

VIACI



SpectraFlair
PIGMENT TECHNOLOGY

SpectraFlair[®] 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.

It 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 and plastics used on:

- Automobiles
- Architectural Finishes
- Sports Equipment
- Apparel
- Consumer Electronics



The Science of Color



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 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.

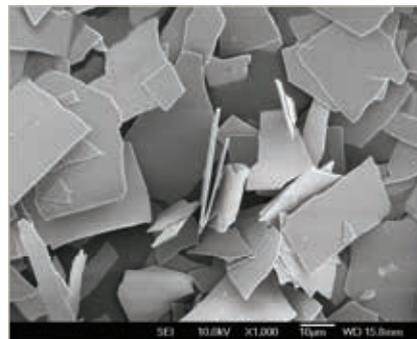


Figure 1. Scanning electron microscope (SEM) image showing Bright Silver pigment's smooth surface

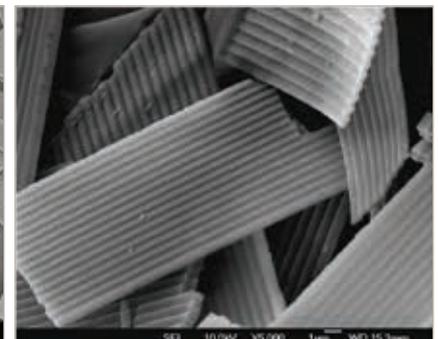


Figure 2. SEM image showing SpectraFlair 1500-20 pigment's embossed surface

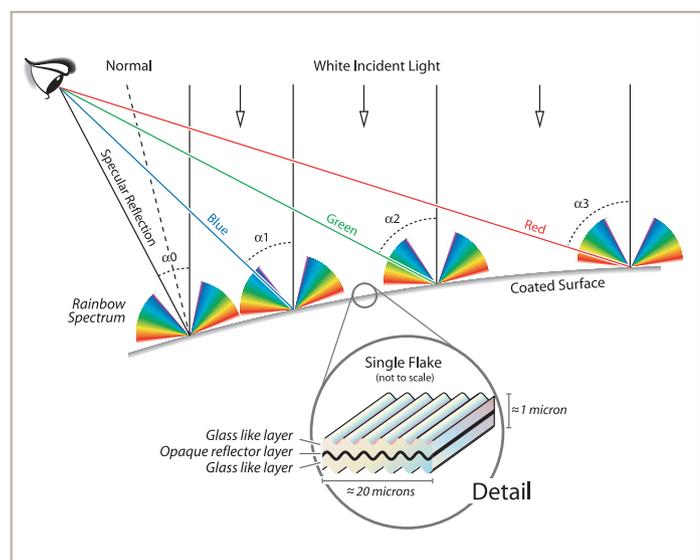


Figure 3. Diffractive theory diagram

SpectraFlair Pigment Grades

Silver 1500 and Plus 25 pigments create the appearance of a diffractive rainbow moving over a silvery metallic base. SF1500-35 offers the most dramatic effect with an average particle size of 35 microns. Plus 25 offers a lower applied cost for coatings, ink, and plastics with thin, uniform flakes providing up to 3X the hiding power of Silver 1500. Product coating requires less pigment, reducing overall pigment costs by up to 60 percent.



1500-35



1500-20



1500-14



Plus 25

Bright Silver Pigment Grades

Viavi Bright Silver pigments offer 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 for a lower-cost option.



Bright Silver



Bright Silver HSA

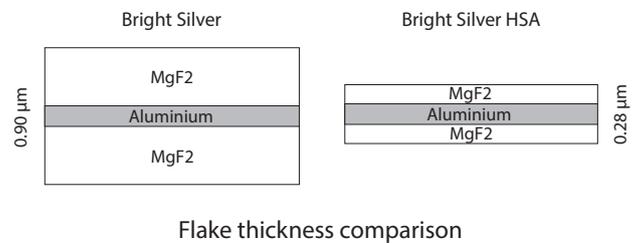


Figure 5. Bright Silver and Bright Silver HSA flake thickness comparison

Specifications

Description	Part Number	Particle Size		Percent Solids	Wet Specific Gravity	Specific Surface Area	Heat Stability
		D50	D99				
1500-14	10095222	14	<50	100%	2.8	0.45	<200
1500-20	10095214	20	<80	100%	2.8	0.45	<200
1500-35	10095215	33	<130	100%	2.8	0.45	<200
Plus 25	10095286	23.5	<50	100%	2.8	1.35	<200
Bright Silver	10095188	20	<70	100%	2.8	0.45	<200
Bright Silver HSA	10095283	20	<80	70%	2.8	1.35	<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 at worldwide +1 800 254 3684 or via e-mail at spectraflair@viavisolutions.com.



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