



## PCV PRODUCT LINE

about us

American Colors, Inc. is proud to present a well-researched and tested line of UV stabilized pigment dispersions for reinforced plastics. Our PCV line is formulated with pigments and additives not only to be weather resistant themselves, but to protect the total molding compound from weathering. A selective additive package makes these dispersions compatible in multiple customer formulations, and a full range of shades is available using organic and inorganic pigments, including custom matched colors.

### Formulating Benefits

We have studied the effect of various pigment chemistries and additive types on the weatherability of composite systems. American Colors can select the total package necessary to meet your performance needs while balancing performance with cost-effectiveness. The PCV technology is not a one-size-fits-all solution; formulations may need to be tailored to your composite formulation, molding parameters, and performance metrics.

### Weather Testing

Weather testing has been performed in colors matched to common exterior-grade applications, such as yellow, brick red, safety red, dark gray, and black. The data below were collected from PCV colors molded in an industry-standard SMC compound for exterior applications in collaboration with Ashland LLC of Dublin, OH. These panels were weathered in a Xenon Arc using ASTM G155 cycle 1 for 3000 hours. Each color space was benchmarked to the equivalent color match in our standard PC (unsaturated polyester resin) line to demonstrate performance. Color readings were taken every 500 hours, and DE, DL, Da, and Db measured. This data is intended to be informational and testing should be verified in the end application.



Properties	Recommended Applications
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- 100% solids products for wide compatibility
- Small particle size to maximize color strength and stability
- High pigment loadings help to reduce use rates relative to our competitors, therefore reducing cost
- Pourable or pumpable viscosity for easy incorporation
- Anti-settling and anti-float for color consistency
- Single pigments and color matches are available

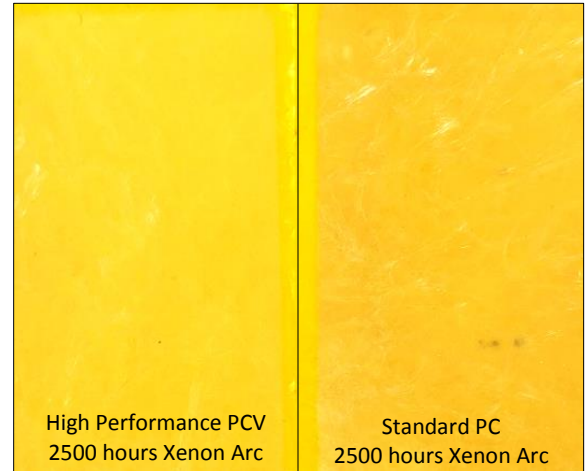
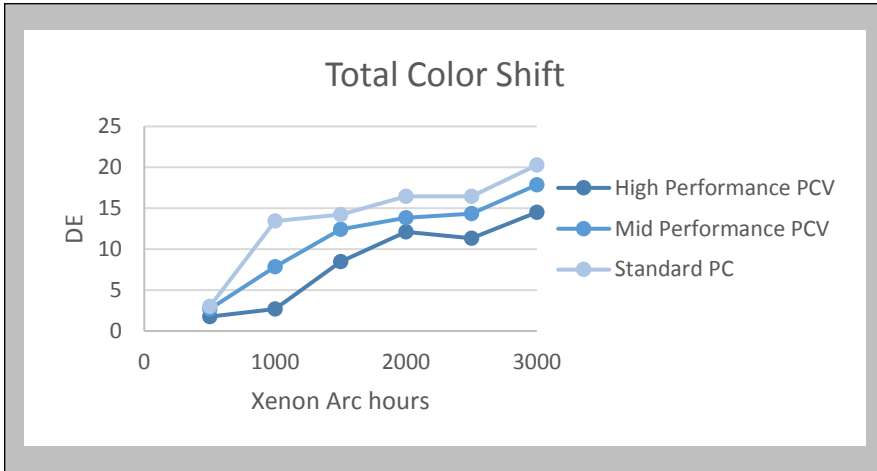
PCV is intended for use in SMC, BMC, and pultrusion applications where exterior weatherability is required. Other applications may be suitable where unsaturated polyester resin is compatible, such as polyester, vinyl ester or urethane cast parts, gel coats, or high performance coatings.

### Handling & Storage

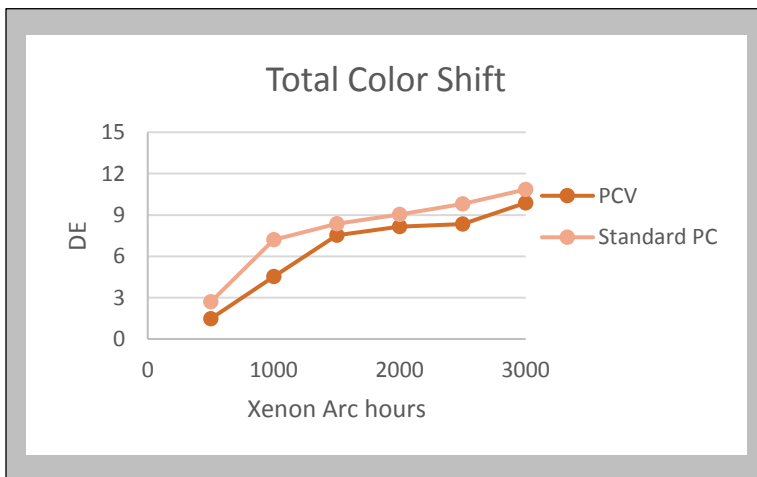
PCV is best stored in its original sealed container in a cool location out of direct sunlight. Products may require agitation or mixing prior to use.

# Technical Data for PCV

## YELLOW



## BRICK RED



### Formulating Parameters & Use Rates

- Exterior-grade pigments were used for all PC and PCV trials, highlighting the effectiveness of the UV stabilizers when comparing PC to PCV.
- Comparison to interior-grade pigments would show even greater contrast in performance.
- A combination of UV stabilizing technologies were utilized to protect the molding compound in short- and long-term accelerated weathering.
- The pigment dispersions were used at 5 PHR (1.9% BOP) in an industry-standard SMC utilizing ATH as the filler and 20% fiberglass.

### Results

- The brightness of a Yellow can be difficult to achieve in a UV stable color. We found that a mid-range of performance can be achieved in a cost-effective formula, or high performance can be achieved in a premium formula for end products requiring excellent durability in the yellow color space. PCV Yellow primarily improves the yellow-to-blue color shift.
- The pigments used in the Brick Red color space are inherently more UV stable than those used in a bright red; PCV Brick Red primarily improves the red-to-green color shift.
- While black pigments inherently absorb UV light, UV stabilizers and other methods are still necessary to protect the total molding compound. PCV black primarily protects the resin from chalking and yellowing.

## BLACK

