

## Frequently Asked Questions (FAQs)

### COMPOSITION

#### What is "Vinyl" and why is it used for fencing?

"Vinyl" is short for Polyvinyl Chloride, also called PVC, a plastic material widely used for applications that demand high durability.

The prefix "poly" refers to the fact that the molecules are chemically linked to one another in long chains, called polymers.

Although PVC is the principal ingredient in vinyl fencing, other ingredients are added to give the fencing desirable properties. For example, special ingredients, called impact modifiers, are added to improve the impact resistance of the fencing.

Titanium dioxide (TiO<sub>2</sub>) is a white pigment that is added for long-term resistance to ultraviolet (UV) light, a component of sunlight that tends to discolor and embrittle most substances that are exposed to sunlight over long periods of time.

DuraMax specially formulates its vinyl to withstand the sunlight typically experienced in the US Southwest, which is harsher than elsewhere. It does this by using a higher proportion of TiO<sub>2</sub> as well as adding special UV inhibitors and modifiers.

The resulting formula, called DuraResin, unique to DuraMax products, is the only one that has been created specifically for homes in the Southwest.

### COST

#### Isn't Vinyl more expensive than other types of fencing?

No. The initial investment for vinyl is much less than for custom ornamental iron fencing. Compared with decent quality wood and metal fencing, the initial cost of vinyl may seem to be a bit more, but when you consider that vinyl needs no sanding, priming or painting, the installed costs are about the same.

However, the most meaningful comparison for most homeowners is the total cost over the lifetime of the product or over the years that the property is owned. In the long run, vinyl is by far the most economical type of fencing you can buy.

Vinyl will never fade, rot, rust, peel or look old. It resists cracking and it never needs painting, so there's no paint to chip off. That means it never needs repainting, either. ...nor replacing due to aging or weathering.

### DURABILITY AND MAINTENANCE

#### How long does vinyl fencing last?

Your vinyl fencing is designed to last a lifetime. But lasting long is not the whole story. Another question is how long it will continue to look good. On this issue, you are apt to envy your own fencing...because the fencing will stay young-looking indefinitely.

#### What sort of warranty do you offer?

DuraMax fencing comes with a Lifetime Transferable Non-Prorated Limited Warranty. "Lifetime" and "Non-Prorated" are clues that when we say it lasts, we mean it. And "Transferable" is a clue that when we say it adds value to your property, we back that up as well.

#### How well does vinyl fencing withstand wind and weather?

Wind loads vary with location, and with the placement and installation of the vertical posts and horizontal rails. When the fencing is installed according to specifications, wind is never a problem.

As for weathering, vinyl does not rust and it holds up better than any alternative fencing material on the market. All components are designed to allow for normal expansion and contraction with varying temperature, and the fencing will withstand even the most extreme weather conditions. It will not deform in the hottest weather, nor crack or break on the coldest night.

**CAUTION:** If you live in the Southwest, where the sun tends to be stronger than in other parts of the country, weathering due to ultraviolet radiation can be a problem—UNLESS it's DuraMax fencing.

DuraMax fencing is the only vinyl fencing manufactured in the Southwest. Its vinyl is extruded from a specially formulated DuraResin material that contains 12 parts per hundred titanium dioxide, which acts as an effective sunscreen.

DuraResin also contains special UV inhibitors and modifiers designed to withstand strong UV sun rays. Unlike DuraMax, other brands of fencing are manufactured in regions where the sun is less intense, and they are extruded from resins that are NOT formulated to withstand intense UV.

#### Does vinyl fencing burn?

Vinyl has a flash point of nearly 1000 degrees so it is hard to ignite. It is classified as a "self-extinguishing" material.

#### What about mold and mildew?

Under certain conditions mold and mildew can settle on the surface of vinyl fencing. But since it cannot penetrate the surface, it is easily wiped off with detergent and water.

#### Does vinyl fencing require any maintenance at all?

A once-a-year washing will keep your fencing looking new indefinitely. The fact that this is the ONLY maintenance needed is one of the main reasons why vinyl has been gaining in popularity. Other fencing materials require an ongoing commitment to a costly and time-consuming program of maintenance.

#### What if my fencing is damaged or defaced?

Lawn equipment such as power mowers, trimmers and weed eaters can damage any fence posts—vinyl included. But since vinyl fencing consists of standardized components that are easily replaced, damage is less of a problem than with alternative fencing materials that are variable and need to be carefully matched, or that need to be sanded, primed and painted.

While all fencing is vulnerable to graffiti, vinyl is very easy to clean. In most cases, a little paint thinner does the job. In extreme cases, a pressure washer or some sandpaper may be required.

### FENCING DESIGN AND INSTALLATION

#### Do vinyl fence posts need to be installed with concrete?

Installation requirements are no different than for wood fence posts. If you live in an area where concrete is normally used, you would use it for vinyl as well. If concrete is not usually used for wood posts in your area, you would not use it for vinyl posts either.

#### Am I limited to styles pictured in your catalog or can I get custom styles?

Our standard components come in a large variety of shapes and sizes. This provides a tremendous selection of "building blocks" and permits virtually unlimited customization of your fencing. Almost any style you've seen in wood, metal or vinyl fencing—as well as many you've never seen—can be created with DuraMax.

#### What about gates?

No problem. Your local dealer/contractor knows how to use our standard vinyl components to fabricate gates.

#### Can vinyl fencing be made as high as fencing made of other materials?

Yes, depending on circumstances and local building codes, high vinyl fencing may require reinforcement of the posts, but this is equally true for other materials.

#### Is the fencing strong enough to use as guard railing or for a porch or balcony?

Absolutely.

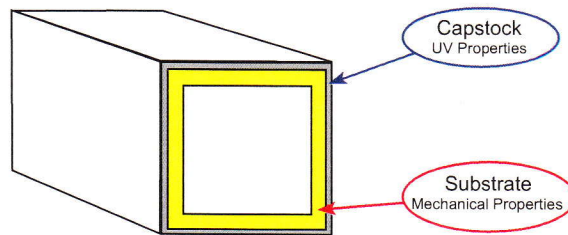


## DuraMax Is Engineered For The Southwest Sun

For over 20 years vinyl fencing has been used in many parts of the United States. But the vinyl used in the northern and eastern states are just not good enough for the Southwest. WHY? The intensity of the sun in the southwest is 5 times that of the northern and eastern states. DuraMax has been extruding vinyl products for the Southwest since 1983 and we've developed a proprietary vinyl blend called DuraResin, designed specially for the adverse Southwest climate.

### What Makes The Most Durable Vinyl

- A Vinyl Surface with High UV tolerance To Resist Discoloration In The Hot Sun
- A Rigid Structure With High Heat Deflection Temperature To Resist Warping In The Hot Sun



**COEXTRUDED VINYL FENCING**

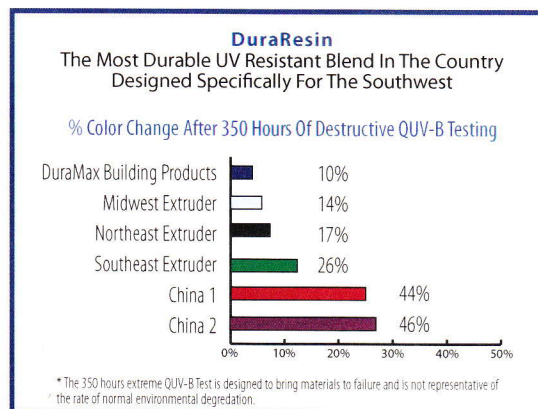
### What Is Duraresin?

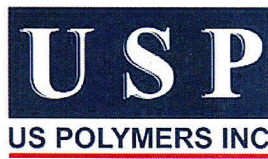
DuraResin is our proprietary vinyl formulation that has the best UV properties for the Capstock and the maximum rigidity for the Substrate. DuraResin delivers 25% Better UV Protection and the highest heat load characteristic to withstand the hot southwest sun.

	DuraResin Southwest States	Most Extruders Northern And Eastern States
Climate	• Hot Sun And Mild Weather	• Mild Sun And Cold Weather
Material Capstock	• 12 Parts TiO2 • 4 Parts UV Inhibitors • Perfected UV Additives	• 8-10 Parts TiO2 • No UV Inhibitors
Substrate	• High Rigidity For Minimal Heat Deflection Under The Hot Sun • Ingredients For Proper Cutting And Routing Without Shattering	• Low Rigidity To Avoid Brittleness In Very Cold Weather

### The Result

A look at one of our recent test results shows you all you need to know. Our DuraResin Formulation Guarantees, you'll be buying the absolute highest quality vinyl there is.





## WIND PERFORMANCE REPORT

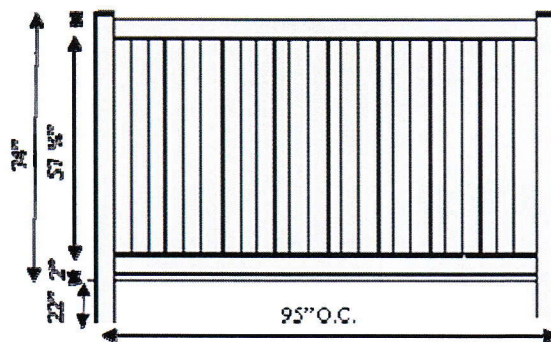
**Summary:** US Polymers Inc laboratories conducted a dynamic wind load test for Duramax Building Products on the Duramax privacy fence system DRPV-1 for research and development purposes. The report includes a written assessment of the results and a drawing of the fence section tested.

**Procedure:** Duramax Building products established the test specifications for the wind testing. The test was done on a single panel vinyl privacy fence that was 8' wide by 6' tall, hereafter referred to as the specimen. The initial wind load was started at 25 mph and increased by 10 mph until such time that the fence section failed or a maximum wind speed of 105 mph was achieved. Each wind load was held for 30 seconds and in every three consecutive loads the wind was stopped to record permanent deflection. The test sequence was as follows:

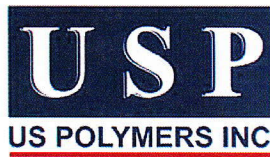
1. 25 to 45 mph
2. 55 to 75 mph
3. 85 to 105 mph

**Description of Apparatus:** A wind test rig was setup to accommodate the specimen attached to a solid post installation. The wind generator was an engine driven vane axial fan. The fan blades were fixed to a 5 1/2 degree pitch marked on the fan. The plenum created an outlet of 8'x4' with eight 2'x2' outlets. The specimen was elevated to a height that would accommodate the wind generation system.

**Specimen:** Duramax privacy fence system DRPV-1 95" on center x 72" tall  
(2) 5"x5"x0.150" x 96" PVC posts  
(2) 2"x6 1/2" x 92" PVC rails  
(8) 7/8" x 11.25" x 59 3/4" PVC T&G  
(2) 5" x 5" x 24" wood post inserts







**Results:**

**Recorded Data:** The following results were recorded on the testing of the specimen DRPV-1.

Wind Speed	Length of Time	Max Deflection Transducer Number			Permanent Set Transducer Number		
		#1	#2	#3	#1	#2	#3
25 mph	30 sec	1.32"	1.31"	.98"			
35 mph	30 sec	1.88"	2.14"	1.46"			
45 mph	30 sec	2.61"	2.82"	1.98"	0.68"	0.78"	0.51"
55 mph	30 sec	3.56"	3.81"	2.66"			
65 mph	30 sec	4.38"	4.66"	3.28"			
75 mph	30 sec	5.85"	5.97"	4.26"	0.81"	0.84"	0.49"
85 mph	30 sec	6.52"	6.01"	4.92"			
95 mph	30 sec	7.86"	7.98"	5.71"			
105 mph	30 sec	9.91"	10.26"	7.32"	0.88"	0.92"	0.54"

**Observations:** At the end of the test cycle, the overall section looked well and intact. There was a separation between the upper right post and the section measuring 2 ¼". Observable damage was minimal and easily repairable.

Results obtained are tested values, do not constitute an opinion or a fitness of use for a particular application. Winds outside of laboratory conditions with changing directions and speeds are unpredictable and can create live loads that can change the performance and resulted stated herein dramatically.



## TECHNICAL DATA SHEET

Vinyl fence should meet the minimum standards set under ASTM F964 that determines the material and physical performance requirements for vinyl fencing. ASTM F964 defines these requirements using a material Cell Classification. The minimum Cell Class for vinyl fence is 1-20131-13 with each letter representing a specific physical characteristic.

DuraMAX *exceeds* the minimum standards set by ASTM F964 for vinyl fencing with a far superior cell classification 1-30244-33. DuraMAX vinyl building products are extruded with a proprietary formulation, DuraResin™, engineered to stand up to the hot southwest sun. All vinyl products are coextruded with a highly UV stabilized capstock that overlays a substrate with excellent heat deflection and good mechanical properties. The technical properties of DuraMAX fencing are shown below.

GENERAL PROPERTIES	TEST	ASTM F964	DuraMax Value		ASTM	DuraMax
	METHOD	Minimum Standard	CapStock	SubStrate	Cell Class	Cell Class
Poly Vinyl Chloride					1	1
TiO2 content			12 Phr		-	-
UV Additives & other ingredients			Proprietary DuraResin™			
Density (g/cm3)	ASTM D 792		1.45 g/cm3			
Hardness Durometer D	ASTM 2240		81 D			
<b>IMPACT</b>						
Notched Izod Impact (ft.lbsf/in)	ASTM D 256 Method A	1 ft.lbsf/in		2.4 ft.lbsf/in	2	3
<b>IMPACT RESISTANCE</b>						
Impactor C.125, procedure A		n/a		n/a	0	0
Impactor C.125, procedure B	ASTM D 4226	1 in-lbs/mil		1.9in-lbs/mil	1	2
Normalized mean failure energy						
Normalized mean brittle failure energy				5 in-lbs/mil		
<b>TENSILE PROPERTIES</b>						
Tensile strength (psi)	ASTM D 638	6000 psi	7600 psi	6052 psi	3	4
Tensile modulus (psi)	ASTM 638	290000 psi	430000 psi	501700 psi	1	4
					-	-
<b>Heat deflection Temperature</b>						
Deflection temp (264 psi, 2 C/min)	ASTM 648	140 F		167 F	1	3
<b>COEFFICIENT OF LINEAR EXPANSION</b>						
		<4.4x10 Exp(-5)		<4.4x10 Exp(-5)	3	3
<b>FLAMMABILITY</b>						
Flammability (Static burn rate)	ASTMD635	Pass		Pass		

**Notes** -All tests are run at 23 C (73 F) unless otherwise indicated  
 -All specifications above are for Duramax vinyl extruded from our Duraresin™ capstock and substrate. Duramax also extrudes vinyl with a substrate that is from reworked vinyl (i.e. ranch rail) that has lower values than our DuraResin substrate but typically exceeds the ASTM F964 standards.