

## WHAT IS ASTM F964-13?

### Scope

ASTM F964-13 is considered the “end all, beat all” testing specification for vinyl fence. The purpose of this specification is to establish a recognized standard of quality for exterior vinyl profiles for use in assembling agricultural, commercial, and residential fencing and railing. This specification covers Illusions Vinyl Fence sections and the EverStrong Profiles used to fabricate them.

### Materials

Illusions Vinyl Fence Products are manufactured using Rigid Poly Vinyl Chloride (PVC) compounds for exterior-profile extrusions that meet the requirements of ASTM Specification D4216.

### Manufacture

Illusions Vinyl Fence Products are manufactured to meet cell Class 3-30233-23 as defined in Specification D4216. Illusions compounds have higher cell classification because one or more properties are superior to those used in standard acceptable compounds.

**Color/Consistency Testing** – The PVC compound in extruded section shall maintain uniform color and be free of any visual surface or structural changes, such as peeling, chipping, cracking, flaking, or pitting after weathering at intervals of six months and one year for white and for six months, one year, and two years for all other colors in hot, dry climate such as Phoenix, AZ; a hot humid climate, such as Miami, FL; and a temperate northern climate, when tested in accordance with ASTM Performance Weathering Requirements (TABLE 1).

**Weathering Testing** – The PVC compound shall have a minimum impact resistance of 0.6 in.-lb/mil (2670 J/m) after weathering six months and one year in a hot, dry climate such as Phoenix, AZ; a hot, humid climate, such as Miami, FL; and a temperate northern climate, when tested in accordance with ASTM Performance Weathering Requirements. The PVC compound shall have successfully met the weathering requirements prescribed for six months at each climatic testing site prior to use in production of exterior-profile extrusions, when tested in accordance with ASTM Performance Weathering Requirements (TABLE 1).

## ASTM Specifications Met

- D256** - To determine Izod impact properties
- D618** – Practice for Conditioning Plastics for Testing
- D635** – Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position
- D638** - To determine tensile properties
- D648** - To determine heat distortion temperature
- D696** – Test Method for Coefficient of Linear Thermal Expansion of Plastics Between 030°C and 30°C with a Vitreous Silica Dilatometer
- D790** - To determine flexural properties
- D792** - To determine specific gravity
- D883** – Terminology Relating to Plastics
- D1435** – Practice for Outdoor Weathering of Plastics
- D1600** Terminology for Abbreviated Terms Relating to Plastics
- D1784** – Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
- D1898** – Practice for Sampling of Plastics
- D2240** - To determine Shore hardness values
- D2244** – Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates
- D2565** – Practice for Xenon-Arc Exposure of Plastics Intended for Outdoor Applications
- D4216** – Material Class Number1-32333-3. To establish Cell Classification of PVC material. Illusions compounds have higher cell classification because one or more properties are superior to those used in standard acceptable compounds
- D4226** – Test Methods for Impact Resistance of Rigid Poly-(Vinyl Chloride) (PVC) Building Products
- D4726** – Specification for Rigid Poly(Vinyl Chloride) (PVC) Exterior-Profile Extrusions Used for Assembled Windows and Doors
- E-84-04** - Used to determine the flame spread value of PVC material; Illusions burn rate is significantly lower than allowed value

## Quality Assurance

Illusions Vinyl Fence Products are run through dimensional tests at the startup of a production run and every two hours thereafter including flattening, extrusion quality, impact resistance, warp, color comparison with standard color samples, capstock thickness, and bond testing will be done at the startup of a production and once per shift thereafter with a minimum of two tests per 24 hours of production.

**TABLE 1 - Required Exposures for PVC Extrusions - In Process**

| Color of PVC Extrusions | Exposure Climate       | Required Exposure Times, Months* |
|-------------------------|------------------------|----------------------------------|
| White                   | hot, dry (Phoenix, AZ) | 6 and 12                         |
|                         | hot, humid (Miami, FL) | 6 and 12                         |
|                         | northern temperate     | 6 and 12                         |
| Any other color         | hot, dry (Phoenix, AZ) | 6, 12 and 24                     |
|                         | hot, humid (Miami, FL) | 6, 12 and 24                     |
|                         | northern temperate     | 6, 12 and 24                     |

\*It is recommended that separate specimens be used for each exposure time.



The VMA, (Vinyl Manufacturers Association), is the Voice of the Vinyl Fence and Railing Industry and this is their certification logo. VMA Certified Illusions Vinyl Fence products meet or exceed industry standards.

THESE ARE THE RESULTS FROM AN ACCELERATED WEATHER TESTING CHAMBER IN LABORATORY CONDITIONS

## The Illusions® Vinyl Fence Advantage

This test is run according to ASTM Standard G-155, Cycle #1. All Illusions® Vinyl Fence Product is guaranteed to be made from 100% Pure Virgin Vinyl and assembled according to ASTM F964. Please note the difference in color retention and be assured, Illusions® Vinyl Fence will have uniformed color and be free of any visual surface or structural changes such as: peeling, chipping, cracking, flaking, or pitting after weathering.

Be assured! Insist on *Illusions® Vinyl Fence* Products.



**Competitor:**  
**450 Hrs.**  
(4-5 Years)

**WOW!**  
THAT WOULD  
COST A FORTUNE  
IN RE-INSTALLS!

**Illusions®:**  
**1000 Hrs.**  
(10-11 Years)