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## **PART 1 - GENERAL**

### **1.01 WORK INCLUDED**

The contractor shall provide all labor, materials and accessories necessary for installation of the commercial welded wire fence system defined herein at (SPECIFY PROJECT SITE).

### **1.02 REFERENCES**

|                   |   |
|-------------------|---|
| ASTM A641/A641M   | Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire   |
| ASTM A653/A653M   | Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process                  |
| ASTM B117         | Practice for Operating Salt-Spray (Fog) Apparatus   |
| ASTM D523         | Test Method for Specular Gloss  |
| ASTM D714         | Test Method for Evaluating Degree of Blistering in Paint  |
| ASTM D822         | Practice for Conducting Tests on Paint and Related Coatings and Materials using Filtered Open-Flame Carbon-Arc Light and Water Exposure Apparatus |
| ASTM D1654        | Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments   |
| ASTM D2244        | Test Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates   |
| ASTM D2794        | Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)   |
| ASTM D3359        | Test Method for Measuring Adhesion by Tape Test   |
| ASTM F2453/F2453M | Standard Specification for Welded Wire Mesh Fence Fabric  |

### **1.03 SUBMITTAL**

The manufacturer's submittal package shall be provided prior to installation.

### **1.04 QUALITY ASSURANCE**

Installer Qualifications: The installer shall have completed similar installations in material, design.

## **PART 2 - MATERIALS**

### **2.01 MANUFACTURER**

#### **Rampart 354 Welded Wire**

Wallace Perimeter Security

Product: Rampart 354 Welded Wire

115 Lawson Crescent, Winnipeg, Manitoba Canada, R3P 1A6

T. 866.300.1110 <https://www.wallaceperimetersecurity.com/>

## 2.02 FABRICATION

- A. Panel heights should be approximately: 4 ft. (1.2m), 6ft. (1.8m), 8 ft. (2.4m), or a multiple of stacked panels. Specific panel heights: 48.7" (1236mm), 72.2" (1834mm) and 95.7" (2430mm) respectively as per standard drawings.
- B. Wire mesh panels shall be precut to specified lengths of approximately 8'3"; actual, 8'-3<sup>1</sup>/<sub>8</sub>" or 99.13" (2518 mm) wide.
- C. Steel Wire mesh fence panels shall be welded by resistance welding per ASTM F2453 using pre-galvanized steel wire; using Vertical 4 GA (6mm) pre-galvanized steel wires and Horizontal 8 GA (4mm) pre-galvanized steel wires, plus an extra wire every 6" (152.4mm), to form a mesh opening of 3" x 0.5" (76.2mm x 12.7mm).
- D. The cold rolled wire shall have a tensile strength of at least 74,000 psi (510 MPa) and 68,000 psi (469 MPa) shear strength. Wire strand shall be galvanized before welded (GBW), 0.50 ounces per square foot zinc coating conforming to the ASTM A641.

### 2.02.1 FENCE AND ACCESSORIES

- A. Available Rampart 354 - SECURITY - Welded Wire Panel Sizes:

| WPS Part Number   | Pre-Galvanized Steel Wire Gauge                       |                   | Mesh Size                      | Standard Panel Length                                 | Approx. Standard Panel Height - ft [m] | Standard Panel Height - in. [mm] |
|-------------------|---|-------------------|--------------------------------|---|--|----------------------------------|
|                   | Horizontal  | Vertical          |                                |   |  |                                  |
| 100496<br>(Black) | 2 x 8 GA<br>[4mm]<br>Extra wire every 6"<br>[152.4mm] | 1 x 4 GA<br>[6mm] | 3" x 0.5"<br>[76.2mm x 12.7mm] | ≈8'3" (8'-3 <sup>1</sup> / <sub>8</sub> "<br>[2518mm] | 4' [1.2m]                              | 48.7"<br>[1236mm]                |
| 100497<br>(Black) | 2 x 8 GA<br>[4mm]<br>Extra wire every 6"<br>[152.4mm] | 1 x 4 GA<br>[6mm] | 3" x 0.5"<br>[76.2mm x 12.7mm] | ≈8'3" (8'-3 <sup>1</sup> / <sub>8</sub> "<br>[2518mm] | 6' [1.8m]                              | 72.2"<br>[1834mm]                |
| 100498<br>(Black) | 2 x 8 GA<br>[4mm]<br>Extra wire every 6"<br>[152.4mm] | 1 x 4 GA<br>[6mm] | 3" x 0.5"<br>[76.2mm x 12.7mm] | ≈8'3" (8'-3 <sup>1</sup> / <sub>8</sub> "<br>[2518mm] | 8' [2.4m]                              | 95.7"<br>[2430mm]                |



| WPS Part Number            | Pre-Galvanized Steel Wire Gauge |          | Mesh Size | Standard Panel Length | Approx. Standard Panel Height - ft [m] | Standard Panel Height - in. [mm] |
|----------------------------|---------------------------------|----------|-----------|-----------------------|--|----------------------------------|
|                            | Horizontal                      | Vertical |           |                       |  |                                  |
| Finish: Powder Coat, Black |                                 |          |           |                       |  |                                  |

B. Post and Bracket Options for Rampart 354 - SECURITY - Welded Wire Fence

| WPS Part Number   | Post Size/Type  | Panel Height | Bracket Qty/Panel | Bracket Type          | Finish             |
|---|---|--------------|-------------------|-----------------------|--------------------|
| 100668 (Black, 7' Long, .083, Dig and Set) – OR -<br><br>Option Available (Black, 4' Long with flange plate)  | 2-1/2" x 2-1/2" [64mm x 64mm] Square Post   | 4' [1.2m]    | 4                 | Spider <sup>(1)</sup> | Powder Coat, Black |
| 9' Long Dig and Set Option Available (Black) –OR-<br><br>Option Available (Black, 6' Long with flange plate)  | 2-1/2" x 2-1/2" [64mm x 64mm] Square Post   | 6' [1.8m]    | 6                 | Spider <sup>(1)</sup> | Powder Coat, Black |
| 100533  | Spider Bracket (Black, includes self-threading bolts); accommodation for 3 wires. |              |                   |                       |                    |
| <sup>(1)</sup> NOTES: For line/end post with straight line panels or 90-degree interior angle; double bracket post support is necessary for this option.<br><br>Standard: #12 tamperproof self-tapping screw with 1/4" washer. Optional Upgrade: 8 mm stainless steel carriage bolt with 8 mm stainless steel break-away nut. 2-1/2" posts available in 4' & 6' only. |   |              |                   |                       |                    |
| 7' Dig and Set Option Available (Black) - OR-<br><br>Option Available (Black, 4' Long with flange plate)  | 3" x 3" [76 mm x 76mm] Square Post  | 4' [1.2m]    | 4                 | Spider <sup>(2)</sup> | Powder Coat, Black |



| WPS Part Number   | Post Size/Type  | Panel Height | Bracket Qty/Panel | Bracket Type                         | Finish             |
|---|---|--------------|-------------------|--------------------------------------|--------------------|
| 100126 (12 GA, Black, 9' Long, Dig and Set) –OR-<br><br>100769 (12 GA, Black, 10' Long, Dig and Set) -OR-<br><br>100122 (11 GA, Black, 6' Long, with 6"x6" flange plate)  | 3" x 3" [76 mm x 76mm] Square Post  | 6' [1.8m]    | 6                 | Spider <sup>(2)</sup>                | Powder Coat, Black |
| 100121 (12 GA, Black, 12' Long, Dig and Set) -OR-<br><br>100125 (11 GA, Black, 8' Long with 6"x6" flange plate)   | 3" x 3" [76 mm x 76mm] Square Post  | 8' [2.4m]    | 9                 | Spider <sup>(2)</sup>                | Powder Coat, Black |
| 100533  | Spider Bracket (Black, includes self-threading bolts; accommodation for 3 wires.) |              |                   |                                      |                    |
| <p><sup>(2)</sup>NOTES: For line/end post with straight line panels or 90-degree interior angle; double bracket post support is necessary for this option.</p> <p>Standard: #12 tamperproof self-tapping screw with 1/4" washer. Optional Upgrade: 8 mm stainless steel carriage bolt with 8 mm stainless steel break-away nut.</p> |   |              |                   |                                      |                    |
| <b>FLAT BAR SYSTEM</b>  |   |              |                   |                                      |                    |
| 100126 (12 GA, Black, 9' Long, Dig and Set) –OR-<br><br>100769 (12 GA, Black, 10' Long, Dig and Set) -OR-<br><br>100122 (11 GA, Black, 6' Long, with 6"x6" flange plate)  | 3" x 3" [76 mm x 76mm] Square Post  | 6' [1.8m]    | 7                 | Defender Lite Bracket <sup>(3)</sup> | Powder Coat, Black |



| WPS Part Number   | Post Size/Type                     | Panel Height | Bracket Qty/Panel | Bracket Type                           | Finish             |
|---|------------------------------------|--------------|-------------------|--|--------------------|
| 100121 (12 GA, Black, 12' Long, Dig and Set) -OR-<br><br>100125 (11 GA, Black, 8' Long with 6"x6" flange plate)   | 3" x 3" [76 mm x 76mm] Square Post | 8' [2.4m]    | 9                 |  |                    |
| Custom Quoted   | Defender Lite Bracket              |              |                   |  |                    |
| <sup>(3)</sup> NOTES: U-bracket system with carriage bolts and shear nuts. M8 carriage bolt with M8 break-away nut. 1.2" (30 mm) x .25" (6 mm) cover strip.<br><br>Full height shield bracket makes the fence difficult to sabotage.  |                                    |              |                   |  |                    |
| 100126 (12 GA, Black, 9' Long, Dig and Set) -OR-<br><br>100769 (12 GA, Black, 10' Long, Dig and Set) -OR-<br><br>100122 (11 GA, Black, 6' Long, with 6"x6" flange plate)  | 3" x 3" [76 mm x 76mm] Square Post | 6' [1.8m]    | 7                 | Defender Secure Bracket <sup>(4)</sup> | Powder Coat, Black |
| 100121 (12 GA, Black, 12' Long, Dig and Set) -OR-<br><br>100125 (11 GA, Black, 8' Long with 6"x6" flange plate)   | 3" x 3" [76 mm x 76mm] Square Post | 8' [2.4m]    | 9                 | Defender Secure Bracket <sup>(4)</sup> | Powder Coat, Black |
| Custom Quoted   | Defender Secure Bracket            |              |                   |  |                    |
| <sup>(4)</sup> NOTES: U-bracket system with carriage bolts and shear nuts. M8 carriage bolt with M8 break-away nut and 0.13" (3 mm) post bracket. 4.7" (120 mm) X 0.13" (3 mm) clamp bar. 5.0" (127 mm) x 5.0" (127 mm) x 0.13" (3 mm) corner clamp angle.<br><br>Full height shield bracket makes the fence difficult to sabotage. |                                    |              |                   |  |                    |

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### 2.03 COATING

- A. Hot-dip galvanized: The wire mesh is coated with 0.5 oz./sq. ft. (150 g/m<sup>2</sup>) zinc in conformity with ASTM A641 (1989) Class 1.
- B. Pre-galvanized and polyester powder coated: The polyester surface coating color shall be standard black or optional color as per RAL chart. Polyester coating to be minimum 4 mils (0.102mm) with an average thickness of 100µm (4 mils approx.) applied by an electrostatic method. Coating shall cover all surfaces of the wire sections.
- C. Corrosion: The wires are galvanized according to ASTM A641/A641M with a minimum of 40 gr/m<sup>2</sup>. After the welding process the panels will be pre-treated and provided with a conversion layer for a better anti-corrosion effect and better adhesion of the polyester powder coating.

### PART 3 - EXECUTION

All new installation shall be laid out by the contractor in accordance with the construction plans. The manufacturers' gate drawings shall identify the necessary gate hardware and installation recommendations required for the application.