



Colorants for **Coating** Industry

www.gs-chemicals.com

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Important Notice:
All information in this brochure are based on our present state of knowledge and is intended to provide general reference only on our products and their uses. It should not therefore be construed as guaranteeing specific properties of the products described or their suitability for a particular application. Any existing industrial property rights must be observed. The quality of our products is guaranteed under our general conditions of sale. Trial application tests are recommended, even if this application is well-known.

Distributors in China

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Avery L7160

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COMPANY PROFILE

Spectra, based in EU & UK, was founded in 2006, but her history was much earlier since 1980s for manufacturing of Intermediate, which are used as for Pigments and Solvent Dyes.



2+

Manufacturing Units



19+

Years of experience



350+

Corporate customers



4+

Branch Companies



Our strength is our knowledge, hard work and humble beginnings and hence, we always opt for niche segments where technical expertise and active management involvement is needed to carry out the production. Based on this trend, we have diversified into a wide range of products having equally diverse applications.

In 2006, we reorganized and formed Spectra for further development of colorants business from EU to over the worlds.

The company is committed to being a world-class supplier of leather chemicals, integrated marketing, integrated resource technology, services, management and cultural advantages and build customer service – Product Development – provide system solutions as the core of the organization, implementation to meet the personalized service-based competitive strategies to achieve the company became the first brand in the industry, accounted for the highest share of the domestic market and has a strong international strategic objectives competitiveness.

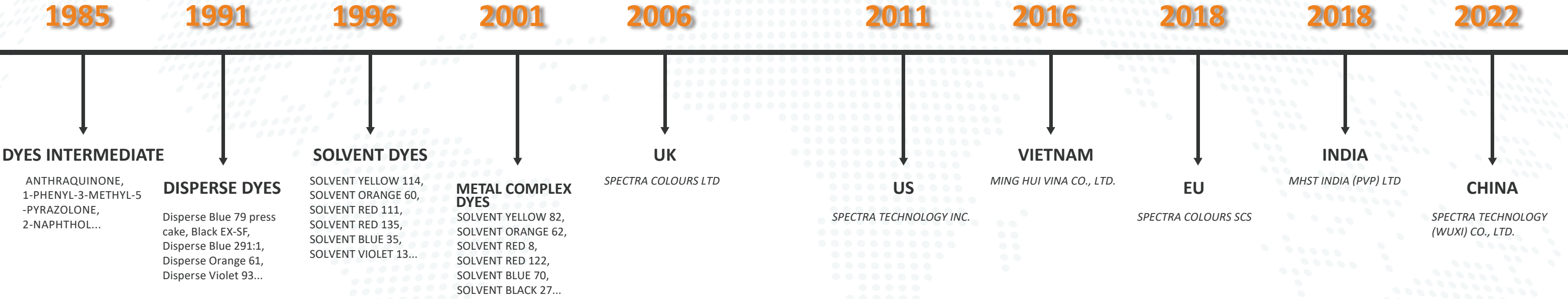
Companies adhere to the “Germany first, best use” principle of employment and management philosophy; “identify with the company, self-identity, harmony together” as a common code of conduct of employees, formed a “equality, fairness, innovation, democracy” as the basic connotation organizational ethics, “professionalism, communication, self-discipline” as the basic content of the dominant public opinion, enhance the sense of responsibility of employees, communication and collaboration skills, promote team spirit, in order to achieve “enterprise development, human development,” the human resource management objectives.

“People-oriented, honest-oriented” business ethics and “advanced technology” scientific spirit of seeking progress of the industry, creating value for society, for the nation to contribute to staff development and well-being and efforts to provide customers with high-quality technical service and high-tech products, and promote customer development.

Our wide and diverse range of products goes a long way in showing our technical expertise and our quality standards.

DEVELOPMENT
COURSE

Pursuit Excellence
Quality Innovation



Metal Complex Dyes (Powder)



MH Dyestuffs are soluble in organic solvents and exhibit good all-round fastness properties. They have particularly good solubility in alcohols, ketones, esters and ethers.

MH Dyestuffs are suitable for coloration of inks, wood stains, leather finish, stamping foil and paints based on solvents.

MH Dyestuffs are approved by the following regulations: EN71-3, EN71-9, RoHS, ASTM F963



















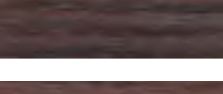



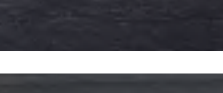

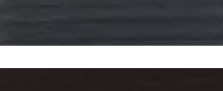



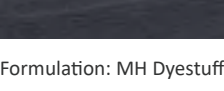
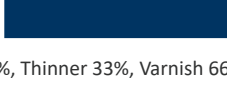
MH Dyestuffs have been acquired REACH PRE-Registration numbers

Properties & Application

Color Shade		MH Code C. I. NO.	Solubility (g/l)						Fastness Properties					
Wood	Coated Art Paper		Alcohol 99.5%	Isopropanol	MPA	Ethyl Acetate	MEK	Solvent Mixture*	Heat Resistance	Light Fastness	Migration	Water Resistance	Alkali Resistance	Acid Resistance
		MH YELLOW 175 S. Y. 162	40	<5	130	440	>500	360	4	6	5	5	5	5
		MH YELLOW 181 S. Y. 79	190	40	240	>500	>500	400	3-4	6-7	5	5	5	5
		MH YELLOW 20 S. Y. 21	280	250	220	480	>500	450	5	6-7	5	5	5	5
		MH YELLOW 57 S. Y. 82	260	80	300	460	470	370	5	6-7	5	5	5	5
		MH YELLOW AB S. O. 11	50	25	150	150	200	150	5	7	5	5	5	5
		MH YELLOW KK S. O. 45	300	140	220	460	400	>500	4-5	6-7	5	4-5	5	5
		MH ORANGE 09 S. O. 62	230	70	190	150	500	400	4	6-7	5	5	5	5
		MH ORANGE 10 S. O. 54	230	60	180	>500	>500	480	4	6-7	5	5	5	5
		MH RED 04 S. R. 8	180	170	330	300	500	250	4	7-8	5	5	5	5
		MH RED 55 S. R. 119	10	<10	300	10	>500	360	4-5	6-7	5	5	5	5
		MH RED 06 S. R. 122	200	80	200	400	500	330	4	6-7	4-5	5	4-5	5
		MH RED 357 S. R. 124	10	<10	340	20	300	430	5	3-4	5	5	4-5	5

Formulation: MH Dyestuff 1%, Thinner 33%, Varnish 66%

*Solvent Mixture: Alcohol 60%, Toluene 30%, Ethyl Acetate 10%

Color Shade		MH Code C. I. NO.	Solubility (g/l)						Fastness Properties					
Wood	Coated Art Paper		Alcohol 99.5%	Isopropanol	MPA	Ethyl Acetate	MEK	Solvent Mixture*	Heat Resistance	Light Fastness	Migration	Water Resistance	Alkali Resistance	Acid Resistance
		MH RED 10 S. R. 218	180	<10	30	<10	200	360	4	4-5	4-5	4-5	5	4-5
		MH RED 12 S. R. 49	30	20	260	>500	300	320	3-4	4-5	4	5	5	4-5
		MH BLUE 03 S. BL. 5	30	<10	<10	-	20	180	2	3-4	4	4	4	4-5
		MH BLUE BS S.BL.45	55	65	230	295	390	300	5	5	5	5	5	5
		MH BLUE BL S. BL. 136	200	200	200	25	300	200	5	5	4-5	4-5	5	4
		MH BLUE 06 S. BL. 70	90	130	210	15	450	350	3-4	5-6	5	5	5	4
		MH BLUE GN S.BL.67	150	50	100	25	300	200	5	6	5	5	5	5
		MH GREEN 575 MIXTURE	25	60	210	25	>500	400	4	5-6	4	4-5	5	4-5
		MH GREEN 20 MIXTURE	70	100	300	250	>500	330	5	5-6	4-5	5	5	5
		MH BROWN 02 MIXTURE	100	40	130	100	400	350	5	6-7	5	4-5	5	5
		MH BROWN 05 MIXTURE	120	50	130	100	400	400	5	6-7	5	5	5	5
		MH BLACK 20 S. BK. 27	20	15	300	40	400	80	5	6-7	5	5	5	4-5
		MH BLACK 56 S. BK. 28	130	60	150	40	400	200	5	6-7	5	5	5	5
		MH BLACK 17 S. BK. 29	30	25	>300	40	>300	>300	6	6	5	5	5	5
		MH BLACK 04 S. BK. 34	20	<10	180	30	300	30	4-5	7-8	5	4-5	5	5

Formulation: MH Dyestuff 1%, Thinner 33%, Varnish 66%

*Solvent Mixture: Alcohol 60%, Toluene 30%, Ethyl Acetate 10%

C Type

Selected particularly suitable for wood stains, which are desalinated by special process. The basic characteristics of these liquid dyestuffs are good light fastness, good over lacquering resistance, very good compatibility with a wide variety of solvents, good storage stability low viscosity, fast drying and ease of use.

			
MH YELLOW 57C	MH ORANGE 10C	MH ORANGE 09C	MH RED 04C
			
MH RED 06C	MH RED 12C	MH BROWN 05C	MH BROWN 02C
			
MH BLACK 20C	MH BLACK 04C	MH BLUE 06C	MH GREEN 20C

*30% Concentration

L Type

In liquid form, this type can be thoroughly mixed and dissolved in water or oil, well meets environment friendly requirements. Similar to BASF's Eukesolar® E Liquid Dyes.
Usage Reference: Diluted directly water by 1:5 or 1:9, then mix with added water base resins (polyurethane e.g.), casein, auxiliary (Cross-linking agent, anticorrosive agent e.g.).

			
MH YELLOW 12L	MH ORANGE 25L	MH ORANGE 23L	MH RED 36L
			
MH RED 33L	MH BLUE 66L	MH BROWN 48L	MH BROWN 49L
			
MH BLACK 53L	MH BLACK 55L	MH BLACK 57L	MH GREEN 70L

*17% Concentration


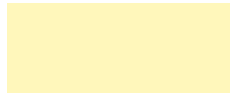

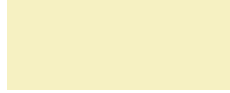




















RECOMMENDATION































The resins of woodstain popularly used are Nitrocellulose (NC) and Polyurethane (PU) etc.































Profile


SD series organic pigments are the special colorants for coating industry belong to gschem®.
SD series organic pigments are widely used for industrial paint, coil coating, powder coating, auto paint, textile printing, offset inks, water-base inks, solvent-base inks etc.
SD series organic pigments are sorted out and combined the consideration of properties and cost-benefit, it contains traditional adopted pigments, but also some high performance pigments, which were successful to be stably synthesized and supplied into market in recent years.
SD series organic pigments are approved according to EN 71-3, RoHS, AP89-1.

Properties & Application

Color Shade		SD Code C. I. NO.	Fastness Properties		Product Application									
			Oil Absorption ml/100g	Light Fastness	Industrial Paint	Coil Coating	Powder Coating	Water-base Decorative Paint	Solvent-base Decorative Paint	Auto Paint	Textile Printing	Offset Inks	Water-base Inks	Solvent-base Inks
		SD YELLOW GB C. I. P. Y. 1 Semi-transparent, Bright Yellowish Shade	45	7				●			●	●		
		SD YELLOW 10G C. I. P. Y. 3 Semi-transparent, Greenish Shade	45	7				●					●	●
		SD YELLOW GP C. I. P. Y. 12 Semi-transparent, Neutral Yellowish Shade	40	6	●			●			●	●	●	●
		SD YELLOW GR C. I. P. Y. 13 Semi-transparent, Reddish Shade	55	5							●	●	●	●
		SD YELLOW G C. I. P. Y. 14 Semi-transparent, Reddish Shade	40	5				●			●	●	●	●
		SD YELLOW 5GX C. I. P. Y. 74 Semi-transparent, Greenish Shade	45	7	●			●	●		●	●	●	●
		SD YELLOW HR C. I. P. Y. 83 Semi-transparent, Reddish Shade	50	6	●	●	●	●	●		●	●	●	●
		SD YELLOW GRO C. I. P. Y. 110 Transparent, Reddish Shade	50	8	●	●	●	●	●	●			●	●
		SD YELLOW HD C. I. P. Y. 138 Semi-transparent, Greenish Shade	50	6	●	●	●	●	●		●			
		SD YELLOW H3R C. I. P. Y. 139 Opaque, Reddish Shade	45	7	●	●	●	●	●		●	●	●	●
		SD YELLOW EMD C. I. P. Y. 150 Semi-transparent, Neutral Yellowish Shade	55	8	●	●		●	●	●	●		●	●
		SD YELLOW H4G C. I. P. Y. 151 Semi-transparent, Greenish Shade	50	8	●	●		●	●	●	●	●	●	●

Color Shade		SD Code C. I. NO.	Fastness Properties		Product Application									
			Oil Absorption ml/100g	Light Fastness	Industrial Paint	Coil Coating	Powder Coating	Water-base Decorative Paint	Solvent-base Decorative Paint	Auto Paint	Textile Printing	Offset Inks	Water-base Inks	Solvent-base Inks
Full Shade	1/3 Tint Shade													
		SD YELLOW H3G C. I. P. Y. 154 Semi-transparent, Greenish Shade	55	7	●	●			●	●	●	●	●	●
		SD YELLOW HG C. I. P. Y. 180 Semi-transparent, Greenish Shade	45	6-7	●	●	●		●	●				●
		SD ORANGE G C. I. P. O. 13 Semi-transparent, Yellowish Shade	50	6	●				●	●		●	●	●
		SD ORANGE RL C. I. P. O. 34 Semi-transparent, Reddish Shade	45	6	●		●	●			●	●	●	
		SD ORANGE GR C. I. P. O. 43 Transparent, Reddish Shade	45	5	●	●	●	●	●	●			●	●
		SD RED F2R C. I. P. R. 2 Semi-transparent, Yellowish Shade	45	6					●		●		●	
		SD RED B C. I. P. R. 3 Semi-transparent, Yellowish Shade	50	6	●									
		SD RED F4R C. I. P. R. 8 Semi-transparent, Blueish Shade	40	5					●		●		●	
		SD RED N C. I. P. R. 22 Semi-transparent, Yellowish Shade	45	5					●		●		●	
		SD RED 2BN C. I. P. R. 48:1 Semi-transparent, Yellowish Shade	55	4									●	●
		SD RED 2BL C. I. P. R. 48:2 Transparent, Blueish Shade	60	6							●		●	●
		SD RED 2BM C. I. P. R. 48:4 Opaque, Blueish Shade	55	6	●		●	●					●	
		SD RED C C. I. P. R. 53:1 Semi-transparent, Yellowish Shade	45	4								●	●	●
		SD RED BK C. I. P. R. 57:1 Semi-transparent, Blueish Shade	55	6					●	●		●	●	●
		SD RED FGR C. I. P. R. 112 Semi-transparent, Neutral Redish Shade	40	6	●				●		●	●	●	

Color Shade		SD Code C. I. NO.	Fastness Properties		Product Application									
			Oil Absorption ml/100g	Light Fastness	Industrial Paint	Coil Coating	Powder Coating	Water-base Decorative Paint	Solvent-base Decorative Paint	Auto Paint	Textile Printing	Offset Inks	Water-base Inks	Solvent-base Inks
Full Shade	1/3 Tint Shade													
		SD RED E-1 C. I. P. R. 122 Semi-transparent, Blueish Shade	50	7	●	●	●	●	●	●	●	●	●	●
		SD RED DNC C. I. P. R. 123 Transparent, Neutral Reddish Shade	45	6-7	●	●	●	●	●	●			●	●
		SD RED 3RK C. I. P. R. 170 Semi-transparent, Yellowish Shade	50	6	●	●		●		●	●	●	●	
		SD RED 5RK C. I. P. R. 170 Semi-transparent, Blueish Shade	50	6	●		●	●	●		●	●	●	
		SD RED HFC C. I. P. R. 176 Transparent, Blueish Shade	70	6-7	●	●	●	●	●	●			●	●
		SD RED ATY C. I. P. R. 177 Transparent, Blueish Shade	50	7-8	●		●	●	●	●				
		SD RED 2GL C. I. P. R. 179 Transparent, Dark Reddish Shade	35	7-8	●	●	●	●	●	●			●	●
		SD RED AHE C. I. P. R. 185 Transparent, Blueish Shade	80	6-7	●	●	●	●	●	●			●	●
		SD RED SR C. I. P. R. 190 Transparent, Yelloweish Shade	45	8	●	●	●	●	●	●			●	●
		SD RED 5BK C. I. P. R. 202 Transparent, Blueish Shade	40	7-8	●	●	●	●	●	●			●	●
		SD RED HW C. I. P. R. 208 Transparent, Neutral Reddish Shade	80	6-7	●	●	●	●	●	●			●	●
		SD RED HE C. I. P. R. 224 Transparent, Blueish Shade	35	7-8	●	●	●	●	●	●			●	●
		SD RED BO C. I. P. R. 254 Transparent, Neutral Redish Shade	55	8	●	●	●	●	●	●	●			●
		SD RED 5G C. I. P. R. 255 Opaque, Yellowish Shade	50	7-8	●	●	●	●	●	●			●	●
		SD RED TTR C. I. P. R. 264 Semi-transparent, Blueish Shade	50	7-8	●	●	●	●	●	●			●	●

Color Shade		SD Code C. I. NO.	Fastness Properties		Product Application										
			Oil Absorption ml/100g	Light Fastness	Industrial Paint	Coil Coating	Powder Coating	Water-base Decorative Paint	Solvent-base Decorative Paint	Auto Paint	Textile Printing	Offset Inks	Water-base Inks	Solvent-base Inks	
Full Shade	1/3 Tint Shade														
		SD VIOLET PM C. I. P. V. 3 Transparent, Blueish Shade	50	5									●	●	●
		SD VIOLET E201 C. I. P. V. 19 Semi-transparent, Blueish Shade	60	7	●	●	●	●	●	●	●	●	●	●	●
		SD VIOLET RL C. I. P. V. 23 Transparent, Reddish Shade	60	7	●	●			●	●		●		●	●
		SD VIOLET FM C. I. P. V. 29 Semi-transparent, Reddish Shade	45	7-8	●	●	●	●	●	●				●	●
		SD BLUE B C. I. P. BL. 15 Transparent, Neutral Blueish Shade	45	7					●			●	●	●	
		SD BLUE BR C. I. P. BL. 15:1 Transparent, Reddish Shade	50	7									●	●	
		SD BLUE BF C. I. P. BL. 15:2 Transparent, Reddish Shade	55	7	●	●	●	●	●	●			●	●	
		SD BLUE BGS C. I. P. BL. 15:3 Transparent, Greenish Shade	50	7	●	●	●	●	●			●	●	●	●
		SD BLUE GX C. I. P. BL. 15:4 Transparent, Greenish Shade	45	7	●	●	●	●	●	●				●	●
		SD BLUE EP C. I. P. BL. 15:6 Transparent, Reddish Shade	45	7	●	●				●	●	●			●
		SD BLUE A3R C. I. P. BL. 60 Semi-transparent, Reddish Shade	45	8	●	●	●	●	●	●				●	●
		SD GREEN G C. I. P. GN. 7 Transparent, Neutral Greenish Shade	45	7	●	●	●	●	●		●	●	●	●	●
		SD GREEN 6G C. I. P. G. 36 Transparent, Yelloweish Shade	35	7	●	●	●	●	●	●				●	●

● Suitable









● Suitable

Application



Basically used for construction materials
Plastic and rubber
Paints and coatings

Animal feed
Pigmented mulch
Ink and universal tint system



Iron Oxide Pigments

Color Shade		Product Name	Fe ₂ O ₃	Fe ₃ O ₄	Oil Absorption	Residue On Sieve	Water-soluble Content	Moisture	pH Value	Apparent Density
			%	%	ml/100g	45μm, %	%	%		g/cm ³
		SW RED FE110	≥95	-	15-25	≤0.3	≤0.5	≤1.0	3-7	0.7-1.1
		SW RED FE120	≥95	-	15-25	≤0.3	≤0.5	≤1.0	3-7	0.7-1.1
		SW RED FE130	≥95	-	15-25	≤0.3	≤0.5	≤1.0	3-7	0.8-1.1
		SW YELLOW FE313	≥86	-	25-35	≤0.3	≤0.5	≤1.0	3-7	0.4-0.7

Chrome Green

Color Shade	Product Name	Appearance	Specific Gravity	Cr ₂ O ₃ Content	Tinting Strength	Oil Absorption	Residue On Sieve	Water Soluble Matter	Moisture	pH Value	△E
			g/ml	%	%, ±5	%	45μm, %	%	%		
	SW GREEN CRGN	Green Powder	5.2	Min. 99	100	15-25	Max. 0.05	Max. 0.5	Max. 0.3	5-8	Max. 1
	SW GREEN CRG	Green Powder	5.2	Min. 99	100	15-25	Max. 0.3	Max. 0.5	Max. 0.2	5-8	Max. 1

Ultramarine Blue

Color Shade	Product Name	Appearance	Tinting Strength	Oil Absorption	Residue On Sieve	Free Sulfur	Moisture	△E
			%, ±5	ml/100g	45μm, %	%	%	
	SW BLUE 08	Blue Powder	100	35-45	0.1	< 0.05	≤ 1	< 1
	SW BLUE 462	Blue Powder	100	35-45	0.1	< 0.05	≤ 1	< 1

Chrome Yellow (Silica Coating Grade)

Color Shade	Product Name	C. I. No.	Appearance			Application Apperance							
			Oil Absorption	Specific Gravity	pH Value	Solvent Resistane			Acid Fastness	Alkali Fastness	Heat Stability		Weather Fastness
						Butanol	MEK	Xylene			Dope	Plastic	
			ml/100g	±0.3					2% H ₂ SO ₄	1% NaOH	150℃ 30min.	5min. °C	
	LEMON CHROME	P. Y. 34	27-33	4.3	6.0-8.0	5	5	5	5	5	5	280	3-4
	MIDDLE CHROME	P. Y. 34	27-33	4.3	6.0-8.0	5	5	5	5	5	5	280	3-4
	MOLYBDATE RED	P. R. 104	27-33	4.3	6.0-8.0	5	5	5	5	5	5	280	4-5

Bismuth Yellow

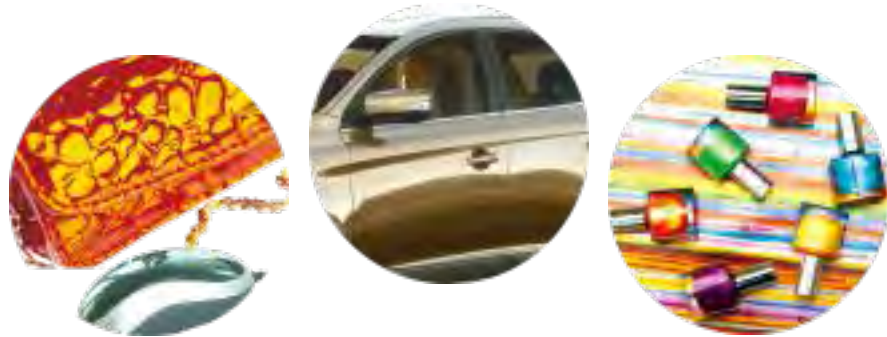
Color Shade	Product Name	Appearance	Specific Gravity	Oil Absorption	Avg. Particle Size	Residue On Sieve	Water Soluble Matter	Moisture	pH Value	Heat Resistance	Acid Fastness	Alkali Fastness	Light Fastness	Weather Fastness
			g/cm ³	ml/100g	µm	45µm, %	%	%		°C				
	SW YELLOW BIV	Yellow Powder	6.2	18-28	0.2	≤ 0.5	≤ 1	≤ 1	6.0-9.0	< 240	5	5	8	5

Titanium Dioxide (Rutile)

Color Shade	Product Name	Basic Characters					Application Conditions						
		Specific Gravity	TiO ₂ Content	Moisture	Residue On Sieve	Rutile Transformation Rate	Whiteness of Oil System	Oil Absorption	△E	pH Value of Aqueous Suspension	Resistivity of Aqueous Extract	Dispersion Under High-speed Mixing of Alkyd System	
		g/cm ³	%	%	45µm, %	%			ml/100g		Ω·M	µm	
	SW WHITE 2196	4.0	≥93.5	≤0.5	≤0.05	≥98	94.7-95.5	≤20	0.3	6.5-8.0	150	≤30	
	SW WHITE 878	4.1-4.3	≥96.0	≤0.3	≤0.02	≥98	98.5	≤16	0.3	7.0-8.5	80	≤25	

Profile

P series pearlescent pigments consist of thin platelets of the nature mineral mica coated with a thin layer of titanium dioxide or iron oxide. The interaction, refraction and multiple reflections creates manifold color effects, further depending on the particle size, from a soft and silky to high glitter appearance. The semi-transparent properties allow the combination with colorants, e.g. organic or inorganic pigments and dyestuff.



Typical Properties

Code	Equivalence	Color	Particle Size(µm)	Composition
WHITE GRADES				
P-1000	Iriodin 100	Silver White	10-60	Mica, TiO ₂
P-1053	Iriodin 153	Flash Pearl Silver White	20-100	Mica, TiO ₂
P-1063	Iriodin 163	Shimmer Pearl Silver White	40-200	Mica, TiO ₂
P-1201	Iriodin 103	Rutile Sterling Silver	10-60	Mica, TiO ₂ , SnO ₂
P-1020	Iriodin 120	Luster Satin	5-25	Mica, TiO ₂
P-1204	Iriodin 111	Rutile Fine Satin Silver White	<15	Mica, TiO ₂ , SnO ₂
INTERFERENCE GRADES				
P-2005	Iriodin 205	Platinum Gold	10-60	Mica, TiO ₂ , SnO ₂
P-2015	Iriodin 215	Red Pearl	10-60	Mica, TiO ₂ , SnO ₂
P-2019	Iriodin 219	Violet Pearl	10-60	Mica, TiO ₂ , SnO ₂
P-2025	Iriodin 225	Blue Pearl	10-60	Mica, TiO ₂ , SnO ₂
P-2035	Iriodin 235	Green Pearl	10-60	Mica, TiO ₂ , SnO ₂
P-2049	Iriodin 249	Shimmer Gold	10-100	Mica, TiO ₂ , SnO ₂
METALLIC GRADES				
P-3020	Iriodin 300	Gold Pearl	10-60	Mica, TiO ₂ , Fe ₂ O ₃
P-3005	Iriodin 305	Aztec Gold Pearl	10-60	Mica, TiO ₂ , Fe ₂ O ₃
P-3030	Iriodin 302	Aztec	5-25	Mica, TiO ₂ , Fe ₂ O ₃
P-3033	Iriodin 303	Gold Satin	10-60	Mica, TiO ₂ , Fe ₂ O ₃
P-3051	Iriodin 351	Sunny Gold	10-100	Mica, TiO ₂ , Fe ₂ O ₃
P-5000	Iriodin 500	Bronze Pearl	10-60	Mica, Fe ₂ O ₃
P-5004	Iriodin 504	Wine Red Pearl	10-60	Mica, Fe ₂ O ₃
P-5005	Iriodin 505	Mauve Pearl	10-60	Mica, Fe ₂ O ₃
P-5020	Iriodin 520	Bronze Satin	5-25	Mica, Fe ₂ O ₃
P-5034	Iriodin 534	Glitter Wine Red	10-125	Mica, Fe ₂ O ₃

P-6000 Series Weather Resistance

P-6000 Series Weather Resistance pearlescent pigments is the high-end pearl pigments designed for automotive paint ,exterior house coating and other industries. With the special treatment, the product can tolerate sun exposure , rain corrosion and maintain its original luster under a variety of adverse weather conditions.

Typical Properties

Code	Color	Particle Size(μm)	Composition
P-6103	Rutile Bright Silver	10-60	Mica, TiO ₂ , SnO ₂ , Ce ₂ O ₃
P-6205	Rutile Platinum Pearl	10-48	Mica, TiO ₂ , SnO ₂ , Ce ₂ O ₃
P-6219	Rutile Violet Pearl	10-48	Mica, TiO ₂ , SnO ₂ , Ce ₂ O ₃
P-6300	Bright Gold	10-60	Mica, TiO ₂ , Fe ₂ O ₃ , SnO ₂ , Ce ₂ O ₃
P-6504	Wine Red	10-48	Mica, TiO ₂ , SnO ₂ , Ce ₂ O ₃

P-7000 Series DiamondDream

P-7000 Series DiamondDream pearlescent pigments are composed of high transparent flake crystals coated with Titanium Dioxide and other metal oxides. They exhibit an unusual transparency, extremely high refraction index, big and smooth flake shapes structure... All the properties combine to create a perfect combination of color and luster. Compared with conventional pearlescent pigments, they have special chroma properties, higher purity, and enhanced brightness/transparency, to release sparking diamond effects.

Typical Properties

Code	Color	Particle Size(μm)	Composition
P-7183	Super Flash Diamond Silver	40-300	Calcium Sodium Borosilicate, TiO ₂ , SnO ₂
P-7205	Super Flash Diamond Gold	40-300	Calcium Sodium Borosilicate, TiO ₂ , SnO ₂
P-7219	Super Flash Diamond Violet	40-300	Calcium Sodium Borosilicate, TiO ₂ , SnO ₂
P-7225	Super Flash Diamond Blue	40-300	Calcium Sodium Borosilicate, TiO ₂ , SnO ₂
P-7235	Super Flash Diamond Green	40-300	Calcium Sodium Borosilicate, TiO ₂ , SnO ₂

P-9000 Series Crystal Effect

P-9000 Series Crystal Effect pearlescent pigments consist of synthetic mica coated by metallic oxide layer, like Titanium Dioxide and Iron Oxide. Compared with natural mica, synthetic mica is the perfect substrate for pearlescent pigments with higher purity, weather resistance and won't get gray and yellowish under high temperature condition. Furthermore, it has wonderful properties with better luster, chroma, less black spot and easy application.

Typical Properties

Code	Color	Particle Size(μm)	Composition
P-9100	Crystal Silver Pearl	10-60	Synthetic mica, TiO ₂
P-9170	Crystal Silver	50-400	Synthetic mica, TiO ₂
P-9350	Sunny gold	10-48	Synthetic mica, TiO ₂ , Fe ₂ O ₃
P-9380	Gold	80-500	Synthetic mica, TiO ₂ , Fe ₂ O ₃ , SnO ₂
P-9500	Crystal Bronze	10-60	Synthetic mica, Fe ₂ O ₃

Profile

Fluorescent pigment is the color substance, which is fluorescent and insoluble in medium. By absorbing visible and UV lights, fluorescent pigment can transfer the impalpable UV fluorescence into visible light with certain colors. And the strength of total radiated light is higher than normal color substance.

GS-2000 Series

GS-2000 Series is the most widely used fluorescent pigment of all others, having brilliant, strong fluorescent color; fine particle size; uniform chroma. It's suitable for water and various solvent systems as paper coating, fabric printing paste, gravure ink, paint, screen printing ink (water base), PVC plastics and colloidal sol. Also the pigment can be used in plastics by injection molding in which the processing temperature is below 195 degree.

Physical & Chemical Property

Type	Thermoplastic pigment
Specific gravity	1.36 g/cm ³
Avg. particle size	≤10 μm
Softening point	115-125℃
Decomposition point	200℃
Oil absorption	56 ml/100g

Code	Color Shade	Equivalence
GS-2011	CERISE	AX 12
GS-2012	PINK	AX 11
GS-2013	RED	AX 13
GS-2014	RED ORANGE	AX 14
GS-2015	ORANGE	AX 15

Code	Color Shade	Equivalence
GS-2016	ORANGE YELLOW	AX 16
GS-2017	STRONG YELLOW	AX 17
GS-2018	GREEN	AX 18
GS-2019	BLUE	N/A
GS-2021	MAGENTA	AX 21

GS-4000 Series

GS-4000 Series is based on thermosetting resin fluorescent pigments, designed for applications in which solvent resistance and strong color strength are required. Suitable for C-type gravure inks and screen printing ink (solvent base), PVC plastisols formulated with water and natural rubber.

Physical & Chemical Property

Type	Thermoset pigment
Specific gravity	1.36 g/cm ³
Average particle size	≤5 μm
Decomposition point	230℃
Oil absorption	56 ml/100g

Code	Color Shade	Equivalence
GS-4010	VIOLET	N/A
GS-4011	CERISE	T 12
GS-4012	PINK	T 11 / GT 11
GS-4013	RED	T13 / GT 13
GS-4014	RED ORANGE	T14 / GT 14
GS-4015	ORANGE	T15

Code	Color Shade	Equivalence
GS-4016	ORANGE YELLOW	T16
GS-4017	LEMON YELLOW	T 17 / GT 17
GS-4018	GREEN	T 18
GS-4019	BLUE	T 19
GS-4020	WHITE	N/A
GS-4021	MAGENTA	GT 21

GS-5000 Series

GS-5000 Series is good transparency, fully dissolved in solvents, suitable for solvent base relief and gravure printing ink, wrapping papers, transparent films, aluminum foil surface printing and UV-curing ink.

Physical & Chemical Property

Type	Thermoset pigment
Specific gravity	1.36 g/cm ³
Recommended solvent	MEK, Ethyl Acetate

Code	Color Shade	Equivalence
GS-5010	LEMON YELLOW	N/A
GS-5012	PINK	HM-11
GS-5013	RED	HM-13
GS-5014	RED ORANGE	HM-14
GS-5015	ORANGE	HM-15
GS-5016	ORANGE YELLOW	N/A

GS-8900 Series

GS-8900 Series are thermoset and fine microspherical particles distributed render new properties ever seen before: the best resistance to plateau and plasticizers. They have excellent light scattering and opacity, dispersability, tinting strength, and broad compatibility. RECOMMENDED APPLICATIONS: Extruded & moulded polyolefin plastics; PVC coating & moulding

Physical & Chemical Property

Type	Thermoset pigment
Specific gravity	1.3 g/cm ³
Avg. particle size	≤5 μm
Decomposition point	300°C

Code	Color Shade	Equivalence
GS-8910	LEMON YELLOW	N/A
GS-8912	PINK	210-45
GS-8913	RED	210-8
GS-8914	RED ORANGE	210-6
GS-8915	ORANGE	210-5
GS-8916	ORANGE	210-4

GS-9000 Series

GS-9000 Series is aqueous dispersion of fluorescent pigments which is Formaldehyde Free, they have excellent particle size with narrow distribution, bright, high tinting strength, can be widely used in aqueous series field.

Physical & Chemical Property

Type	40% Paste
Specific gravity	1.0 - 1.1 g/cm ³
Avg. particle size	0.2 - 0.25 μm
Solid percentage	40% - 42%
pH value	7.0 - 8.5

Code	Color Shade	Equivalence
GS-9011	CERISE	N/A
GS-9012	PINK	SPL-11N
GS-9013	RED	SPL-13N
GS-9014	RED ORANGE	SPL-14N
GS-9015	ORANGE	SPL-15N
GS-9016	ORANGE YELLOW	N/A

Code	Color Shade	Equivalence
GS-5017	STRONG YELLOW	HMS-34
GS-5018	GREEN	N/A
GS-5019	BLUE	N/A
GS-5020	VIOLET	N/A
GS-5021	MAGENTA	HMS-30

Code	Color Shade	Equivalence
GS-8917	STRONG YELLOW	210-3
GS-8918	GREEN	210-1
GS-8919	BLUE	210-21
GS-8920	VIOLET	210-60
GS-8921	MAGENTA	210-45

Code	Color Shade	Equivalence
GS-9017	LEMON YELLOW	SPL-17N
GS-9018	GREEN	N/A
GS-9019	BLUE	SPL-19N
GS-9020	VIOLET	N/A
GS-9021	MAGENTA	SPL-21N

Profile

HG series luminescent pigment is one self-luminescent material, which absorbs and stores light energy when exposed in natural or artificial light, then emits visible light in the darkness. Its self-life is unlimited cycle.

HG series luminescent pigment do not contain any radio-element and free of poisonous, to be used as one kind additive, which is able to be well dispersed into transparent mediums, e.g. coating, ink, plastic, textile printing paste, ceramic, glass, fiber ect., these finish products will present self-luminescent effect and special brightness.

Properties

1. Shorten light storing period, high brightness, lasting growing-up, colorful
2. Outstanding steady physical and chemical properties, excellent compatibility and long life
3. Non-poisonous, harmless. radio-element free, non-flammable, heavy metal content free
4. Fine particle gives easy dispersing and processing
5. Presents exciting stability at -60°C to 600°C

Application and dosage

Solvent base ink/ paint	5-30% (thickness 20μm)
Plastic injection/ extrusion	5-15% (thickness 0.2cm)

Remark

Avoid moisture during processing
Avoid direct contact with metals
Avoid friction at high temperatures.



Type	Appearance	Effect Color	1'Brightness (mcd/m ²)	5'Brightness (mcd/m ²)	10'Brightness (mcd/m ²)	Avg. Particle Size (μm)	S.G (g/cm ³)
HG K0	Light Yellowish	Yellowish Green	1062	287	≥140	5-8	3.4
HG K2	Light Yellowish	Yellowish Green	1450	378	≥180	15-25	3.4
HG K4S	Light Yellowish	Yellowish Green	2100	639	≥260	20-40	3.2
HG C4	Light White	Blueish Green	1138	334	≥130	10-30	3.2
HG K2C	White Powder	Yellowish Green	1989	537	≥280	30-50	3.6
HG MB4	Light Blue	Light Blue	669	162	≥80	20-40	3.4
HG MG4	Green	Green	993	246	≥125	20-40	3.4
HG MR4	Orange Red	Orange	426	113	≥60	20-50	3.4
HG MT4	Peach	Pinkish Orange	509	126	≥60	20-50	3.4
HG MY4	Yellow	Yellow	1256	323	≥160	20-40	3.4

Profile

FG series UV fluorescent pigments have a light grey or white color body under visible light and produce a bright color when exposed to an UV light source. They can be used for security and tracing functions where a non-visible color is warranted.

FG series UV fluorescent pigments can be used in a wide range of applications such as rotogravure and intaglio printing, plastics and coatings. These materials have excellent temperature stability and solvent resistance. FG series UV fluorescent pigments can be also mixed with each other to create additional color.

FG series UV fluorescent pigments have excellent heat stability, they can withstand temperatures above 300 °C making them excellent candidates for use in plastic resins. FG series UV fluorescent pigments are compatible with a number of different resin systems and molding processes. They can be used in polyolefins, PVC, ABS, PC, GPPS, and HIPS. Concentrations of FG series pigments between 0.25% (organic UV pigment) and 2% (inorganic UV pigment) are recommended for initial formulatory screenings.

Graphic Arts and Coating Applications

Because of FG series UV fluorescent pigments excellent solvent resistance, they can be used in a number of inks and coatings. An initial pigment concentration of 5% to 10% is recommended but may need to go up to 25% based on film thickness. Also, this is an individual choice based on color strength response under a UV light source.



TYPE	Appearance	Emission Color	Avg. Particle Size (μm)	Heat Resistance	Oil Absorption	S.G (g/cm ³)	Light Fastness
FG-OR	Grey White	Red	5-10	150°C 30min	31-42	1.02	2
FG-OY	Grey White	Yellow	5-10	150°C 30min	31-42	1.02	4
FG-OG	Grey White	Green	5-10	150°C 30min	31-42	1.02	2
FG-OB	Light Green	Blue	5-10	150°C 30min	31-42	1.02	4

Profile

Color changes of Thermochromic pigments are induced by temperature change. The pigments are composed by microcapsules that change colors reversibly.

Properties

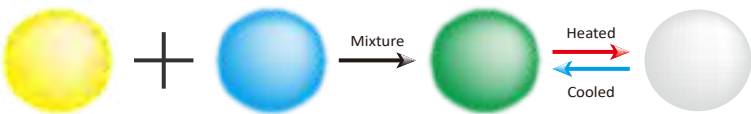
Fine particle size: the average size is 6-9μm
Good dispersibility: With special surface treatment, it could be dispersed well in most carriers, like ink, paint and plastic.
Good heat resistance: It's stable under 140°C/ 30mins; 200°C/ 10mins.
Good solvent resistance: Insoluble in organic solvent

Product Range

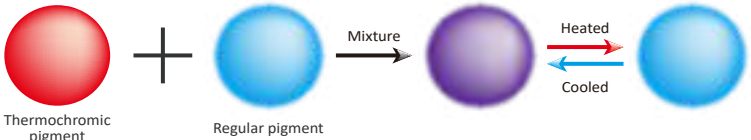
1. TCX series reversible heat sensitive color fading pigments, When temperature rises to a specified temperature, the color starts fading and back to the original color as the pigment is cooled down.
Available Activation Temperatures: 10-70°C.
Multi color available: 10 standard colors for each activation temperature. Yellow, Red, Pink, Magenta, Royal Blue, Yellowish Green, Green, Bluish Green, Brown, Black. Beside this, all the colors can be mixed with each other or added other pigments.

Reference colors for Application

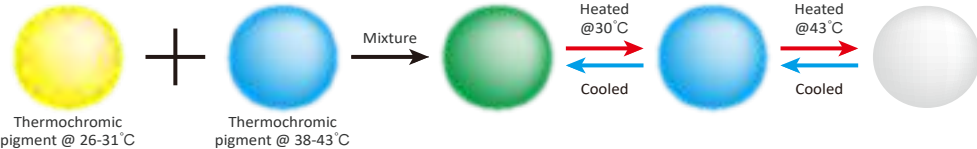
A. Match any color as your expect. You may mix different colors of thermochromic pigments with the same temperature to create more colors.



B. Two-phase Color Change. They also can be mixed with regular pigments, so that the color can be changed from one to another. At lower temperature, the color reveals matched shade. When the temperature is increased, the thermochromic pigment start fading to colorless. It only shows color of the regular pigments.



C. Multi-phase Color Change. By mixing the thermochromic pigments with different temperature ranges, the color can be varied for more than two colors.



2. TCF series reversible heat sensitive color revealing pigments, It's colorless under low temperature. When temperature rises to a specified temperature, the color starts revealing and back to colorless as the pigment is cooled down.
Available Activation Temperatures: 60-65°C.
Multi color available: Magenta, Blue, Green, all the colors can be mixed with each other or added other pigments.

Remark

Don't recommend to mix with other opaque pigments and fillers, it will be lower the effecting.
Avoid dispersing by high-speed shearing machine, like ball-grinding machine, sand-milling machine, three-rolling machine, etc. Otherwise, the protection layer may be destroyed and lose the effecting.
Avoid processing with high temperature (>230°C)
For printing inks/ paint, it is recommended to adjust the pH value of resin between 5-8.
Avoid using toluene as single solvent. If the formulation is a mixed solvent, less toluene is recommended.

Profile

Metallic Glitter is made from coloring PET film through high brightness vacuum aluminum, outstanding metal effect. It gives stable physical and chemical properties.

Hologram Glitter is made of hologram film. Reflecting nature light caused it's visual multicolor with different sight angle.

Physical & Chemical Property

Color: Various colors are available

Particle shape: hexagon, square



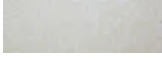
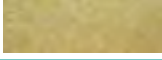
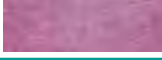
Material: PET film

Particle size: 1/360"(0.07mm), 1/256"(0.1mm), 1/128"(0.2mm), 1/96"(0.3mm), 1/64"(0.4mm), 1/48"(0.6mm), 1/25"(1.0mm), 1/16"(1.6mm).

Metallic Glitter





Color Shade	Commercial Name	Apperance
	HX-001	Silver
	HX-102	Royal Gold
	HX-103	Gold
	HX-109	Bright Gold
	HX-210	Bronze
	HX-305	Red
	HX-307	Magenta
	HX-404	Violet

Hologram Glitter

Color Shade	Commercial Name	Apperance
	HXR-001	Iris RG
	HXR-002	Iris GB
	HXR-003	Iris Violet
	HXR-102	Yellow
	HXR-304	Pink

Resistant	Test Method	Description
Temperature (5 min.)	Laboratory furnace	Between 60°C and 175°C
MEK (Methyl Ethyl Keton)	15 min.	Partially resistant
Low concentrated alcohol (30 %)	15 min.	Resistant Please test prior to application.
Highly concentrated alcohol (70 %)	15 min.	Depends on the colours Please test prior to application.
H ₂ O	24 hour	Resistant
H ₂ O	3 months	Partially resistant

Color Shade	Commercial Name	Apperance
	HX-405	Purple
	HX-506	Lake Blue
	HX-508	Jet Blue
	HX-602	Lemon Green
	HX-603	Green
	HX-711	Brown
	HX-812	Black
	HX-000	Crystal Clear

Color Shade	Commercial Name	Apperance
	HXR-305	Red
	HXR-404	Violet
	HXR-506	Blue
	HXR-603	Green

Profile

Retro-reflective fabric commonly known as reflective fabric, reflective film of all varieties. This fabric is a fabric with a safety function, or a dark night when the person wearing or carrying activities such material back to the gas safety reflective material, in the event of light irradiation, because of its retro-reflective function, will produce eye-catching effect, improve their visibility, so that the light at the officers in finding the target quickly and effectively to avoid accidents, ensure personal safety are widely used in road safety, cloth fabric, ports, fire, mining, marine, transportation, etc. area.

Theory

Retro-reflective is the phenomenon of light reflection, the reflected light by the incident light direction most of the return light source direction. Reflective fabric is reflective of the main directional glass beads, mirrors (coated) and the fabric substrate, adhesive, etc., when the light shines into the glass sphere, with light refraction in the glass medium, the days after the ball surface specular reflection layer after reflection, and refraction through the ball return light source direction, the direction of reflected light to achieve the return direction by refraction purpose.

Application

- Glass Bead for Road Marking Line
 - Drop on glass bead

Druing the application of paint on road work, thermoplastic paint should be heated to a certain level and used on the road surface as marking line, drop on glass bead should be dropped on the surface of line while it is still wet to increase the reflectivity of road marking line.
 - Intermix glass bead

During the production of road marking paint, mix glass bead into paint based on the ratio of 18-25%(weight percentage). After application of such kind of paint on road work, the paint still can keep reflectivity after wear and friction of car wheels.

- Reflective Glass Bead

Production of high-refraction glass beads is the core component of reflective material, barium titanium oxide is a synthetic glass. Gravity 4.2±0.1, refractive index ND1.93 ± 0.02. (Proportion of 2.7 ordinary silica glass, the refractive index of 1.52). Bead appearance, white or slightly yellow, not round rate greater than or equal to 95%; defects bead ratio <3% -5%, brightness ≥ 560 degrees.

- Exposed type: fabric or membrane

Stick by agents, reflective layer (coating layer) stick by agents, bead layer, which is characterized by single-bead level was arranged, no beads in front of the cover, part of beads exposed to the air, part of the plant in the sticky mixture layer. Beads and the reflective layer by direct contact or very close, reflective and better adapt to the incident angle.
- Implant type: film or fabric

Stick by agents, reflective layer (coating layer) stick by agents, bead layer, resin layer, which is characterized by single beads were arranged beads implanted in the adhesive resin layer, without contact, bonding strong, broad adaptation to the environment.

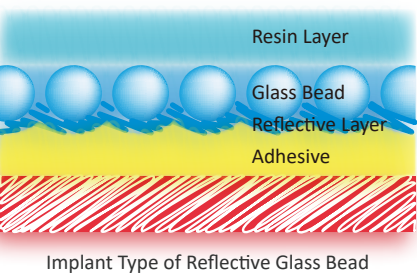
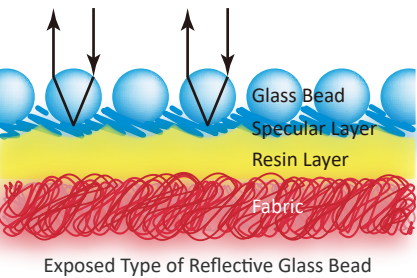
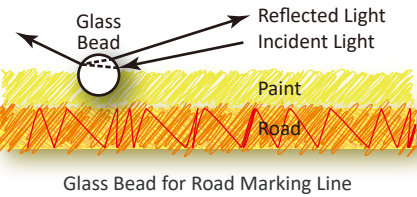
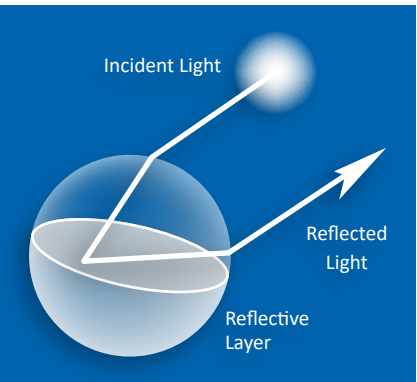
Products

Glass Bead for Road Marking Line

Code	Type	Refractivity
RGB 6030A	Intermix	1.5
RGB 6030B	Drop on	1.5

Reflective Glass Bead

Code	Refractivity	Particle Size (Mesh)
RGB 1620C	1.93	160-200
RGB 2025C	1.93	200-250
RGB 2530C	1.93	250-300
RGB 3035C	1.93	300-350
RGB 3540C	1.93	350-400
RGB 4045C	1.93	400-450
RGB 4550C	1.93	450-500



High Refractive Index Glass Bead

Code	Refractivity	Particle Size (Mesh)
RGB 1620D	2.2	160-200

Vinyl Chloride- Vinyl Acetates Copolymers

Item	Appearance	Adhesion Number	K value	Vinyl Acetate Content %	Volatile	Sieving@40 mesh %	Impurity Particles	Application
VC-VA50	White Powder	48-52	45-46	13-15	<1	100	<20	Gravure inks and varnish.
VC-VA55	White Powder	53-57	46-48	13-15	<1	100	<20	Color chips, paint
VC-VA62	White Powder	60-64	49-51	13-15	<1	100	<20	Color chips, paint
VC-VA68	White Powder	66-69	51-53	12-14	<1	100	<20	Spray ink for shoes
VC-VA72	White Powder	71-73	53-55	13-15	<1	100	<20	Color chips(black & white)
VC-VA80	White Powder	79-82	53-55	10-12	<1	100	<20	Binder of magnetic substrates (credit card)
VC-VA92	White Powder	91-93	60-62	13-15	<1	100	<20	PVC leather surface treatment agent, PVC sheet modifiers

Package:25 KG paper bag.

Vinyl Terpolymer Resin with Carboxyl Function Group

Item	Appearance	Adhesion Number	K value	Vinyl Acetate Content %	Maleic Acid Content %	Volatile	Application
14/45M	White Powder	48-52	45-46	13-15	1.5-2.1	<1	Primer and inks for golden and silver card papers. Hot melting binder for aluminium foils package, can coating, plastic paint, anti-corrosive paint
14/46M	White Powder	53-57	46-48	13-15	1.5-2.1	<1	
14/48M	White Powder	58-60	48-50	13-15	1.5-2.1	<1	
12/49M	White Powder	60-62	49-50	11-13	1.5-2.1	1	Adhesive for nail and PCB, coatings on aluminum foil.
12/47M	White Powder	55-57	47-48	11-13	1.5-2.1	1	
25/36M	White Powder	37-39	36-37	24-26	0.9-1.1	1	Ester-soluble ink and can coating

Package:25 KG paper bag.

Polyamide Resin (Alcohol Soluble)

Item	Appearance	*1 Viscosity mpa.s	Acid Value	Amine Value	Color Fe-Co	Softening Point °C	*2 Tolerance g	Application
AP-01	Light Yellow Granule	120-180	<6	<6	<8	95-106	>6.7	Gravure ink, hot melt adhesive.
AP-02	Light Yellow Granule	120-160	<6	<6	<8	100-120	>3	

Polyamide Resin (Benzene Soluble)

Item	Appearance	*1 Viscosity mpa.s	Acid Value	Amine Value	Color Fe-Co	Softening Point °C	*2 Tolerance g	Application
BP-01	Light Yellow Granule	70-90	<5	<5	<6	105-115	N/A	Gravure ink, hot melt adhesive.
BP-02	Light Yellow Granule	100-150	<5	<5	<6	105-115	N/A	
BP-03	Light Yellow Granule	150-200	<5	<5	<6	105-115	N/A	

Package: 25 KG paper bag.
*1Viscosity Testing: Benzene soluble type is at 25°C,40% solution in mixture solvent(Toluene:IPA=7:3); Alcohol soluble type is at 25°C,50% solution in Anhydrous Alcohol.
*2Tolerance testing: Maximal dosage of Anhydrous Alcohol in 10g of 50% Alcohol Soluble Type resin solution.

Vinyl Terpolymer Resin with Hydroxyl Function Group

Item	Appearance	Adhesion Number	K value	Vinyl Acetate Content %	Hydroxyl Value	Volatile	Application
4/45H	White Powder	48-52	45-46	4-6	70-77	<2	Polyester ink(mix with PU and EVA); wood paint and metal paint.
4/46H	White Powder	53-57	46-48	4-6	70-77	<2	
4/48H	White Powder	58-62	48-50	4-6	70-77	<2	

Package:25 KG paper bag.

Poly(vinyl chloride-co-isobutyl vinyl ether)(VC-IBVE)

Item	Appearance	Chlorine %	K value	Density g/cm³	*Viscosity mpa.s	Application
MP-150	White Powder	44±1	≈30	1.25	15±3	Chlorinated binders, resistant to hydrolysis for the manufacture of anticorrosive paint on iron and steel as well as for printing inks and roadmarking paints.
MP-250	White Powder	44±1	≈35	1.24	25±5	
MP-350	White Powder	44±1	≈35	1.24	35±5	
MP-450	White Powder	44±1	≈35	1.24	45±5	

Package: 20 KG paper bag
*Viscosity Testing: at 23°C, 20% solution in toluene.