

Data Sheet

VIAVI

SpectraFlair

Light Diffractive Pigments

Bringing form to life

SpectraFlair® pigments are multilayer flakes that give paints, coatings, plastics, textiles, and packaging the ability to change color when viewed from different angles, and is suitable wherever color is valued as a differentiator.

Each flake exhibits a variety of colors depending on the angle at which it is viewed and the angle of incident light. The pigment's dramatic color effect is visible even when styled in a variety of light and dark colors. It is easily incorporated into paints and plastics used in automobiles, consumer electronics, sports equipment, apparel, and packaging for luxury goods.

Applications

SpectraFlair pigments are suitable for coatings, plastics and inks for use in:

- Transportation
- Architectural Products
- Sports Equipment
- Apparel
- Consumer Electronics



SpectraFlair is a multilayer pigment manufactured by the deposition of ultra-thin layers using physical vacuum deposition (PVD). SpectraFlair pigments are opaque and highly specular (mirror-like) due to a center aluminum core layer. Changing the surface texture of the pigment's flake structure produces different effects: from neutral silver to a multi-color rainbow. As a result, all six grades of SpectraFlair pigment are made from the same two ingredients, magnesium fluoride and aluminum.

To maintain the tight color tolerance required by the automotive industry, the average layer thicknesses are controlled to within a few atoms using a proprietary manufacturing process.

Similar to natural structures such as soap bubbles, rainbows, and sea shells, the color of SpectraFlair pigment is the result of interference whereby white light is separated into its components. VIAVI manufactures unique pigments with a wide variety of effects by manipulating the surface structure of multilayer flakes by using precise vacuum-deposition processes. SpectraFlair pigments are effective both as a sole colorant and in combination with other pigments and dyes. SpectraFlair Bright Silver and Bright Silver HSA pigments offer a range of effects from dramatic, diamond-like sparkle to smooth liquid silver appearance.

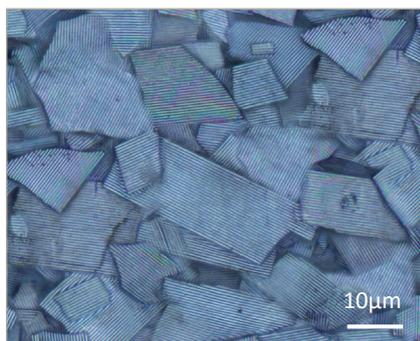


Figure 1. Microscopic image of SpectraFlair 1500-20 showing flake's embossed surface.

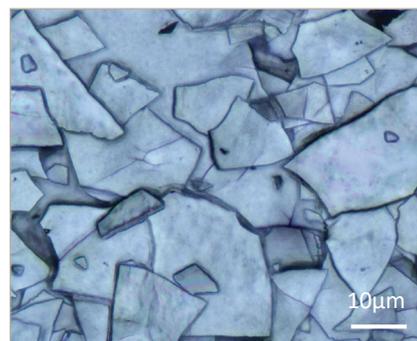


Figure 2. Microscopic image of Bright Silver showing flake's smooth surface.

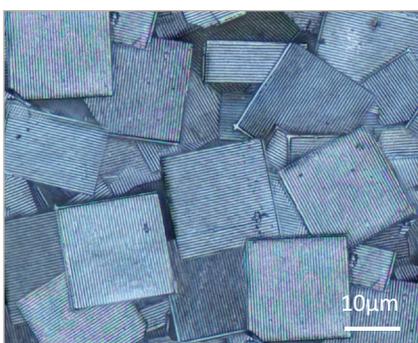


Figure 3. Microscopic image of SpectraFlair Plus 25 showing flake's uniform 25x25µm particle shape.

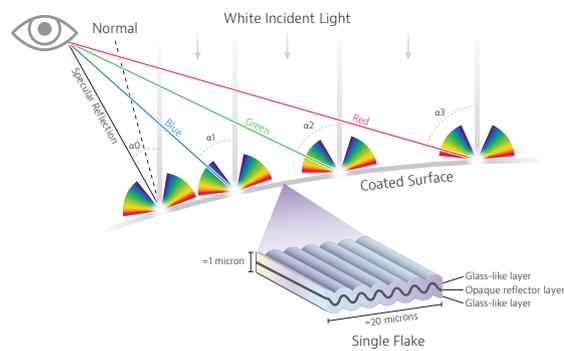


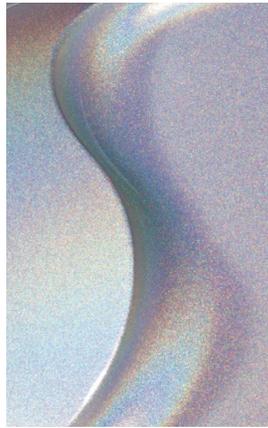
Figure 4. Diffractive theory diagram

SpectraFlair Pigment Grades

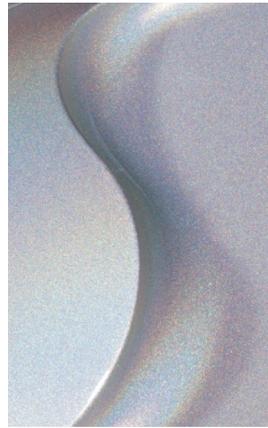
Silver 1500 pigments create the appearance of diffractive rainbows moving over a silver-metallic base offered in a range of particle sizes to customize appearance. Plus 25 combines a smooth appearance and strong diffractive rainbows with thinner flake thickness providing over twice the hiding power of Silver 1500.



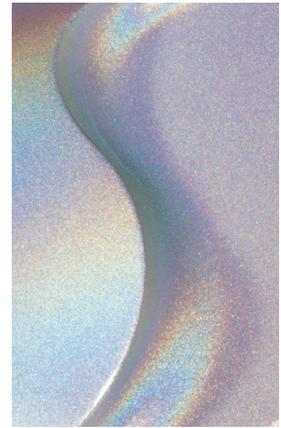
1500-35



1500-20



1500-14



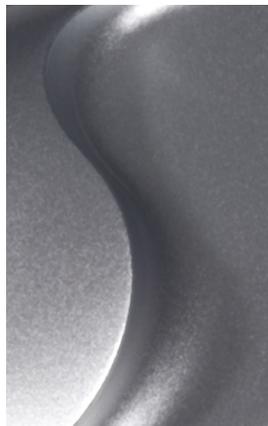
Plus 25

Bright Silver Pigment Grades

VIAMI Bright Silver pigment offers dramatic, diamond like sparkle usually associated with much larger particle-size pigments. The thinner Bright Silver HSA offers a more liquid silver appearance and improved hiding power.



Bright Silver-20



Bright Silver HSA-20

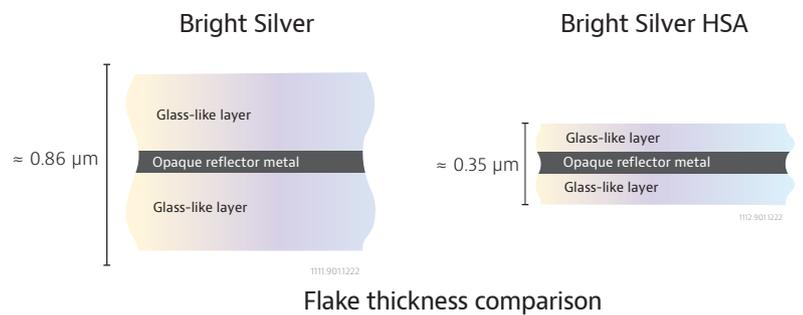


Figure 5. Bright Silver and Bright Silver HSA flake thickness comparison

Physical Properties

Description	Part Number	Particle Size			Percent Solids	Specific Gravity	Relative Coverage	Heat Stability
		D10	D50	D99				
		(µm)	(µm)	(µm)				
1500-14	10095222	6	14	<50	100%	2.8	0.42	<200
1500-20	10095214	10	20	<80	100%	2.8	0.42	<200
1500-35	10095215	15	33	<130	100%	2.8	0.42	<200
Bright Silver-20	10095188	10	20	<70	100%	2.8	0.42	<200
Plus 25 Dry	10095286	13	24	<50	100%	2.8	1.00	<200
Plus 25 Wet	30185309	13	24	<50	70%	1.7	0.70	<200
Bright Silver HSA-20	10095283	10	20	<80	70%	1.7	0.70	<200

Regulatory Information

SpectraFlair pigments are made with raw materials listed on most chemical inventories internationally. Please consult the Safety Data Sheet or contact customer service for additional regulatory information.

Ordering Information

For more information on this or other products and their availability, please contact your local VIAVI account manager or VIAVI directly worldwide +1 800 254 3684 or via e-mail at ospcustomerservice@viavisolutions.com.



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