

Pigment Dispersions for Epoxy, Phenolic, Polyurethane and PVC Applications

Color Solutions

Plasticolors® FLV

General information

The FLV colorants have been formulated for use in epoxy, phenolic and polyurethane applications. The rheological profile of the FLV colorants yields a product line with superior handling properties when compared to many other colorants based on 100% solids epoxy or polyol resins.

Key Benefits

The FLV Series pigment dispersions consist of organic and inorganic pigments milled in a proprietary system. The stabilization method was chosen to ensure broad compatibility in multiple resin chemistries as well as long-term viscosity and colorant stability. The primary stabilizer contains a high level of bio-based components making this line more sustainable than other colorant lines.

Colorants based on epoxy resins will increase in viscosity over time. The FLV dispersions are viscosity stable for up to 2 years. There will be no solidification or gelling during storage and no crystallization will occur. The colorants can be used at temperatures above 30° F (-1° C). Below this temperature, the colorants can freeze. The colorants have been tested for freeze/thaw stability up to four cycles with no negative impacts exhibited.

These colorants are also formulated at maximum pigment loading to limit most effects on the final system properties.



Properties

The FLV colorants offer formulators a product line with low VOC levels, excellent pigment development and good performance characteristics. The tint strength of these colorants is controlled to $\pm 2\%$. Color difference is also controlled to ensure lot-to-lot consistency.

The viscosity range of these colorants is 60 – 80 KU (70 – 120 KU for the white colorant). This range makes these colorants suitable for machine dispensing.

The colorants are formulated to have a thixotropic characteristic. The thixotropy of each colorant aids in pigment suspension where there is very little to no settling of the pigment even at higher storage temperatures which leads to excellent shelf stability.

The primary stabilizer in the FLV colorants has an epoxy equivalent weight of approximately 213. This value is in the range of systems containing epoxy resin and glycidyl esters.

Compatibility

- Epoxy resins*
- Phenolics
- Polyurethanes
- Polyvinyl chloride (PVC)

Applications

Applications include, but are not limited to, automotive, aerospace, energy, coated fabrics/artificial leather and architectural.

Handling and Storage

Proper handling is essential to maintain good quality. Containers should be tightly sealed when not in use. This will prevent the absorption of atmospheric moisture and minimize the chance of airborne contamination. Containers should be stored in a manner as to protect them from temperature extremes (0-45°C, 32-120°F). It is recommended that the containers be mixed prior to use. Shelf life of the FLV colorants is 24 months from the date of manufacture in unopened containers. Reference the MSDS for more product care information.

*The use of high levels of diluents in epoxy systems may lead to color control issues related to flocculation or color float.

Product Code	Description	CI Name	Pigment Wt. %	Specific Gravity	Pigment Lightfastness		Pigment Weatherfastness ²	
					Full	Tint	Full	Tint
FLV-020070T	Carbon Black	PBk 7	21	1.06	8	8	5	5
FLV-020071T	Black Oxide	PBk 11	53	1.68	8	-	5	-
FLV-070123T	Red Oxide	PR 101	72	2.28	8	8	5	5
FLV-070124T	Organic Red	PR 170	19	1.02	6-7	-	3-4	2-3
FLV-070125T	Quinacridone Red	PR 19	25	1.04	7-8	7	4	3-4
FLV-10922T	Titanium Dioxide	PW 6	73	2.18	7-8	-	5	-
FLV-30782T	Phthalo Blue RS	PB 15:2	21	1.05	8	8	5	5
FLV-30783T	Quinacridone Violet	PV 19	26	1.03	7	7-8	-	-
FLV-50346T	Phthalo Green BS	PG 7	18	1.07	7-8	7	5	5
FLV-80977T	Yellow Oxide	PY 42	64	1.87	8	8	5	5
FLV-80978T	Organic Yellow	PY 151	14	1.01	6-7	6-7	-	-
FLV-80979T	Bismuth Vanadate GS	PY 184	68	2.24	7-8	-	4-5	-

¹Products listed represent standard single pigment colors. Standard ColorPak colors and custom color matched blends are available with special consideration for a variety of requirements, including color, outdoor durability, abrasion and cost considerations. If a specific pigment chemistry or custom blend is needed, please contact Vibrantz Technologies.

All fastness data is based on pigment supplier information and is given for guidance only. It is not an indicator of fastness in all applications, as many factors and components have a high level of influence over performance. It is the responsibility of the user to test and verify performance in their individual application.

(1) Light fastness is measured on an eight step blue wool scale, where 1=very poor light fastness and, 8=excellent light fastness.

(2) Weather resistance is measured on a five step gray scale, where 1= very poor weather resistance, 5= excellent weather resistance.

The information and recommendations contained herein are based on data we believe to be reliable and does not imply any warranty or performance guarantee, as conditions and methods of use of our products are beyond our control. The data herein is determined using Vibrantz's standard test methods. Hazard and safety information with respect to this product is available in the applicable SDS. Vibrantz will not be liable under any circumstance for consequential or incidental damages, including but not limited to, lost profits resulting from the use of our products.