

# Pigment Dispersions for Epoxy Coatings

Color Solutions

## Chroma-Chem® FLV

### General Information

The FLV Series colorants have been formulated for use in all epoxy coatings as well as polyurethane and polyaspartic coatings for multiple substrates. The rheological profile of the FLV Series 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 Series is 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 coating's properties. They will have minimal effects of on coating performance and have been shown to slightly improve adhesion and chemical resistance in certain systems.



## Properties

The FLV Series colorants offer the coatings formulator 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 or in-plant use.

The colorants are formulated to have a thixotropic characteristic. The thixotropy of each colorant aid 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 and machine dispenser performance.

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

## Applications

The FLV Series is formulated for use in concrete protective and floor coatings based on epoxy, polyurethane, and polyaspartic resins. It can be used in similar systems for other applications including, but not limited to, automotive, coil, industrial maintenance, marine, metal containers, pipe, and other protective coatings.

## Compatibility

The FLV Series colorants are compatible with most epoxy, polyurethane, and polyaspartic coating systems. They are also compatible with epoxy coatings formulated with diluent. However, increasing levels of diluent in the coating may lead to color control issues (flocculation, color float).

## Shelf Life

Proper handling is essential to maintain good quality. It is recommended that the colorants be mixed prior to use. Containers should be tightly sealed when not in use.

The shelf life on the FLV Series colorants in unopened containers is two years from the date of manufacture.

Product Code	Description	CI Name	% Pigment		% Resin		% Other Non-Volatiles		Specific Gravity	VOC <sup>a</sup> g/L	Pigment Lightfastness		Pigment Resistance	
			X Wt.	X Vol.	X Wt.	X Vol.	X Wt.	X Vol.			Mass	Tint	Acid	Alkali
FLV-020027	Carbon Black	Black 7	20.7	12.3	74.9	83.4	4.4	4.3	1.06	<10	N	N	N	N
FLV-020028	Black Oxide	Black 11	53.0	18.2	43.0	75.6	4.0	6.2	1.68	<10	N	N	N	N
FLV-070089	Red Oxide	Red 101	72.0	33.6	26.6	63.5	1.4	2.9	2.28	<10	N	N	N	N
FLV-070091	Organic Red	Red 170	18.5	14.0	75.0	79.9	6.5	6.1	1.02	<10	N*	S*	N	N
FLV-10886	White	White 6	72.9	39.8	19.8	45.5	7.3	14.7	2.18	<10	N	N	N	N
FLV-30748	Blue	Blue 15:2	21.2	14.0	71.7	79.1	7.1	6.9	1.05	<10	N	N	N	N
FLV-50339	Green	Green 7	18.2	9.3	74.7	83.7	7.1	7.0	1.07	<10	N	N	N	N
FLV-80944	Yellow Oxide	Yellow 42	63.5	29.0	34.8	68.0	1.7	3.0	1.87	<10	N	N	N	N
FLV-80946	Organic Yellow	Yellow 151	13.6	9.8	80.0	84.2	6.4	6.0	1.01	<10	N*	N*	N	A
FLV-80948	Bismuth Vanadate Yellow	Yellow 184	67.5	24.4	30.1	70.5	2.4	5.1	2.24	<10	N	N	N	N

<sup>a</sup>Expected values based on formulation

Lightfastness and Resistance Key			
N	no bleed/discoloration	*	no Florida data, only Fadeometer
S	slight	**	no data
A	appreciable		

Lightfastness and Resistance information is provide for guidance purposes only.  
 Source: NPIRI Raw Materials Data Handbook Volume 4 (© 2000)

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