Precoat exterior Bright White.

Precoat color as selected by the Architect.

Precoat interior Bright White.

* + - 1. Door Model: Themolex TX450:
         1. Nominal Thickness: 1-3/4 inches (45 mm)
         2. Panels: Steel construction ASTM A653/A653M galvanized to Z180 (G60; outer and inner stucco embossed steel sheet of 26 gauge (0.46 mm) thickness with horizontally ribbed profile; tongue and groove weather joints at meeting rails; insulated with foamed in place insulation. Panels fabricated with two continuous sheet steel reinforcement strips, 32 mm (1-1/4 inch) wide by 0.91 mm (20 gauge) thick mounted top and bottom for hinge mounting.

\*\* NOTE TO SPECIFIER \*\* Select one of the following finish paragraphs and delete those not required.

* + - * 1. Panel Finish and Color:

Precoat exterior Brown

Precoat exterior Bright White.

Precoat color as selected by the Architect.

Precoat interior Bright White.

* + - 1. Door Model: Themolex TX450-20:
         1. Nominal Thickness: 1-3/4 inches (45 mm)
         2. Panels: Steel construction ASTM A653/A653M galvanized to Z180 (G60); outer stucco embossed steel sheet of 20 gauge (0.81 mm) thickness and an inner stucco embossed steel sheet of 26 gauge (0.46 mm) thickness with flush profile; tongue and groove weather joints at meeting rails; insulated with foamed in place insulation. Panels fabricated with two continuous sheet steel reinforcement strips, 32 mm (1-1/4 inch) wide by 0.91 mm (20 gauge) thick mounted top and bottom for hinge mounting.

\*\* NOTE TO SPECIFIER \*\* Select one of the following finish paragraphs and delete those not required.

* + - * 1. Panel Finish and Color:

Precoat exterior Bright White.

Precoat color as selected by the Architect.

Precoat interior Bright White.

* + - 1. Door Model: Themolex TX500:
         1. Nominal Thickness: 2 inches (50.8 mm)
         2. Panels: Steel construction ASTM A653/A653M galvanized to Z180 (G60; outer and inner stucco embossed steel sheet of 26 gauge (0.46 mm) thickness with horizontally ribbed profile; tongue and groove weather joints at meeting rails; insulated with foamed in place insulation. Panels fabricated with two continuous sheet steel reinforcement strips, 32 mm (1-1/4 inch) wide by 0.91 mm (20 gauge) thick mounted top and bottom for hinge mounting.

\*\* NOTE TO SPECIFIER \*\* Select one of the following finish paragraphs and delete those not required.

* + - * 1. Panel Finish and Color:

Precoat exterior Bright White.

Precoat color as selected by the Architect.

Precoat interior Bright White.

* + - 1. Door Model: Themolex TX500-20:
         1. Nominal Thickness: 2 inches (50.8 mm)
         2. Nominal Thickness: 1-3/4 inches (45 mm)
         3. Panels: Steel construction ASTM A653/A653M galvanized to Z180 (G60; outer stucco embossed steel sheet of 20 gauge (0.81 mm) thickness and an inner stucco embossed steel sheet of 26 gauge (0.46 mm) thickness with flush profile; tongue and groove weather joints at meeting rails; insulated with foamed in place insulation. Panels fabricated with two continuous sheet steel reinforcement strips, 32 mm (1-1/4 inch) wide by 0.91 mm (20 gauge) thick mounted top and bottom for hinge mounting.

\*\* NOTE TO SPECIFIER \*\* Select one of the following finish paragraphs and delete those not required.

* + - * 1. Panel Finish and Color:

Precoat exterior Bright White.

Precoat color as selected by the Architect.

Precoat interior Bright White.

\*\* NOTE TO SPECIFIER \*\* Select the following optional pass door paragraph if required. Delete if not required.

* + - 1. Pass Doors: Manufacturer's standard pass doors where indicated on Drawings, with glazing, operating hardware, and mortise lock; of same material, design, and finish as sectional door assembly.

\*\* NOTE TO SPECIFIER \*\* Select one of the following glazing paragraphs and size or glazing type. Delete those not required.

* + - 1. Unit Windows: Double insulating sealed unit windows with moulded plastic PVC frame:
         1. Nominal size: 18 by 8 inches (450 by 200 mm); overall thickness 1/2 inch (13 mm).
         2. Nominal size: 24 by 12 inches (600 by 300 mm); overall thickness 13 mm (1/2 inch).
      2. Full View Glazed Sections: Provide to size indicated on the Drawings. Frame is extruded aluminum, set in place with removable molding.
         1. Five wall, translucent polycarbonate 5/8 inch (6 mm) thick, in clear, light or dark bronze tint.
         2. Single pane of 1/8 inch (3 mm) polycarbonate
         3. Single pane of 1/8 inch (3 mm) acrylic
         4. Single pane of 1/4 inch (6 mm) polycarbonate
         5. Single pane of 1/4 inch (6 mm) acrylic
      3. Weatherstripping:
         1. Sill: Low temperature resilient vinyl astragal, one-piece; fitted to bottom of door panel, full length contact.
         2. Jamb: Aluminum and vinyl for full height of jamb, placed in moderate contact with door panels.
         3. Head: Low temperature, one-piece full length top retainer/seal.
         4. Panel Joint: Bulb-type, one-piece full length resilient weatherseal.

\*\* NOTE TO SPECIFIER \*\* Note, a locking door is usually associated with manually operated door assemblies; an electric disconnect is usually used with electric door assemblies.

* + - 1. Lock: Inside center or side mounted, adjustable keeper, spring activated latch bar with feature to retain in locked or retracted position; with interior or exterior handle with lock keyed as specified in Section 08 70 00 - Hardware.
      2. Lift Type:

\*\* NOTE TO SPECIFIER \*\* Select one of the following lift type paragraphs and delete the ones not required.

* + - * 1. Standard lift.
        2. Vertical lift.
        3. High lift.
        4. Low headroom

\*\* NOTE TO SPECIFIER \*\* Select the one of following Hardware Component paragraphs as required and delete the one not required.

* + - 1. Door Hardware Components:

\*\* NOTE TO SPECIFIER \*\* Select the one of following paragraphs as required and delete the one not required.

* + - * 1. Track, Hinge and Roller Assembly: Provide as recommended by manufacturer to suit loading required and clearances available.
        2. Bottom Bracket: Galvanized steel, minimum 2.66 mm (12 gauge) thick with removable aluminum roller holder.
        3. Torsion Springs: Provide with cable drums suitable for lift type specified, with galvanized steel aircraft grade lifting cables designed to suit door weight at a safety factor of 5:1

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the ones not required. 10,000 cycles are standard.

10,000 cycles.

25,000 cycles.

50,000 cycles.

75,000 cycles.

100,000 cycles.

125,000 cycles.

* + - 1. Door Hardware Components with Corrosion Package:

\*\* NOTE TO SPECIFIER \*\* Select the one of following paragraphs as required and delete the one not required.

* + - * 1. Track, Hinge and Roller Assembly Provide high humidity corrosion resistant package as recommended by manufacturer to suit loading required and clearances available.
        2. Bottom Bracket: Powder coated steel, minimum 2.66 mm (12 gauge) thick with removable aluminum roller holder.
        3. Galvanized Torsion Springs: Provide with cable drums suitable for lift type specified, with stainless steel aircraft grade lifting cables designed to suit door weight at a safety factor of 5:1

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the ones not required. 10,000 cycles are standard.

10,000 cycles.

25,000 cycles.

50,000 cycles.

75,000 cycles.

100,000 cycles.

125,000 cycles.

* + - 1. Operation:

\*\* NOTE TO SPECIFIER \*\* Select one of the following Operation paragraphs and delete the ones not required.

* + - * 1. Manual: Maximum exertion of 110 N (25 lbs) force.
        2. Pneumatic operation.
        3. Electric Semi-automatic.
        4. Electric Fully automatic.

\*\* NOTE TO SPECIFIER \*\* Select from the following three operation model options.

* + - 1. Power Door Operation: Motor and motor control listed and classified by UL/CSA as suitable for the purpose specified. Conform to applicable code for motor and motor control requirements.

\*\* NOTE TO SPECIFIER \*\* Pneumatic operation is suitable for explosive environments, or other non-automated environments that do not have an electrical power source. This comes with control panel and FRL Unit (filter/regulator/lubricator).

* + - * 1. Model # AOVP: Pneumatic operation only; no electrical controls or devices.

Lever valve to activate open and close cycle; constant or momentary signal.

Pneumatic open and close push buttons mounted on control box cover; constant or momentary signal.

\*\* NOTE TO SPECIFIER \*\* Electrically controlled panels are suitable for all types of overhead door applications. It is specifically designed to handle all types of corrosive and high cycle environments and can operate up to 5 feet (1500 mm) per second, with minimal maintenance and a low energy footprint.

* + - * 1. Model # EVP: Electric valve panel complete with directional valve, speed control valve, noise suppression muffler, FRL unit, transformer 120 VAC to 24 VAC, fittings, tubing, LED indicating lights for visual troubleshooting, in NEMA 4X enclosure with clear view cover for walk by inspections.

\*\* NOTE TO SPECIFIER \*\* Select one or more of the following options.

Reversing pressure switch to reverse door upon contact with object; safety edge on bottom of door not required.

NEMA 4X thru beam photo eye with water proof housings for safety reverse when photo eye is obstructed.

Emergency pneumatic panel mounted push buttons for open and close functions in the event of power failure.

Compressor auto drain with variable timer to drain compressor of water and debris from tank.

NEMA 4X push button station for open/close.

3/8 ports for systems using 2 inch (50 mm) operator.

* + - * 1. Model # CVP: Fully automated control valve panel with directional valve, two-speed control valves, one for open and one for close, noise suppression muffler, FRL unit, Auto/Man selector switch, transformer 120 VAC to 24 VAC, timer to close, panel mount NEMA 4X pushbuttons for open/close, fittings, tubing, LED indicating lights for visual trouble shooting in NEMA 4X enclosure with clear view cover for walk by inspections.

\*\* NOTE TO SPECIFIER \*\* Select one or more of the following options.

Reversing pressure switch to reverse door upon contact with object; safety edge on bottom of door not required.

NEMA 4X thru beam photo eye with water proof housings for safety reverse when photo eye is obstructed.

Emergency pneumatic panel mounted push buttons for open and close functions in the event of power failure.

Compressor auto drain with variable timer to drain compressor of water and debris from tank.

NEMA 4X panel-mounted push buttons for open/close.

NEMA 4X push button station for open/close.

3/8 ports for systems using 2 inch (50 mm) operator.

In-ground vehicle loop detector for automatic open.

Motion detector for automatic open.

Transmitter/receiver.

Traffic lights for signaling traffic.

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly prepared.
      2. Verify that wall openings are ready to receive work and opening dimensions and tolerances are within specified limits.
      3. Verify that electric power is available and of the correct characteristic
      4. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces thoroughly prior to installation.
      2. Prepare opening to permit correct installation of door unit to perimeter air and vapor barrier seal.
      3. Apply primer to wood frames.
      4. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   3. INSTALLATION
      1. Install in accordance with manufacturer's printed instructions.
      2. Anchor assembly to wall construction and building framing without distortion or stress.
      3. Securely brace door tracks suspended from structure. Secure tracks to structural members only.
      4. Fit and align door assembly including hardware.

\*\* NOTE TO SPECIFIER \*\* Include the following two paragraphs when electrically operated doors are specified.

* + 1. Install operator including electrical motors, controller units, pushbutton stations, relays and other electrical equipment required for door operation.
    2. Coordinate installation of electrical service. Complete power and control wiring from disconnect to unit components.
    3. Coordinate installation of sealants and backing materials at frame perimeter as specified in Section 07 90 00 - Joint Protection.
  1. ERECTION TOLERANCES
     1. Maximum Variation from Plumb: 1/16 inch (1.5 mm).
     2. Maximum Variation from Level: 1/16 inch (1.5 mm).
     3. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch (3 mm), from 10 foot (3 m) straight edge.
     4. Maintain dimensional tolerances and alignment with adjacent work.
  2. ADJUSTING
     1. Lubricate and adjust door assembly to smooth operation and in full contact with weatherstripping.
  3. CLEANING
     1. Clean doors, frames and glazing panels.
     2. Remove temporary labels and visible markings.
  4. PROTECTION
     1. Protect installed products until completion of project.
     2. Touch-up, repair or replace damaged products before Substantial Completion.
  5. SCHEDULES

\*\* NOTE TO SPECIFIER \*\* Retain Paragraph below if required to suit project requirements. Identify products by name on the Drawings or use this paragraph to define the location of each type of material to be used. The following are some examples of schedule references. Edit as required to suit project or delete and identify products on the Drawings.

* + 1. :
    2. :

END OF SECTION