SECTION 07 46 34

CELLULAR COMPOSITE SIDING

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\*\* NOTE TO SPECIFIER \*\* Celect - Cellular Exteriors by Royal; Celect Cellular Composite Siding products.  
This section is based on the products of Celect - Cellular Exteriors by Royal, which is located at:  
91 Royal Group Crescent  
Woodbridge, ON, Canada L4H 1X9  
Toll Free Tel: 855-5-CELECT  
Tel: 855-523-5328  
Email: [request info (lhensley@royalbp.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Celect+-+Cellular+Exteriors+by+Royal&coid=49220&rep=&fax=&message=RE:%20Spec%20Question%20(07465rbp):%20%20&mf=)  
Web: <http://celect.royalbuildingproducts.com>   
 [ [Click Here](https://www.arcat.com/arcatcos/cos49/arc49220.html) ] for additional information.  
Royal Building Products offers a variety of building products to complement any home including Premium Vinyl Siding, Soffit, Shutters, Mounts & Vents, Vinyl & Aluminum Columns, and Accessories, all backed by the most powerful warranties in the business. This specification includes our Celect line of cellular vinyl siding and trims. Celect is 100% Cellular Vinyl PVC that is extremely durable and available in a wide variety of colors and can be installed with conventional woodworking tools.   
We are one of North America's largest manufacturers of vinyl building products. Our strength comes from the fact that we design and build our own manufacturing equipment, refine and blend most raw materials and transport products to distributors using our own fleet trucks.  
Royal Building Products are not only superior in appearance, but also in durability. We invest heavily in high-tech research and development, which has led to our advanced Royalside Compound and Dura Technology™ process. We hold a large number of patented manufacturing processes. Market Knowledge Royal Building Products also has the unique distinction of investing equal amounts of energy into marketing research, which provides us with a better understanding of which colors, textures and designs are most appealing to consumers' ever-changing tastes.

1. GENERAL
   1. SECTION INCLUDES

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

* + 1. PVC Trimboard.
    2. PVC Sheetboard.
  1. RELATED SECTIONS

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

* + 1. Section 06 10 00 - Rough Carpentry [06 10 00] - Rough Carpentry: Framing and sheathing
    2. Section 07 27 19 - Plastic Sheet Air Barriers [07 26 00] - Vapor Retarders
    3. Section 07 90 00 - Joint Protection [07 90 00] - Joint Protection.
  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 D 256 - Test Method for Determining the Pendulum Impact Resistance of Notched Specimens of Plastics.
    2. ASTM D 570 - Water Absorption of Plastics.
    3. ASTM D 635 - Test Method for Rate of Burning and/or Extent and Time of Burning of Self- Supported Plastics in a Horizontal Position.
    4. ASTM D 638 - Test Method for Tensile Properties of Plastics.
    5. ASTM D 648 - Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position.
    6. ASTM D 696 - Test Method for Coefficient of Linear Expansion of Plastics.
    7. ASTM D 790 - Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
    8. ASTM D 792 - Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement
    9. ASTM D 1929 - Standard Test Method for Determining Ignition Temperature of Plastics.
    10. ASTM D 2240 - Standard Test Method For Rubber Property - Durometer Hardness.
    11. ASTM D 3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
    12. ASTM D 3345 - Standard Test Method for Laboratory Evaluation of Wood and Other Cellulosic Materials for Resistance to Termites.
    13. ASTM D 3679 - Specification for Rigid Poly Vinyl Chloride (PVC) Siding.
    14. ASTM D 3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings.
    15. ASTM D 4226 - Test Methods for Impact Resistance of Rigid Poly Vinyl Chloride (PVC) Building Products.
    16. ASTM D 5206 - Standard Test Method for Windload Resistance of Rigid Plastic Siding
    17. ASTM E 84 - Test Method for Surface Burning Characteristics of Building Materials.
    18. CGSB 41.24 CAN/CGSB - Rigid Vinyl Siding, Soffits and Fascia.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements [01 30 00].
     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.

\*\* 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.

\*\* 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: Provide manufacturer's maintenance instructions that include recommendations for periodic checking and adjustment and periodic cleaning and maintenance of all components.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: A minimum of 10 years in the manufacture of PVC products. Maintain rigorous production quality control standards to ensure that cellular siding will perform as expected for its intended use.
     2. Installer Qualifications: Installer with not less than two years documented experience with the installation of products similar to those specified.

\*\* 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. Pack siding and trim with manufacturer's name, siding style, color, and identifying lot number.
     3. Store siding, trim and accessories in clean, dry area, out of direct sunlight.
     4. Handle material to prevent damage.
  2. 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.
  3. WARRANTY
     1. Provide manufacturer's limited lifetime warranty.

1. PRODUCTS
   1. MANUFACTURER
      1. Acceptable Manufacturer; Celect Cellular Composite Siding; 91 Royal Group Crescent, Woodbridge, ON, Canada L4H 1X9. Toll Free 855-5-CELECT; Tel: 855-523-5328. Web: [celect.royalbuildingproducts.com](http://celect.royalbuildingproducts.com) . Email: AMcCool@royalbp.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.
  1. MATERIALS
     1. General: Royal Building Products Celect cellular vinyl siding is a free foamed cellular PVC that is homogenous and free of voids, holes, cracks, and foreign inclusions and other defects. The product is pushed through an extruder and provided with square top and smooth well-formed edges with no convex or concave deviation.
     2. Properties: Free foam cellular PVC with a small-cell microstructure conforming to Complies with ASTM D 3679 with the following properties.
        1. Tensile strength 1,575.2 psi when tested in accordance with ASTM D 638.
        2. Flexural strength 2,732 psi when tested in accordance with ASTM D 790.
        3. Izod resistance: 0.502 ft lb/in when tested in accordance with ASTM D 256.
        4. Water Absorption: 2.5 percent when tested in accordance with ASTM D 570.
        5. Elongation at break 9.70 percent when tested in accordance with ASTM D 638.
        6. Thermal expansion: 4.23E-05 mm/mm/degrees C (<=8.1E-05 mm/mm/ degrees C) when tested in accordance with ASTM D 696.
        7. Density: .637 g/cm3 when tested in accordance with ASTM D 792.
        8. Durometer Hardness of shore A - 96 / Shore D - 50 as tested in accordance with ASTM D 2240.
        9. Heat deflection of 153 degrees F @ 264 psi loading,
        10. Surface Burning Characteristics tested in accordance with ASTM E 84: Flame Spread Index less than 50.
        11. Ignition Temperature 370 degrees F / Self Ignition 460 degrees F when tested in accordance with ASTM D 1929.
        12. Rate of Burning: No sustained burning when tested in accordance with ASTM D 635.
        13. Resistance to Growth of Mold Rating 10. No Defacement at 4 weeks when tested in accordance with ASTM D 3273.
        14. Resistance to Growth of Mildew rated A. Niger - Resistant, A. Terreus - Moderately Resistant when tested in accordance with ASTM D 2020.
        15. Resistance to Termites tested in accordance with ASTM D 3345
     3. Manufacturing Tolerances:
        1. Variation in component length: plus or minus .25 inch.
        2. Variation in component width: plus or minus .020 inch.
  2. CELLULAR COMPOSITE SIDING
     1. 7 inch Reveal: Single 7 inch (178 mm) interlocking traditional clapboard profile.
        1. Length: 12 feet 4 inches (3.76 m).
        2. Thickness: 0.358 inch (9.1 mm).
        3. Finish: Textured.
        4. Wind load design pressure: 123.9 psf.

\*\* NOTE TO SPECIFIER \*\* Select one of the following two paragraphs for color. If second paragraph is used, select color required and delete those not required. If more than one color is required, select the colors required and indicate the location of each on the Drawings.

* + - 1. Color: As selected by Architect from manufacturer's standard colors.
      2. Color shall be as follows:
         1. Standard Colors:

Coastline.

Frost.

Castle Stone.

Pottery.

Latte.

Chestnut.

Chocolate.

Oceana.

Willow.

Shale.

Wrought Iron.

Carriage Red.

Grove.

Pine Brook.

River Rock.

* + 1. 4 inch Reveal: Single 4 inch (102 mm) interlocking traditional clapboard profile.
       1. Length: 12 feet 6 inches (3.81 m).
       2. Thickness: 0.358 inch (9.1 mm).
       3. Finish: Textured.
       4. Wind load design pressure: 196.5 psf.

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* + - 1. Color: As selected by Architect from manufacturer's standard colors.
      2. Color shall be as follows:
         1. Standard Colors:

Coastline.

Frost.

Castle Stone.

Pottery.

Latte.

Chestnut.

Chocolate.

Oceana.

Willow.

Shale.

Wrought Iron.

Carriage Red.

Grove.

Pine Brook.

River Rock.

* + 1. 8 inch Board and Batten: 8 inch (203.2 mm) reveal interlocking engineered board and batten profile.
       1. Length: 10 feet (3.05 m).
       2. Thickness: 0.358 inch (9.1 mm).
       3. Finish: Textured.
       4. Wind load design pressure: 96.2 psf.

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* + - 1. Color: As selected by Architect from manufacturer's standard colors.
      2. Color shall be as follows:
      3. a. Standard Colors: 1) Pearl.

Coastline.

Frost.

Castle Stone.

Pottery.

Latte.

Chestnut.

Chocolate.

Oceana.

Willow.

Shale.

Wrought Iron.

Carriage Red.

Grove.

Pine Brook.

River Rock.

* + 1. 7 inch Cedar Shake: 7 inch (178.0 mm) interlocking profile.
       1. Length: 4 feet (1.2 m).
       2. Thickness: 0.358 inch (9.1 mm).
       3. Finish: Textured.
       4. Wind load design pressure: 123.9 psf.

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* + - 1. Color: As selected by Architect from manufacturer's standard colors.
      2. Color shall be as follows:
         1. Standard Colors:

Coastline.

Frost.

Castle Stone.

Pottery.

Latte.

Chestnut.

Chocolate.

Oceana.

Willow.

Shale.

Wrought Iron.

Carriage Red.

Grove.

Pine Brook.

River Rock.

* 1. TRIM
     1. Cellular Window and Door Surround Trim: Cellular Window and Door Surround Trim.
        1. Length: 18 feet (5.48 m).
        2. Width: 3.500 inch (88.90 mm).
        3. Thickness: 0.625 inch (15.88 mm).
        4. Finish: Smooth.

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* + - 1. Color: As selected by Architect from manufacturer's standard colors.
      2. Color shall be as follows:
         1. Standard Colors:

Coastline.

Frost.

Castle Stone.

Pottery.

Latte.

Chestnut.

Chocolate.

Oceana.

Willow.

Shale.

Wrought Iron.

Carriage Red.

Grove.

Pine Brook.

River Rock.

* + 1. Cellular Inside Corner Trim: Celect Cellular Inside Corner Trim.
       1. Length: 10 feet (3.05 m).
       2. Width: 2 inch (50.8 mm) / 2 inch (50.8 mm).
       3. Thickness: 0.625 inch (15.88 mm).
       4. Finish: Smooth.

\*\* NOTE TO SPECIFIER \*\* Select one of the following two paragraphs for color. If second paragraph is used, select color required and delete those not required. If more than one color is required, select the colors required and indicate the location of each on the Drawings.

* + - 1. Color: As selected by Architect from manufacturer's standard colors.
      2. Color shall be as follows:
         1. Standard Colors:

Coastline.

Frost.

Castle Stone.

Pottery.

Latte.

Chestnut.

Chocolate.

Oceana.

Willow.

Shale.

Wrought Iron.

Carriage Red.

Grove.

Pine Brook.

River Rock.

* + 1. Cellular Outside Corner Trim: Celect Cellular Outside Corner Trim.
       1. Length: 10 feet (3.05 m) and 20 feet (6.10 m).
       2. Width: 5.500 inch (139.70 mm) / 5.500 inch (139.70 mm).
       3. Thickness: 0.625 inch (15.88 mm).
       4. Finish: Smooth.

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* + - 1. Color: As selected by Architect from manufacturer's standard colors.
      2. Color shall be as follows:
         1. Standard Colors:

Coastline.

Frost.

Castle Stone.

Pottery.

Latte.

Chestnut.

Chocolate.

Oceana.

Willow.

Shale.

Wrought Iron.

Carriage Red.

Grove.

Pine Brook.

River Rock.

* 1. ACCESSORlES
     1. Fasteners: Siding:
        1. Corrosion-resistant 11 gauge roofing or ring shank nails (stainless steel or hot dipped galvanized) with a minimum head diameter of 3/8 inch (9.5 m). Fasteners shall be long enough to penetrate a solid wood substrate a minimum of 1 inch (25.4 mm).
        2. Use one fasteners every 16 inches (406 mm) on center.
        3. Fasten to a flat, solid substrate. Do not fasten to hollow or uneven areas without backing.
        4. Pre-drilling is not required unless material is being installed in low temperatures.
     2. Fasteners: Trim
        1. Use fasteners designed for wood trim with thinner shank, blunt head, full round head.
        2. Use only fasteners intended for exterior use such as stainless steel or hot dipped galvanized. Finish nails are also acceptable. All fasteners must be long enough to penetrate at least 1-1/2 inch (38 mm) into a solid nail-able surface.
        3. Fasteners must be installed no closer than 2 inches (51 mm) from the end of each board
     3. Adhesives:
        1. Glue all trim joints (scarf or miter) with an approved exterior cellular PVC trim adhesive.
        2. Glue joints should be fastened on each side of the joint to allow adequate bonding time.
        3. Surfaces to be glued should be smooth, clean and in complete contact with each other.
     4. Sealants:
        1. Use color matched urethane, polyurethane or acrylic based sealants without silicone or oil/petroleum based components. Fill trim nail holes and joints with sealant as needed.

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly prepared.
      2. Confirm that all critical dimensions are as specified on the Drawings.
      3. 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. Repair substrate flaws or defects before applying siding or trim.
      3. Where necessary, fur surfaces to an even plane and free from obstructions before application.
      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 siding and trim in accordance with the latest edition of the manufacturer's Installation Instructions.
      2. Install cellular siding, trim and accessories in accordance with best practice, with all joint members plumb and true.
      3. Securely attach siding using methods and materials recommended by siding manufacturer for wind load conditions at project site.
      4. Install siding and accessories with all joint members plumb and true.
   4. FIELD QUALITY CONTROL
      1. After installation of siding and trim, check entire surface for obvious flaws or defects.
      2. Replace and repair any problem areas.
   5. CLEANING
      1. After application of siding and trim, clean as necessary to remove all fingerprints and soiled areas.
      2. Upon completion of siding application, clean entire area, removing all scrap, packaging, and unused materials related to this work.
   6. PROTECTION
      1. Protect installed products until completion of project.
      2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION