



UCD™ COLORANTS PS LINE

INTRODUCTION

The UCD™ PS line is a series of 100%-solids colorants for high-performance coatings. Each product in the line consists of a dry pigment mixed in a low-molecular-weight methoxy-functional silicone intermediate. PS colorants are designed to be reacted with other silicones, epoxies, and hydroxyl-functional resins to produce copolymers with outstanding properties.

Silicone compounds typically provide excellent weatherability, chalk resistance, and heat resistance. Consequently, the use of polymers containing PS colorants (and their silicone intermediate) tends to produce highly durable coatings.

The PS line is formulated at maximum pigment loading for use in volumetric or gravimetric dispensing systems.

COMPATIBILITY

PS colorants are suitable for use in a wide variety of conventional and high-solids solvent-based coatings. Binders and solvents compatible with PS colorants include but are not limited to the

Polymers*	Solvents
Acrylics	Aromatic solvents
Polyester	Ketones
Alkyds	Esters
Epoxies	Chlorinated solvents
	Glycol ethers
	PM Acetate

*Polymer system must be designed to crosslink intermediate into the final film.

CHEMISTRY

The methoxy groups of the silicone millbase resin in the PS products provide the formulator with several useful options.

To begin with, these groups enable the resin to crosslink with other silicone resins in the presence of heat and a catalyst, generally an organometallic type. Coatings based on this all-silicone chemistry are generally employed in high-temperature applications.

As indicated previously, the millbase resin will also crosslink with epoxies and hydroxy-functional resins such as polyesters, acrylics, and alkyds. As with silicone resins, heat and a catalyst are required to make the PS colorants to react with the hydroxy-functional resins. With epoxy resins, an organosilicon curing agent is generally used to initiate crosslinking. Modification of these systems with 30% to 50% silicone intermediate (on resin solids) will generally improve durability..

PROPERTIES

The tinting strength of the colorants is controlled to $\pm 2\%$ of the standard. The color difference is controlled to less than 0.8 CIELAB units with the individual color components (DA, DB, and DL) controlled to ± 0.80 CIELAB units.

Shelf life on the PS line colorants is 2 years from the date of manufacture.



Plasticolors, Inc.

			COMPOSITION					PIGMENT PERFORMANCE							
			% Pigment		% Resin		Theo. Density	Lightfastness		Bleeding				Resistance	
Code	Color	Name	Wt	Vol	Wt	Vol	Lb/Gal	Mass	Tint	Oil	Spirits	Toluene	Lacquer	Acid	Alkali
1060	Titanium Dioxide	Wh 6	50.0	22.7	50.0	77.3	14.92	E	E	N	N	N	N	E	E
1507	Carbon Black	Bk 7	8.5	5.6	91.5	94.4	9.95	E	E	N	N	N	N	E	E
1625	Lampblack	Bk 7	11.5	7.7	88.5	92.3	10.06	E	E	N	N	N	N	E	E
4820	Phthalo Blue (GS)	Bl 15:4	15.0	10.9	85.0	89.1	10.12	E	E	N	N	N	N	E	E
4830	Phthalo Blue (RS)	Bl 15:2	15.5	12.2	84.5	87.8	10.03	E	E	N	N	N	N	E	E
5150	Phthalo Green (BS)	G 7	15.0	8.9	85.0	91.1	10.35	E	E	N	N	N	N	E	E
5696	Organic Yellow (GS)	Y 151	22.0	18.1	78.0	81.9	10.13	E	E	N	N	N	N	E	G
5750	Yellow Oxide	Y 42	33.0	12.3	67.0	87.7	12.63	E	E	N	N	N	N	E	E
5762	Organic Yellow (RS)	Y 83	22.5	18.1	77.5	81.9	10.15	E	E	N	N	S	S	E	E
5861	Burnt Umber	Br 7	25.0	9.7	75.0	90.3	11.62	E	E	N	N	N	N	E	E
6004	Novoperm Orange	O 36	22.0	17.0	78.0	83.0	10.27	E	G	N	N	S	N	E	E
6012	Organic Orange	O 34	23.0	19.8	77.0	80.2	10.05	E	G	N	N	S	N	E	E
6080	Red Oxide	R 101	37.0	12.0	63.0	88.0	13.51	E	E	N	N	N	N	E	E
7945	Arylide Red	R 170	14.0	11.9	86.0	88.1	9.89	G	F	N	N	N	S	E	E
8030	Quinacridone Red	V 19	10.5	8.3	89.5	91.7	9.89	E	E	N	N	N	N	E	E
8443	Quinacridone Violet	V 19	11.5	9.1	88.5	90.9	9.91	E	E	N	N	N	N	E	E

The performance data shown in this table are taken from the pigment suppliers' literature: E=Excellent, G=Good, F=Fair, S=Slight, C=Considerable, P=Poor, N=None

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