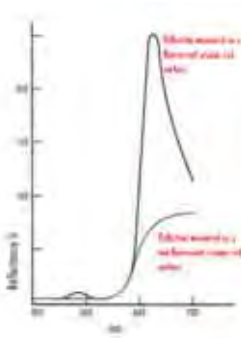




Daylight fluorescent colours

Fluorescence



Colours we see and ascribe to substances are related to the selective absorption of light incident upon their surfaces. If spectral components of the visible spectrum are absorbed, visible colour will result. The perceived colour then depends upon the wavelengths of the reflected or transmitted light.

In case of conventional colours, the absorbed light excites the substance to higher energetic states resulting in increased molecular movements, collisions and vibrations, and if energy levels achieved are high enough, chemical reactions and even decomposition may follow.

Some particular substances under specific conditions however are capable of converting the absorbed energy by re-emission of radiation. Such processes are generally termed **“Fluorescence”**.

Types of fluorescence

Fluorescent substances thus are able to de-energise absorbed waves by re-emission of light. If wavelengths of absorbed and re-emitted light are equal, the term “resonance fluorescence” is used. Fluorescent systems however also lose energy by non-fluorescent modes of decay, and the emitted light will be of lower energy or longer wavelength. Practically this means that absorbed rays, for instance ultraviolet rays, can be converted into visible light and that fluorescence consequently is manifested as colour. The latter type is known as **“Stokes fluorescence”**.

The duration of the fluorescent after-glow is of the order of 10-8 seconds; radiation only persists as long as the exposure is subjected to an exciting light source.

The most important fluorescent substances are the ones giving visible radiation. Some of these have the property of exhibiting fluorescence by responding only to ultra-violet radiation, producing thereby vivid colours in the visible spectrum. The fluorescent effect however is negligible when the excitation is switched to the visible region in the form of artificial or daylight illumination. These substances are said to exhibit **“Ultra-violet Fluorescence”**.

Other substances will exhibit a strong fluorescent effect either under ultra-violet or daylight exposure, and will appear intensely coloured, with very bright and pure shades. The perceived colour here is a composite of the normal colour, due to reflection of emission. These substances absorb UV-light or the short waves of the visual spectrum, or both, and convert them to a visible radiation, reinforcing the normal colour. Such substances are said to exhibit **“Daylight Fluorescence”**.

Standard series

General description and physical properties

TYPE	DESCRIPTION	BASIC APPLICATIONS
JST	Pigments with high colour strength and fine particle size.	Coated paper and board. Rotogravure inks and screen inks on paper. Textile inks.
PS	Pigments with improved light fastness for use in applications with elevated temperature and solvent resistance.	Fabric and plastic coating. Screen inks on PVC. Rotogravure inks and coatings. PVC plastisols and rubber.
PC	Pigments with high colour strength and fine particle size.	Similar as PS.
GM	Low bleeding pigments with excellent solvent and heat resistance.	PVC, PU and polyolefine mass coloration. Solvent based inks for printing on PVC and polyolefines. Rubber.
EA	Formaldehyde free pigments compatible with many plastics.	Plastic mass coloration and masterbatches.
RPC	Formaldehyde free plastic pigments optimised in respect to non-plating and heatstability.	Plastic mass coloration and masterbatches.
GF/GFS	Soluble toners with high tinctorial strength.	Solvent based flexographic and gravure inks. Powdercoatings.
STX	Water soluble toners with high tinctorial strength.	Water based flexo inks Water based gravure inks
RBA	Inkbases with high colour strength and excellent printing performance.	Offset and letterpress inks.
RBL	Inkbases with high colour strength for UV/EB curable inks.	UV/EB liquid ink formulations. UV/EB offset and letterpress inks.
AFN	Formaldehyde free aqueous dispersions with high colourstrength and a sub-micron particle size.	Waterbased inks and coatings.

Available standard colours and types

No.	Colour	JST	PS	PC	GM	EA	RPC	GF	GFS	STX	RBA	RBL	AFN
	UV Green		P-X-0936				-X-0935						
-09	UV Blue		P-09					■		■			■
-10	Chartreuse	■				■	■		■	■	■	■	
-20	Chartreuse				■								■
-30	Chartreuse		■	■		■							
-11	Green	■	■			■		■					
-21	Green			■	■								
-12	Orange Yellow	■		■		■					■		
-22	Orange Yellow				■								
-32	Orange Yellow		■										
-13	Orange					■	■	■		■	■		
-23	Orange			■	■								■
-33	Orange		■			■							
-43	Orange	■											
-14	Orange Red					■		■			■		
-24	Orange Red			■	■								■
-34	Orange Red		■										
-44	Orange Red	■											
-15	Red	■				■	■	■		■	■		
-25	Red			■	■								■
-35	Red		■			■							
-16	Cerise	■				■							
-36	Cerise		■										
-17	Pink	■				■	■	■		■	■		
-27	Pink			■	■								■
-37	Pink		■			■							
-18	Magenta	■		■		■	■	■	■	■	■		
-28	Magenta				■								■
-38	Magenta		■			■							
-78					■								
-88	Purple			■									
-19	Blue					■		■					
-29	Blue		■	■	■								■
-9P1	Blue										■	■	
-1P2	Green										■	■	
-0P3	Yellow										■	■	
-3P4	Orange										■	■	
-5P5	Red										■	■	
-7P6	Pink										■	■	
-8P7	Magenta										■	■	

Similar codes in the different series offer a comparable colour but are not 100% identical.

Colour may depend on the specific formulations of the customer.

Additional colours are available on request.

For detailed information per product consult the specific datasheets.

Specialities

General description and physical properties

TYPE	DESCRIPTION	BASIC APPLICATIONS
Gem-Tone	Polymeric colorants	Clarified polypropylene FDA approved
CFS-0-06	Fluorescent yellow tracer dye	Petroleum derivates
DD-5-0954	Fluorescent red tracer dye	Oils Waxes & lubricants Smart paints
DERMAGLO	Fluorescent cosmetic pigments for:	Lip balm & lipsticks Hair spikers Eye shadows & Face paints
COS	Fluorescent cosmetic pigments for:	Nail polish Hair spray
DYE programme	Fluorescent dyes	Plastics Industrial use (paints, inks, paper coating...)
GWT	Formaldehyde free fluorescent pigments	Waterborne applications Textile printing
GRT	Formaldehyde free, solvent stable, fluorescent pigments	UNDER DEVELOPMENT
VSF-0-01	Solid state fluorescent pigment	Crack detection Water based paints Flexographic inks Rotogravure inks Off set inks
VSF-X-01	Solid state fluorescent pigment	PVC plastisols & organosols Plastics Inkjet Textile printing inks Coatings
WR	50% Aqueous dispersions	Water based paints Flexo & gravure inks Waterbased papercoating Textile printing inks

Available colours in the specialities

No.	Colour	DER MA- GLO	COS	DYE	Gem Tone	GWT	GRT	VSF	WR
-09	UV Blue								
-10	Chartreuse					Yellow			Yellow
-11	Green					Green			Green
-12	Orange Yellow		Orange						Orange
-13	Orange					Orange			Orange
-14	Orange Red					Orange			Orange
-15	Red		Red			Red			Red
-16	Cerise					Pink			Pink
-17	Pink					Pink			Pink
-27	Pink		Pink						
-18	Magenta		Purple						Purple
-88	Purple					Purple			
-19	Blue								
CFB-0-01	Yellow			Yellow					
CFS-0-01	Yellow			Yellow					
CFS-0-05	Yellow			Yellow					
CFS-0-06	Yellow			Yellow					
CFS-0-07	Yellow			Yellow					
CFS-0-09	Yellow			Yellow					
CFS-3-01	Orange			Orange					
CFS-6-02	Red			Red					
CFF-X-01	UVBlue			Blue					
CFF-X-02	UV Blue			Blue					
DD-5-0954	Red			Red					
VSF-0-01	Yellow							Yellow	
VSF-X-01	UV Green							Green	
DG-17	Saturn Yellow	Yellow							
DG-Y311	Saturn Yellow	Yellow							
DG-O205	Blaze Orange	Orange							
DG-14	Fire Orange	Orange							
DG-13	Rocket Red	Red							
DG-11	Aurora Pink	Pink							
DG-R222	Aurora Pink	Pink							
DG-R422	Str. Aurora Pink	Pink							
DG-R228	Corona Magenta	Purple							
DG-R428	Str. Corona Mag	Purple							
DG-20	Venetian Violet	Purple							
II-13	Azure Fire								
II-18	Oceanic Teal								
II-20	Majestic Midnight								
II-24	Gilded Green								
GC-13F	Ruby Red				Red				
GC-17F	Citrine Yellow				Yellow				
GC-18F	Emerald Green				Green				
GC-19F	Sapphire Blue				Blue				

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Colour may depend on the specific formulations of the customer.

Additional colours are available on request.

For detailed information per product consult the specific datasheets.

® = registered trademark

Disclaimer: This technical information is just an advice. No warranty of fitness for a particular purpose is made.



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