

# BLACKLINE TECHNICAL SPECIFICATION SHEET

## Section 06435 - Black Colored Vinyl Handrails

### PART 1 – GENERAL

#### 1.01 General Description

This specification covers the manufacture and installation of black vinyl guard railing systems for use in residential, commercial, institutional and industrial settings where the appearance of ornamental wrought iron and the low maintenance qualities of vinyl are required. The systems shall meet all the applicable building codes.

#### 1.02 Scope of Work

- A. Installation of rail sections, rails, posts and caps
- B. Installation of gates and related hardware

#### 1.03 Related Work

- A. Decking
- B. Cleanup
- C. Fencing

#### 1.04 Quality Assurance

- A. Manufacturer's Quality Assurance Procedures Manual.
- B. Installation shall be by a manufacturer's licensed distributor/installer.

#### 1.05 References (ASTM Standards)

Specific Gravity	ASTM D792
Tensile Strength	ASTM D638
Tensile Modulus	ASTM D638
Elongation	ASTM D638
Flexural Modulus	ASTM D790
Flexural Strength	ASTM D790
Rockwell Hardness	ASTM D785
Izod Notched Impact Strength	ASTM D256
Heat Distortion Temperature	ASTM D648
Coefficient Of Linear Thermal Expansion	ASTM D696

#### 1.06 Submittals

- A. Installer shall submit layout drawings and product data.
- B. Installer shall submit product samples as requested below.
- C. Installer shall submit manufacturer's instructions for rail and gate installation.

#### 1.07 Product Delivery and Storage

- A. Installer shall inspect the product for damage upon delivery to the job site and make appropriate arrangements to replace damaged material.
- B. Product shall be stored flat on the shipping pallets in an area free of construction traffic and high heat surfaces.
- C. Product shall not be unwrapped or unstrapped prior to installation. Product shall not be stood on end and leaned against walls or other structures.

#### 1.08 Warranty

Blackline warrants its products to be free from defective workmanship and materials, when subject to proper and normal use: it is further warranted against peeling, flaking, rusting, blistering and abnormal weathering. See warranties for specific details.

### PART 2 – PRODUCTS

#### 2.01 Manufacturers

- A. Blackline Fence Products  
15801 Pacific Street  
Omaha, NE 68118  
(866) 333-1050  
(402) 333-1050  
www.blacklinefence.com

#### 2.02 Vinyl Product Production

- A. All profiles shall be extruded using dies designed internally and externally to be the same size and shape as the finished product.
- B. Profiles are only available in black.
- C. Single material profiles and the capstock of mono extruded profiles are formulated.
- D. Extruded vinyl components shall have the ability to resist weather degradation. The color change index ( $\Delta E$ ) shall be less than 3.5 after 2400 hours when tested by the Xenon Arc Lamp apparatus under controlled conditions similar to SAE J1960.
- E. Components of the Rigid Vinyl compound shall not exceed the limits shown:

Polyvinyl chloride resin	85 wt% max.
Carbon black	2 wt% max.
Calcium carbonate	8 wt% max.
Proprietary ingredients	21 wt% max.
- F. Furnished components shall conform to the following minimum properties measured in accordance with the referenced ASTM specification:

Specific Gravity	1.400±.02
Ash Contents (%)	10%±3%
Heat Distortion Temp. (°C)	>68°C
Coefficient of Linear Thermal Expansion	< 50 x 10 <sup>-6</sup> in/in °C
Rockwell Hardness	>105 on R-Scale
Tensile Strength	> 6,500 psi
Tensile Modulus	> 390,000 psi
Elongation (%)	> 100%
Flexural Modulus	> 400,000 psi
Izod Impact Strength	> 7 ft-lb/in@73.4±3.6°F
Flash Point	> 736°F
Autoignition Temperature	> 849°F
Cell Classification (ASTMD4216)	143343310122

#### 2.03 Vinyl Components

- A. Posts:
  1. 4" x 4" Post (0.140 Wall)
  2. 3" x 3" Post (0.140 Wall)
- B. Rails:
  1. 2" x 4" Ribbed Rail (0.120 Wall)
  2. 2" x 2 ½" Rail (0.130 Wall)
  3. 1" x 1 ¾" Rail (0.105 Wall)
- C. Pickets:
  1. ¾" x ¾" Picket (0.080 Wall) (Residential Use Only)
  2. ¾" x ¾" Twisted Picket (0.080 Wall) (Residential Use Only)
  3. 1" x 1 ¼" Ribbed Picket (0.105 Wall) (Residential/Commercial Use Only)
  4. 1" x 1" Picket (0.100 Wall) (Used with ¾" x ¾" Aluminum Insert) (Residential/Commercial Use Only)
- D. Picket Caps: The installer shall submit catalog cuts of the manufacturer's full line of picket caps for the architect's selection.

- E. Post Caps: The installer shall submit catalog cuts of the manufacturer's full line of picket caps for the architect's selection.

#### 2.04 Aluminum Components

- A. Aluminum components shall be extruded to the manufacturer's design profile with 6063 alloy and annealed to T-6 requirements.
- B. Aluminum Inserts (inserts shall be installed in top and bottom rails):
  1. 1.40" x 1.70" Guard Rail Stiffener at 0.72 lb/ft
  2. 1.66" x 2.16" Guard Rail Stiffener at 0.79 lb/ft
  3. ¾" x ¾" x .047 Wall Picket Insert

- 2.05 Post Inserts: Post inserts shall be BOCA approved rail post inserts and shall be installed in accordance the post manufacturer's recommendations.

- 2.06 Rail Assembly Capacity: When tested in accordance with the procedures of the IBC, BOCA, SBC/SBCCI, and UBC/ICBO, an 10 foot center to center guard rail assembly shall not suffer permanent distortion or deflection with a uniformly applied concurrent load of 36 lb/ft horizontal and 110 lb/ft vertical applied to the top rail. The corresponding capacity for a 6-foot center-to-center span shall be 100 lb/ft horizontal and 200 lb/ft vertical.

### PART 3 – EXECUTION

#### 3.01 Storage and Handling

- A. Store vinyl product on pallets off the ground and lying flat.
- B. Do not unwrap vinyl product until ready to install.

- 3.02 Installation: Install rail in the locations shown on the drawings and in accordance with manufacturer's instructions and recommendations.

#### 3.03 Clean up:

- A. Installed rail shall be wiped down and all scuffmarks shall be buffed out to produce a uniform appearance as detailed in the manufacturer's installation specifications prior to acceptance of the installation.
- B. Installer shall remove all component packing material and related installation debris.

**BLACKline**<sup>™</sup>  
Vinyl Fence Products