

  
ROYAL® Building Products  
A Westlake Company  
SECTION 07 46 33  
VINYL SIDING

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Vinyl siding.
- B. Vinyl soffits.
- C. Vinyl trim and accessories.

1.2 RELATED SECTIONS

- A. Section 06 10 00 - Rough Carpentry.
- B. Section 07 21 26 - Blown Insulation.
- C. Section 07 26 00 - Vapor Retarders.
- D. Section 07 60 00 - Flashing and Sheet Metal.
- E. Section 07 90 00 - Joint Protection.

1.3 REFERENCES

- A. ASTM D 635 - Test Method for Rate of Burning and/or Extent and Time of Burning of Self-Supported Plastics in a Horizontal Position.
- B. ASTM D 638 - Test Method for Tensile Properties of Plastics.
- C. ASTM D 648 - Test Method for Deflection Temperature of Plastics Under Flexural Load.
- D. ASTM D 696 - Test Method for Coefficient of Linear Expansion of Plastics.
- E. ASTM D 1929 - Test Method for Ignition Properties of Plastics.
- F. ASTM D 2843 - Test Method for Density of Smoke from the Burning or Decomposition of Plastics.
- G. ASTM D 3679 - Specification for Rigid Poly Vinyl Chloride (PVC) Siding.
- H. ASTM D 4226 - Test Methods for Impact Resistance of Rigid Poly Vinyl Chloride (PVC) Building Products.
- I. ASTM E 84 - Test Method for Surface Burning Characteristics of Building Materials.
- J. ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
- K. CAN/CGSB 41-24-95 - Rigid Vinyl Siding, Soffits and Fascia

#### 1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. 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.
- C. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- D. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

#### 1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Maintain rigorous production quality control standards to ensure that vinyl siding will perform as expected for its intended use. Products meet or exceed the requirements of ICC and VSI and listed by ICC International Code Council and VSI Vinyl Siding Certification Programs
- B. Installer Qualifications: Installer with not less than three years documented experience with products specified or who has passed the Vinyl Siding Institute's (VSI) Certified Installer Program.
- C. Mock-Up: Provide a mock-up for evaluation of surface installation techniques and workmanship.
  - 1. Finish areas designated by Architect.
  - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
  - 3. Reinstall mock-up area as required to produce acceptable work.
- D. Regulatory Requirements:
  - 1. International Building Code (IBC) - ESR 1656 - 2006, 2009 and 2012
  - 2. International Residential Code (IRC) - ESR 1656 - 2006, 2009 and 2012
  - 3. Florida Building Code- FL# 15935, FL# 13139

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Pack siding and soffits two squares per carton and clearly mark each carton with manufacturer's name, siding style, color, identifying lot number, and VSI Certification Stamp.
- C. Store vinyl siding, soffits, and accessories in clean, dry area, out of direct sunlight.
- D. Handle material to prevent damage. Do not allow cartons to crease.

#### 1.7 PROJECT CONDITIONS

- A. 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.

#### 1.8 WARRANTY

- A. Provide manufacturer's lifetime non-prorated transferable limited warranty.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Royal Building Products - Siding & Trim Board, which is located at: 91 Royal Group Crescent; Woodbridge, ON, Canada L4H 1X9; Toll Free Tel: 800-387-2789; Tel: 905-850-9700 ; Fax: 905-850-9184 ; Email: [chris.j.johnson@royalbuildingproducts.com](mailto:chris.j.johnson@royalbuildingproducts.com); Web: [www.royalbuildingproducts.com](http://www.royalbuildingproducts.com)
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

### 2.2 MATERIALS

- A. Typical Physical Properties:
  - 1. Tensile Strength: Greater than 6000 PSI, per ASTM D 638.
  - 2. Modulus of Elasticity: Greater than 365,000 PSI, per ASTM D 638.
  - 3. Deflection Temperature Under Load: 165 degrees F (77 degrees C) @ 264 Psi per ASTM D 648.
  - 4. Coefficient of Linear Expansion: Less than  $3.5 \times 10^{-5}$  in/in/degrees F, per ASTM D 696.
  - 5. Impact Resistance: > 60 in-lbs at 73 degrees F (23 degrees C) when tested in accordance with ASTM D 4226.
  - 6. Low Temperature Flexibility: passed CAN/CGSB 41-24-95.
  - 7. Surface Distortion (oil can): No distortion at 120 degrees F when tested in accordance with ASTM D 3679.
- B. Fire Properties: Meets UBC 42-1:
  - 1. Flame Spread Index: Less than 25 when tested in accordance with ASTM E 84.
  - 2. Fuel Contribution: 0 when tested in accordance with ASTM E 84.
  - 3. Smoke Developed Index: 510.2 when tested in accordance with ASTM E 84.
  - 4. Self-ignition temperature: 810 degrees F when tested in accordance with ASTM D 1929.
  - 5. Smoke Density Rating: 42.1 percent when tested in accordance with ASTM D 2843.
  - 6. Maximum smoke density: 56.0 percent when tested in accordance with ASTM D 2843.
  - 7. Visibility of exit sign: Good when tested in accordance with ASTM D 2843.
  - 8. Total burn time: Less than 5 seconds when tested in accordance with ASTM D 635.
  - 9. Extent of burning: Less than 10 mm when tested in accordance with ASTM D 635.
  - 10. Fire resistance rating: 1 hour when tested in accordance with ASTM E 119.

### 2.3 SIDING

- A. Royal Woodland double 4-1/2 inch (114 mm) Traditional Profile.
  - 1. 4-1/2 inch (114 mm) clapboard profile.
  - 2. Each 10.350 inch (263 mm) wide horizontal siding panel nominally configured as two 4-1/2 inch (114 mm) panels in the clapboard style with .675 inch (17 mm) butt height.
  - 3. Length:
    - a. 12 feet (3.65 m).
    - b. 16 feet (4.87 m).
    - c. 25 feet (7.62 m).
  - 4. Width: 10.350 inches (263 mm).
  - 5. Thickness: 0.046 inch (1.17 mm).
  - 6. Double nail hem.
  - 7. Wind Resistance: Design pressure of minus105 psf with standard installation.

8. Color: As selected by Architect from manufacturer's standard colors.
- B. Royal Woodland double 4-1/2 inch (114 mm) Designer Profile.
1. 4-1/2 inch (114 mm) designer profile.
  2. Each 10.350 inch (263 mm) wide horizontal siding panel nominally configured as two 4-1/2 inch (114 mm) panels in the designer style with .675 inch (17 mm) butt height.
  3. Length:
    - a. 12 feet (3.65 m).
    - b. 16 feet (4.87 m).
    - c. 25 feet (7.62 m).
  4. Width: 10.350 inches (263 mm).
  5. Thickness: 0.046 inch (1.17 mm).
  6. Double nail hem.
  7. Wind Resistance: Design pressure of minus 105 psf with standard installation.
  8. Color: As selected by Architect from manufacturer's standard colors.
- C. Board & Batten Profile with Woodgrain Finish.
1. 5-1/2 inch (141 mm) board and batten profile.
  2. Each 7.65 inch (194 mm) wide siding panel nominally configured as one 5-1/2 inch (140 mm) panel in the board and batten style with a 1-1/2 inch (38 mm) batten height and a .5 inch (12.7 mm) depth.
  3. Single nail hem.
  4. Wind Resistance: design pressure of -71 psf with standard installation
  5. Length: 10 feet (3.05 m).
  6. Width: 10.350 inches (263 mm).
  7. Thickness: Light colors 0.046 inch (1.17 mm).
  8. Thickness: Dark colors 0.050 inch (1.27 mm).
  9. Color: As selected by Architect from manufacturer's standard colors.
- D. Estate Double 4 inch (102 mm) Traditional Profile.
1. 4 inch (102 mm) clapboard profile.
  2. Each 8.481 inch (215 mm) wide horizontal siding panel nominally configured as two 4 inch (102 mm) panels in the clapboard style with .625 inch (15.9 mm) butt height.
  3. Curl nail hem.
  4. Wind Resistance: design pressure of minus 71 psf with standard installation
  5. Length: 12 feet 6 inches (3.81 m).
  6. Width: 8.481 inch (215 mm).
  7. Thickness: 0.044 inch (1.12 mm).
  8. Color: As selected by Architect from manufacturer's standard colors.
- E. Estate Double 4-1/2 inch (114 mm) Designer Profile.
1. 4-1/2 inch (114 mm) designer profile.
  2. Each 10.350 inch (263 mm) wide horizontal siding panel nominally configured as two 4-1/2 inch (114 mm) panels in the designer style with .625 inch (15.9 mm) butt height.
  3. Curl nail hem.
  4. Wind Resistance: design pressure of minus 77 psf with standard installation
  5. Length: 12 feet (3.66 m).
  6. Width: 10.350 inch (263 mm).
  7. Thickness: 0.044 inch (1.12 mm).
  8. Color: As selected by Architect from manufacturer's standard colors.
- F. Estate Double 5 inch (127 mm) Designer Profile.
1. 5 inch (127 mm) designer profile.
  2. Each 11.320 inch (288 mm) wide horizontal siding panel nominally configured as two 5 inch (127 mm) panels in the designer style with .625 inch (15.9 mm) butt height.
  3. Double nail hem.
  4. Wind Resistance: design pressure of minus 65 psf with standard installation

5. Length: 12 feet (3.66 m).
  6. Width: 11.320 inch (288 mm).
  7. Thickness: 0.044 inch (1.12 mm).
  8. Color: As selected by Architect from manufacturer's standard colors.
- G. Estate Colonial Beaded Profile.
1. 6-1/2 inch (165 mm) beaded clapboard profile.
  2. Each 7.880 inch (288 mm) wide horizontal siding panel nominally configured as 6-1/2 inch (165 mm) panel in the beaded clapboard style with .625 inch (15.8 mm) butt height.
  3. Single nail hem.
  4. Wind Resistance: design pressure of minus 87 psf with standard installation
  5. Length: 12 feet 4 inches (3.76 m).
  6. Width: 7.880 inch (288 mm).
  7. Thickness: 0.044 inch (1.12 mm).
  8. Color: As selected by Architect from manufacturer's standard colors.
- H. Residential Double 4 inch (102 mm) Traditional Profile.
1. 4 inch (102 mm) clapboard profile.
  2. Each 8.481 inch (215 mm) wide horizontal siding panel nominally configured as two 4 inch (102 mm) panels in the clapboard style with .500 inch (12.7 mm) butt height.
  3. Curl nail hem.
  4. Wind Resistance: design pressure of minus 93 psf with standard installation.
  5. Length: 12 feet 6 inches (3.81 m).
  6. Width: 8.481 inch (215 mm).
  7. Thickness: 0.042 inch (1.12 mm).
  8. Color: As selected by Architect from manufacturer's standard colors.
- I. Residential Double 4.5 inch (102 mm) Traditional Profile.
1. 4.5 inch (114 mm) clapboard profile.
  2. Each 9.655 inch (245 mm) wide horizontal siding panel nominally configured as two 4.5 inch (114 mm) panels in the clapboard style with .500 inch (12.7 mm) butt height.
  3. Curl nail hem.
  4. Wind Resistance: design pressure of minus 93 psf with standard installation.
  5. Length: 12 feet (3.65 m).
  6. Width: 9.055 inch (229 mm).
  7. Thickness: 0.042 inch (1.02 mm).
  8. Color: As selected by Architect from manufacturer's standard colors.
- J. Residential Double 4-1/2 inch (114 mm) Designer Profile.
1. 4-1/2 inch (114 mm) designer profile.
  2. Each 10.350 inch (263 mm) wide horizontal siding panel nominally configured as two 4-1/2 inch (114 mm) panels in the designer style with .500 inch (12.7 mm) butt height.
  3. Curl nail hem.
  4. Wind Resistance: design pressure of minus 93 psf with standard installation.
  5. Length: 12 feet (3.66 m).
  6. Width: 10.350 inch (263 mm).
  7. Thickness: 0.042 inch (1.12 mm).
  8. Color: As selected by Architect from manufacturer's standard colors.
- K. Residential Double 5 inch (127 mm) Traditional Profile.
1. 5 inch (127 mm) clapboard profile.
  2. Each 11.473 inch (291 mm) wide horizontal siding panel nominally configured as two 5 inch (127 mm) panels in the clapboard style with .500 inch (12.7 mm) butt height.
  3. Curl nail hem.
  4. Wind Resistance: design pressure of minus 65 psf with standard installation.
  5. Length: 12 feet (3.66 m).

6. Width: 10.350 inch (263 mm).
  7. Thickness: 0.042 inch (1.12 mm).
  8. Color: As selected by Architect from manufacturer's standard colors.
- L. Residential Triple 3 (114 mm) Profile.
1. 3 inch (76 mm) clapboard profile.
  2. Each 10.325 inch (262 mm) wide horizontal siding panel nominally configured as three 3 inch (76 mm) panels in the triple 3 style with .500 inch (12.7 mm) butt height.
  3. Curl nail hem.
  4. Wind Resistance: design pressure of minus 93 psf with standard installation.
  5. Length: 12 feet (3.66 m).
  6. Width: 10.325 inch (262 mm).
  7. Thickness: 0.042 inch (1.12 mm).
  8. Color: As selected by Architect from manufacturer's standard colors.
- M. Royal Crest Double 4 inch (102 mm) Traditional Profile.
1. 4 inch (102 mm) clapboard profile.
  2. Each 9.450 inch (240 mm) wide horizontal siding panel nominally configured as two 4 inch (102 mm) panels in the clapboard style with .500 inch (12.7 mm) butt height.
  3. Curl nail hem.
  4. Wind Resistance: design pressure of minus 65 psf with standard installation.
  5. Length: 12 feet 6 inches (3.81 m).
  6. Width: 9.450 inches (240 mm).
  7. Thickness: 0.040 inch (1.02 mm).
  8. Color: As selected by Architect from manufacturer's standard colors.
- N. Royal Crest Double 4 inch (102 mm) Vertical Profile.
1. 4 inch (102 mm) soffit profile.
  2. Each 9.180 inch (233 mm) wide horizontal siding panel nominally configured as two 4 inch (102 mm) panels in the soffit style with .500 inch (12.7 mm) butt height.
  3. Single nail hem.
  4. Wind Resistance: design pressure of minus 81 psf with standard installation.
  5. Length: 10 feet (3.05 m).
  6. Width: 9.180 inches (233 mm).
  7. Thickness: 0.040 inch (1.02 mm).
  8. Color: As selected by Architect from manufacturer's standard colors.
- O. Royal Crest Double 4 inch (102 mm) Designer Profile.
1. 4 inch (102 mm) clapboard profile.
  2. Each 9.297 inch (236 mm) wide horizontal siding panel nominally configured as two 4 inch (102 mm) panels in the clapboard style with .500 inch (12.7 mm) butt height.
  3. Curl nail hem.
  4. Wind Resistance: design pressure of minus 65 psf with standard installation.
  5. Length: 12 feet 6 inches (3.81 m).
  6. Width: 9.297 inches (236 mm).
  7. Thickness: 0.040 inch (1.02 mm).
  8. Color: As selected by Architect from manufacturer's standard colors.
- P. Royal Crest Double 5 inch (127 mm) Traditional Profile.
1. 5 inch (127 mm) clapboard profile.
  2. Each 11.473 inch (291 mm) wide horizontal siding panel nominally configured as two 5 inch (127 mm) panels in the clapboard style with .500 inch (12.7 mm) butt height.
  3. Curl nail hem.
  4. Wind Resistance: design pressure of minus 65 psf with standard installation.
  5. Length: 12 feet (3.66 m).
  6. Width: 11.493 inches (291 mm).
  7. Thickness: 0.040 inch (1.02 mm).

8. Color: As selected by Architect from manufacturer's standard colors.
- Q. Royal Crest Double 5 inch (127 mm) Designer Profile.
1. 5 inch (127 mm) designer profile.
  2. Each 11.320 inch (288 mm) wide horizontal siding panel nominally configured as two 5 inch (127 mm) panels in the designer style with .500 inch (12.7 mm) butt height.
  3. Curl nail hem.
  4. Wind Resistance: design pressure of minus 65 psf with standard installation.
  5. Length: 12 feet (3.66 m).
  6. Width: 9.297 inches (236 mm).
  7. Thickness: 0.040 inch (1.02 mm).
  8. Color: As selected by Architect from manufacturer's standard colors.
- R. Royal Crest Double 4.5 inch (114.3 mm) Designer Profile.
1. 4.5 inch (114.3 mm) designer profile.
  2. Each 10.29 inch (261 mm) wide horizontal siding panel nominally configured as two 4.5 inch (127 mm) panels in the designer style with .500 inch (12.7 mm) butt height.
  3. Curl nail hem.
  4. Wind Resistance: design pressure of minus 65 psf with standard installation.
  5. Length: 12 feet (3.66 m).
  6. Width: 9.055 inches (229 mm).
  7. Thickness: 0.040 inch (1.02 mm).
  8. Color: As selected by Architect from manufacturer's standard colors.
- S. Royal Crest Single 8 inch (203 mm) Profile.
1. 8 inch (203 mm) clapboard profile.
  2. Each 8.740 inch (222 mm) wide horizontal siding panel nominally configured as one 8 inch (203 mm) panels in the clapboard style with .650 inch (16.5 mm) butt height.
  3. Single nail hem.
  4. Wind Resistance: design pressure of minus 62 psf with standard installation.
  5. Length: 12 feet 6 inches (3.81 m).
  6. Width: 8.740 inch (222 mm).
  7. Thickness: 0.046 inch (1.17 mm).
  8. Color: As selected by Architect from manufacturer's standard colors.

## 2.4 SOFFITS

- A. Designer Soffit: Designer Beaded Panel Profile.
1. Each 9.880 inch (251 mm) wide beaded panel nominally configured as three 2.272 inch (58 mm) panels.
  2. Single nail hem.
  3. Non-vented.
  4. Vented.
  5. Length: 12 feet 6 inches (3.81 m).
  6. Width: 9.880 inch (251 mm).
  7. Thickness: 0.042 inch (1.07 mm).
  8. Color: As selected by Architect from manufacturer's standard colors.
- B. Designer Soffit: Hidden Vent Soffit Triple 3 Profile.
1. Triple 3 inch (76 mm) board panel profile.
  2. Each 10.00 inch (254 mm) wide board panel nominally configured as three 3 inch (76 mm) panels.
  3. Single nail hem.
  4. Hidden vent with a ventilation area of 10.00 sq.in./lin.foot of panel.
  5. Non-vented.
  6. Length: 12 feet (3.66 m).
  7. Width: 10.00 inch (254 mm).

8. Thickness: 0.044 inch (1.12 mm).
  9. Color: As selected by Architect from manufacturer's standard colors.
- C. Traditional Soffit: Triple 4 Traditional Soffit Panel Profile with matte finish.
1. Triple 4 inch (102 mm) profile.
  2. Each 12.800 inch (325 mm) wide panel nominally configured as three 4 inch (102 mm) board panels.
  3. Single nail hem.
  4. Solid.
  5. Perforated vent with a ventilation area of 7.65 sq.in./lin.foot of panel.
  6. Centre Perforated with a ventilation area of 2.55 sq.in./lin.foot of panel
  7. Length: 12 feet (3.66 m).
  8. Width: 12.800 inch (325 mm).
  9. Thickness: 0.042 inch (1.07 mm).
  10. Color: As selected by Architect from manufacturer's standard colors.
- D. Traditional Soffit: Double 5 Traditional Soffit Panel Profile.
1. Double 5 inch (127 mm) profile.
  2. Each 12.800 inch (325 mm) wide panel nominally configured as two 5 inch (127 mm) board panels.
  3. Single nail hem.
  4. Solid with brush finish.
  5. Perforated vent with a ventilation area of 7.70 sq.in./lin.foot of panel with brush finish.
  6. Length: 12 feet (3.66 m).
  7. Width: 12.800 inch (325 mm).
  8. Thickness: 0.042 inch (1.07 mm).
  9. Color: As selected by Architect from manufacturer's standard colors.
- E. Builder Soffit: Triple 4 Builder Soffit Panel Profile with matte finish.
1. Triple 4 inch (102 mm) profile.
  2. Each 12.800 inch (325 mm) wide panel nominally configured as three 4 inch (102 mm) board panels.
  3. Single nail hem.
  4. Solid.
  5. Perforated vent with a ventilation area of 7.65 sq.in./lin.foot of panel.
  6. Center Perforated vent with a ventilation area of 2.55 sq.in./lin.foot of panel.
  7. Length: 12 feet (3.66 m).
  8. Width: 12.800 inch (325 mm).
  9. Thickness: Thickness: 0.038 inch (0.97 mm).
  10. Color: As selected by Architect from manufacturer's standard colors.
- F. Builder Soffit: Double 5 Vinyl Builder Soffit Panel Profile.
1. Double 5 inch (127 mm) profile.
  2. Each 12.800 inch (325 mm) wide panel nominally configured as two 5 inch (127 mm) board panels.
  3. Single nail hem.
  4. Solid with brush finish.
  5. Perforated vent with a ventilation area of 7.70 sq.in./lin.foot of panel with brush finish.
  6. Length: 12 feet (3.66 m).
  7. Width: 12.800 inch (325 mm).
  8. Thickness: Thickness: 0.038 inch (0.97 mm).
  9. Color: As selected by Architect from manufacturer's standard colors.

## 2.5 ACCESSORIES

- A. Standard Siding Accessories: Provide inside corners, outside corners, j-channels, finish trim, etc as indicated on the Drawing or as required for the project.

1. Color: As selected by Architect from manufacturer's standard colors.
  2. Produced from the same compound materials and with comparable properties as the siding.
- B. Standard Soffit Accessories: Provide frieze trim, T-Trim, 3/8 inch, Designer Crown J-channels, J-channels, etc as indicated on the Drawing or as required for the project.
1. Color: As selected by Architect from manufacturer's standard colors.
  2. Produced from the same compound materials and with comparable properties as the siding.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Confirm that all critical dimensions are as specified on the drawings.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Repair substrate flaws or defects before applying siding or soffits.
- C. Where necessary, fur surfaces to an even plane and free from obstructions before application.
- D. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### 3.3 INSTALLATION

- A. Install siding and soffits in accordance with the latest edition of the manufacturer's Installation Instructions.
- B. Install vinyl siding, soffits, and accessories in accordance with best practice, with all joint members plumb and true.
- C. Securely attach siding using methods and materials recommended by siding/soffit manufacturer for wind load conditions at project site.
- D. Install vinyl siding and accessories with all joint members plumb and true.

### 3.4 FIELD QUALITY CONTROL

- A. After installation of siding and soffits, check entire surface for obvious flaws or defects.
- B. Replace and repair any problem areas, paying close attention to the substrate for causes of the problem.

### 3.5 CLEANING

- A. After application of siding and soffits, clean as necessary to remove all fingerprints and soiled areas.
- B. Upon completion of siding application, clean entire area, removing all scrap, packaging, and

unused materials related to this work.

3.6 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION