FALL 2025

SOCIETY OF PLASTICS ENGINEERS

CADNEWS

RETEC 2025

EXHIBITORS & SCHEDULE OF EVENTS

TECHNICAL ARTICLE

IMPACT OF PIGMENT HISTORY AND FINISHING ON PLASTIC PERFORMANCE

BY BONNIE PIRO, SUDARSHAN NORTH AMERICA

MEET THE BOARD

MEET MICHELE CLAESON, WRITTEN BY DOREEN BECKER

spe

COLOR AND APPEARANCE DIVISION

COLORING THE WORLD OF PLASTICS

CHAIRMAN'S MESSAGE

Hello everyone! I am honored to be the Color and Appearance Division Chair for the 2025-2026 season. I look forward to a productive year alongside such a talented and dedicated team. Being part of a group that works tirelessly to promote the world of color has been a fun and rewarding experience and this year will be the best yet.

I would like to start by thanking our outgoing Division Chair, George Iannuzzi, for his dedicated time and leadership, as well as thank those who recently retired from the board:

- •Cheryl Treat, Sun Chemical
- •Chuck DePew, Holland Colours
- •Bruce Howie, H.L. Blachford
- •Scott Heitzman, DCL
- •Betty Puckerin, Ampacet

We appreciate all of your efforts and will miss seeing you at meetings. Best of luck in your new endeavors! And we can't forget to welcome our newly elected members:

- •Michelle Claeson, Trust Chem
- •Lisa Clapp, Sun Chemical
- •Eric Duncan, Akrochem
- •Mike Manley, Holland Colours

We are glad to have you and look forward to your contributions!

RETEC® is fast approaching later this month. This will be the 63rd Annual CAD RETEC® conference and is being held in Cleveland, Ohio at the Hotel Cleveland, Autograph Collection. The theme is Long Live Color!

RETEC® is the largest technical conference hosted in North America that is specifically dedicated to the coloration of plastics with attendees from all areas of expertise within the plastics industries. We appreciate all of you that support and attend this conference – we could not do it without you.

In closing, I look forward to serving with you this year and welcome all feedback for the Color and Appearance Board. Hope to see you in Cleveland, sans any sort of weather events. 😉

KIMBERLY WILLIAMSON
Color and Appearance Division Chair
kwilliamson@techmerpm.com

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RETEC 2025

HOTEL CLEVELAND
CLEVELAND, OH
SEPTEMBER 15-17, 2025

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REGISTRATION FEES FOR ATTENDEES ARE KEPT LOW IN PART BY THE GENEROUS DONATIONS OF OUR INDIVIDUAL SPONSORS.

WE'D LIKE TO SAY A SPECIAL THANK YOU TO THESE GENEROUS SPONSORS AND RECOGNIZE THEIR SUPPORT OF THE CONFERENCE.

WATCH FOR SPONSORSHIP SIGNS DURING THE CONFERENCE TO SEE WHICH EVENT EACH OF THE COMPANIES BELOW SPONSORED.

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EVENTS

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Sponsored by: Milliken & Company

Ambassador Ballroom, 2nd Floor

Monday, September 15th | 8:00pm – 11:00pm

Join us for cocktails, networking and light snacks

Complimentary with Registration
Use the GREEN drink tickets.

EXHIBIT SCHEDULE

Grand Ballroom

Tuesday, September 16TH | 10:15am – 7:00pm

Wednesday, September 17TH | 9:00am – 3:00pm
(closed during lunch)

NETWORKING RECEPTION
Sponsored by: Liberty

Grand Ballroom

Tuesday, September 16TH | 5:45pm – 7:00pm

Complimentary with Registration
Use the GOLD drink tickets.

TUESDAY BREAKFAST
Sponsored by: Shepherd Color

Exhibit Hall (Behind Grand Ballroom)

Tuesday, September 16TH
7:30am – 8:45am

Complimentary with Registration!

CONFERENCE INTERNET ACCESS
sponsored by royce global
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CAD SURVEY RAFFLE

Forest City Ballroom

Wednesday, September 17TH
4:30pm

Complete your Survey and drop it off at the Registration Desk for your chance to win.

GRAND PRIZE
Bose QuietComfort Headphones and many other great prizes!
* Must be present to win *

AWARDS LUNCHEON
Sponsored by: Tronox

Exhibit Hall (Behind Grand Ballroom)

Wednesday, September 17TH | 12:00pm – 1:00pm

Complimentary with Registration!

5K FUN RUN / WALK
Sponsored by: Chroma Specialty Chemicals

TO BENEFIT MUTTS IN A RUTT RESCUE OF CLEVELAND

Wednesday, September 17TH | 7:00am in the Hotel Lobby

Start your morning off right. Join us bright and early for a fun run/walk around the local area. You will be back in time to catch the first paper.

FREE T-SHIRT FOR THE RUNNERS

COST
$25
CAD will match your donation

PLASTIVAN AT CAD RETEC®

GLENN ROOM

Tuesday, September 16TH

9:00am	Students Arrive
9:15am	View RETEC® tabletops
10:00am	PlastiVan Session
12:00pm	Students Depart

MULTI-VENDOR HOSPITALITY SUITE

Sponsored by:
Chroma Specialty Chemicals, Eckart America, Milliken, Paramount Colors, Sudarshan, Vivify

Ambassador Ballroom, 2nd Floor

Tuesday, September 16TH
9:00pm - midnight

GET THE SPE EVENT APP

1.Download the app from your app store (Android or iOS) using the QR code or find the app Swapcard – Smart Event App
2.Enter your e-mail address used to register for RETEC
3.Set up your password or click the “Send me a magic link”
4.Select the “SPE-Inspiring Plastics Professionals” organization
5.Select “SPE Color & Appearance Conference 2025”
NOTE: Paper downloads are available on the mobile app this year.

TECHNICAL PROGRAM

TUESDAY, SEPTEMBER 16, 2025

FOREST CITY BALLROOM

Moderator	**Jim Figiniak – Lehvoss North America**	
8:45 AM	**Opening Remarks**	Josh Jacobs, *Uniform Color*
9:00 AM	**Keynote: Building Strong Color Partnerships between Design and Marketing: A Perspective from Under Armour**	Kimmee Schenter, *Under Armour*
9:45 AM	**Keynote: Supply Chain Challenges Caused by Tariffs**	Alex Rom-Roginski, *Colortech*
10:15 AM	**Break (Grand Ballroom)**	Sponsored by Trust Chem
10:45 AM	**"The Good Property Retention of Treated Carbon Blacks Compared to Untreated Carbon Blacks in PA 6.6"**	Scott Brewer, *Orion*
11:15 AM	**Closed-Loop In-Line Color Correction Automation When Using PCR & PIR Resins**	Doug Brownfield, *Ampacet*
11:45 AM	**Painting a Brighter Future: Collaborating for a Circular Plastics Economy**	Bruno Stortini, *Alliance to End Plastic Waste*
12:15 PM	**Lunch on your own**	
Moderator	**Tony Tanner - Baerlocher USA**	
1:45 PM	**The Impact of Oxygen Scavengers on Dyes used in Food Packaging**	Doug Koerner, *Paramount Colors*
2:15 PM	**Changes in the Regulatory Landscape**	Galen Rende, *Keller and Heckman LLP*
2:45 PM	**Laser Marking of Plastics: Essential Factors for Successful Implementation**	Kevin Lucero, *Susonity*
3:15 PM	**Break (Grand Ballroom)**	Sponsored by Susonity
3:45 PM	**Pigment for Partial TiO2 Independence in White, Yellow, and Red Low-Density Polyethylene Compound**	Chris Ahmer, *US Silica*
4:15 PM	**Panel Discussion: Global Supply Chain** Frank Lavieri, Paramount Colors Michael Manley, Holland Colours America Galen Rende, Keller and Heckman LLP Alex Rom-Roginski, Colortech	Moderator: Betty Puckerin, *Ampacet*
4:45 PM	**New Technology Forum (see separate schedule)**	Tony Tanner - Moderator
5:45 PM	**Networking Reception (Grand Ballroom)**	Sponsored by Liberty

WEDNESDAY, SEPTEMBER 17, 2025

FOREST CITY BALLROOM

8:00 AM	**Pre-Conference Break (Grand Ballroom)**	Sponsored by Torrecid
Moderator	**Chritine Gehres – Coaching With Passion**	
8:50 AM	**Welcome Day 2**	Josh Jacobs, *Uniform Color*
9:00 AM	**Keynote: Packaging Color, Material & Finish: A Perspective From P&G**	Brad Neufarth, *Procter & Gamble*
9:45 AM	**Keynote: Color Insight & Trends for 2027**	Mercedes Landázuri, *Ampacet*
10:30 AM	**Break (Grand Ballroom)**	Sponsored by Tomatec
11:00 AM	**Recycling Polymers & L* A* B* Color values**	Paul Martin, *KraussMaffei*
11:30 AM	**SPE Positive Plastics Education™ programs: Plastivan®**	Eve Vitale, *SPE Foundation*
12:00 PM	**Awards Lunch (Exhibit Hall behind Grand Ballroom)**	Sponsored by Tronox
Moderator	**Dorren Becker - Ampacet**	
1:30 PM	**Color Change of Materials Produced by Laboratory Exposure to UV Fluorescent Lamps with Extended Light Spectrum**	Andy Francis, *Q-LAB Corporation*
2:00 PM	**The Balance of Color and Polymer Selection for Coloration of Plastics**	Bonnie Piro, *Sudarshan*
2:30 PM	**Beyond Color- Harnessing Functional Pigment for Additional Properties**	Breeze Briggs, *Sun Chemical*
3:00 PM	**Break (Grand Ballroom)**	Sponsored by Vivify
3:30 PM	**AI & How it Impacts Our Industry**	Mark Ryan, *Shepherd Color*
4:00 PM	**Student Panel Discussion: Careers in Plastics/Color** Grant Becker, Case Western Reserve Sara O'Leary, Case Western Reserve Brady Rametta, Penn State Behrend Mandy Zheng, Case Western Reserve Tyler Zupfer, Case Western Reserve	Moderator: Doreen Becker, *Ampacet*
4:30 PM	**Closing Remarks & Raffle (must be present to win!)**	Josh Jacobs, *Uniform Color*
5:00 PM	**Conference Ends**	

SEE YOU NEXT YEAR IN LOUISVILLE, KENTUCKY!

A GLIMPSE OF THE GLOBAL SUPPLY CHAIN FOR COLORED PLASTICS

PANEL DISCUSSION: TUESDAY AT 4:15 PM

Extreme weather events, corporate consolidations, recycled plastic shortages and tariffs can impact the global supply chain for colored plastics. These events can disrupt established supply chains, especially for those reliant on imports, leading to delays, shortages, and price increases. Imported resins like polyethylene, polypropylene, and PVC compounds may be affected. Colorants and additives such as commodity reds, yellows, greens, and blues, as well as antioxidants and UV stabilizers could see supply disruptions and/or price increases. This panel will discuss these global supply chain challenges.

PANELISTS Frank Lavieri, Executive Vice President, Paramount Colors
Michael Manley, Supply Chain Manager, Holland Colours Americas
Galen Rende, Attorney, Keller and Heckman LLP
Alex Rom-Roginski, President, Colortech, Inc.

MODERATOR Betty Puckerin, Color Technology Global Manager, Ampacet Corporation

FUTURE CAREERS IN THE PLASTICS / COLOR / SCIENCE INDUSTRY

STUDENT PANEL DISCUSSION: WEDNESDAY AT 4:00 PM

Current graduate and undergraduate science students will be asked questions and provide comments on their choice of major and future careers as well as their views on the plastics/color industry.

PANELISTS Grant Becker, Case Western Reserve
Sara O'Leary, Case Western Reserve
Brady Rametta, Penn State Behrend
Mandy Zheng, Case Western Reserve
Tyler Zupfer, Case Western Reserve

MODERATOR Doreen Becker, Global Sustainability Director, Ampacet Corporation

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FOREST CITY BALLROOM | TUES 09.16

Don't miss the chance to hear about new offerings from these exhibitors.
MODERATOR Tony Tanner, Baerlocher

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SPE COLOR AND APPEARANCE DIVISION MISSION STATEMENT

The Color and Appearance Division of SPE strives to educate, train, inform and provide professional interaction opportunities to the global community involved in visual performance and aesthetics of plastics.

INVITATION TO ATTEND CAD BOARD MEETING

The Color and Appearance Division (CAD) holds 4 Board of Directors (BOD) meetings each year, either in person or virtually. Any CAD members in good standing with in SPE and has Color and Appearance as their selected division are welcomed to attend these meetings. If interested in attending these meetings, please contact the current CAD Chairperson or any BOD for more information.

TECHNICAL ARTICLE INTRODUCTION

CADNEWS TECHNICAL CONTENT

The Technical Content portion of our Fall 2025 edition of CADNEWS. This technical article is titled Impact of Pigment Chemistry and Finishing on Plastic Performance by Bonnie Piro from RETEC 2022. If you have questions after the read drop, it to Color Notes and we will get back to you with answers from the committee.

CADNEWS COLOR NOTES

Welcome to CADNEWS® Color Notes. Do you have a question regarding color and effects? Don't miss your opportunity to anonymously ask our team of experts. We can help create discussion as well as provide answers. Color, appearance, color measurements, and colorants in general are all in our scope. Use the link below to submit your questions. Our SPECAD Color Notes committee will provide a response in the upcoming CADNEWS®.

HTTP://SPECAD.ORG/COLOR-QUESTIONS-FOR-CAD/

TECHNICAL ARTICLE

White Paper – Bonnie Piro, Sudarshan North America

Impact of Pigment Chemistry and Finishing on Plastic Performance

All types of colorants are used in plastics to provide visual stimulation, attract YOUR customer, deliver YOUR message, and enhance YOUR brand. Colorants are the first impression of the consumer. Given this, it is extremely important to get the most out of the colorant as possible for your most important properties. Organic and inorganic pigments are solid particles which need to be dispersed properly into the polymer system so selecting the correct product for the technical needs is key to a successful color and product design. A pigment is only valuable if it performs in the application it is used for. Each market segment will have unique technical requirements making the pigment product choice that much more critical.

The pigment selection process includes several areas to consider – Color and/or Effect, Application (polymer and extrusion method), Performance, Compliance and Cost/Value. The first step in this process is to develop a list of "Musts", "Wants" and "Nice to Haves" for your formulation. Each of the above-mentioned areas should be considered in detail so that nothing is missed. The more effort and detail that is placed up front in the planning process will result in a proper pigment product selection. This review will detail how both the chemistry of the pigment and the finishing steps applied to the pigment product can impact performance. The result would be selecting the best product for your needs regardless of the application it was developed for (how it was made).

There are several physical parameters of pigments that can be used to help in the selection process. Dispersibility is key to getting the most out of the pigment. Some key factors that impact dispersibility are listed below, however not all are readily available to the formulator.

- Oil Absorption
- Surface Area
- Particle Size and Distribution
- Hardness
- Density

A partnership of the formulator and pigment manufacture is key to matching the best pigment product option to the specific application as the pigment manufacture will know more about the products in their portfolio and their properties while the plastic formulator will know his technical needs.

To get the most of a pigment in a plastic application, the pigment should be "clean" – little to no additives, small in particle size and soft in texture to have the best possible dispersion in the polymer matrix. The dispersion residence time of a plastic extrusion process is very short, so the pigment particles need to be in the best form possible at the start. Organic pigments have traditionally been classified into two categories - either Classical or High Performance pigments. The properties that distinguish these categories are fastness (light, weather and solvent), heat stability and cost. As the name suggests, high performance pigments have the better fastness and heat stability properties but at a higher price. However, the value of a high performance pigment in terms of technical performance may outweigh the $/pound price. It is the chemistry of the pigment that places it in one of these two categories. The technical properties of a pigments are mainly achieved from the chemistry – about 75%. The remaining performance is a result of which finishing steps are used for the particular product. The finishing steps include

- surface treatments or additives used after the pigment crystals are formed (termed pigmentation),
- drying process choice
- milling process choice
- additives used in the batch blending process

The choices used in these four areas are primarily defined by the end application for that product – plastic, coatings, or inks. However, it is not to say that pigments developed for another application like coatings or inks cannot meet the needs of a plastic formulation. It requires matching the best pigment product for the formulation need.

For plastic applications, a good test to determine how dispersible a pigment is in a polymer matrix is to assess the filter pressure value (FPV). The FPV test is used to determine the amount of "oversized" colorant particles. In short, a set polypropylene formulation is extruded through a mesh screen and the pressure rise across the screen is measured and recorded as bars/gram of pigment. As noted earlier, the residence time of the plastic extrusion process is very short. The FPV test maintains a fixed pigment loading, chamber temperature, extrusion rate and screen size. The test method is in accordance with DIN EN 13900-5.

Pigment chemistries investigated for this body of work included both high performance and classical pigments.

- High Performance
  - Pigment Yellow 110 - PY110
  - Pigment Yellow 138 - PY138
  - Pigment Yellow 180 - PY180
  - Pigment Orange 64 - PO64
  - Pigment Red 122 - PR122
  - Pigment Violet 19 - PV19
- Classical
  - Pigment Blue 15:3 - PB15:3
  - Pigment Green 7 - PG7
  - Pigment Red 53:1 - PR53:1
  - Pigment Red 57:1 - PR57:1

While the PB15:3 and PG7 are both in the classical category, the phthalocyanine chemistry actually straddles both categories – sort of the best of both worlds in that they have most of the technical properties of the high performance pigments but the economical pricing of the classical pigments. All these pigment chemistries can be dispersed in the formulation. Both the pigment chemistry and the finishing types must be chosen to meet the needs of the formulation and application. The FPV test is also used for the selection of products for both fiber and film applications (FPV<=2.0) – all of the

chemistries investigated can be dispersed but not all chemistries or products within the chemistry will be applicable for fiber or film applications.

CI	Application	Type		FPV bar/gram
PY110	Plastic 1	HPP		0.62
	Plastic 2			1.58
	Coatings			8.56
PO64	Plastic 1	HPP		1.14
	Plastic 2			1.36
	Coatings			15.38
PV19	Plastic	HPP		5.3
	Coatings 1			11.28
	Coatings 2			8.88
	Ink			5.68
PR122	Plastic	HPP		0.6
	Coating			6.04
	Ink			12.66
PY180	Plastic 1	HPP		0.62
	Plastic 2			0.12
	Ink			0.14
PY138	Plastic	HPP		0.34
	Coatings			0.26
PB15:3	Plastic	Classical		1.36
	Coatings 1			1.52
	Coatings 2			1.1
	Ink 1			5.36
	Ink 2			11.42
PG7	Plastic	Classical		1.26
	Coatings			2.2
PR53:1	Plastic 1	Classical		4
	Plastic 2			2.26
	Ink			14.78
PR57:1	Plastic	Classical		1.2
	Ink 1			15.04
	Ink 2			4.24

Table 1: Filter Pressure Values of various pigment chemistries.

Data generated at Sudarshan Chemicals. Cross referenced to DIN EN 13900-5. 25 mesh screen.

Performance of a pigment in a plastic application is assessed via dispersibility, heat stability, FPV for fiber/film, warpage, migration, color and strength. However, some properties are dictated by the pigment chemistry. Heat stability, fiber/film application (FPV), warpage and migration are the key properties specifically related to chemistry.

Heat stability is a test method that assesses the ability of a colorant to withstand a processing temperature of a polymer system without a significant change in color. The test result is stated as the maximum temperature resulting in a dE of 3.0 or less over a five minute dwell time. The HDPE formulation is injected molded starting at a temperature of 200 °C and increased by 20 °C intervals until a maximum temperature of 300 °C. The high performance pigments typically have a high heat resistance while the classical have a medium to low resistance. As mentioned, the phthalocyanine pigments are in the classical category by have heat stability like the high performance pigments.

			Heat Stability	
CI	Application	Type	Value	Impact
PY110	Plastic 1	HPP	300	
	Plastic 2		300	
	Coatings		280	
PO64	Plastic 1	HPP	300	
	Plastic 2		300	
	Coatings		280	
PV19	Plastic	HPP	300	
	Coatings 1		300	
	Coatings 2		270	
	Ink		270	
PR122	Plastic	HPP	300	
	Coating		220	
	Ink		270	
PY180	Plastic 1	HPP	290	
	Plastic 2		290	
	Ink		290	
PY138	Plastic	HPP	270	
	Coatings		260	

			Heat Stability	
CI	Application	Type	Value	Impact
PB15:3	Plastic	Classical	300	
	Coatings 1		300	
	Coatings 2		300	
	Ink 1		300	
	Ink 2		300	
PG7	Plastic	Classical	300	
	Coatings		300	
PR53:1	Plastic 1	Classical	260	
	Plastic 2		270	
	Ink		250	
PR57:1	Plastic	Classical	240	
	Ink 1		210	
	Ink 2		210	

Table 2: Heat Stability of various pigment chemistries.

Data generated at Sudarshan Chemicals. Cross referenced to DIN EN 53272.

Warpage is another technical property that is directly related to the chemistry of the pigment. Warpage measures the amount of distortion – non-uniform shrinkage within a part – caused by a colorant. It is compared to the natural material. Shrinkage of 10% or less (rating = 1) is acceptable while greater than 20% (rating = 3) is unacceptable. The chemistry relationship is not as clear cut for the HPP versus Classical like with heat stability as can be seen below.

CI	Application	Type	Warping Value	Warping Impact
PY110	Plastic 1	HPP	3	
	Plastic 2		3	
	Coatings		3	
PO64	Plastic 1	HPP	1	
	Plastic 2		1	
	Coatings		1	
PV19	Plastic	HPP	1	
	Coatings 1		1	
	Coatings 2		1	
	Ink		1	
PR122	Plastic	HPP	1	
	Coating		1	
	Ink		1	
PY180	Plastic 1	HPP	1	
	Plastic 2		1	
	Ink		1	
PY138	Plastic	HPP	2	
	Coatings		2	
PB15:3	Plastic	Classical	3	
	Coatings 1		3	
	Coatings 2		3	
	Ink 1		3	
	Ink 2		2	
PG7	Plastic	Classical	3	
	Coatings		3	
PR53:1	Plastic 1	Classical	3	
	Plastic 2		3	
	Ink		3	
PR57:1	Plastic	Classical	3	
	Ink 1		3	
	Ink 2		3	

Table 3: Warping of various pigment chemistries.

Data generated at Sudarshan Chemicals. Cross referenced to ISO 294-4.

Migration is also chemistry dependent and like warpage there is not a clear line between HPP and Classical pigments. Migration is the amount of staining or color movement from a colored plastic to an uncolored plastic when brought together for a set time and temperature according. The chemistries selected for this body of work, however, were all acceptable for this property. Other pigment chemistries such as PR48:2 and 3, PY13, and PY151 for example to show a propensity for migration.

Beyond the chemistry of the pigment, the finishing steps used to manufacture the pigment – surface treatment post reaction, drying, milling and blending additives – can differentiate one product from another within a chemistry family. This difference could result in a technical property that is of interest to the formulator. It is these differences that can be used to fine tune the balance of properties to help select the best product for the need. Properties that are directly impacted by the finishing steps include fiber applications (FPV) and film applications (a subset of the fiber application), heat stability, color strength and shade.

To insure a smooth and continual spinning of fibers, the pigment must disperse well into the polymer matrix. Filter Pressure Value (FPV) is both a measure of the dispersibility of the pigment (the lower the FPV, the better the dispersion quality) but is it also used to cull out products that are acceptable for use in fiber and film applications. For fiber and film, the industry accepted FPV must be less than or equal to 2 bars/gram of pigment when using a 25 micron mesh screen. Pigment Red 122 and Pigment Blue 15:3 are pigment chemistries that can be used for fiber and film applications. However, finishing differences between plastic, coating and ink grades result in more limited choices for the PR122 but more product options for the PB15:3.

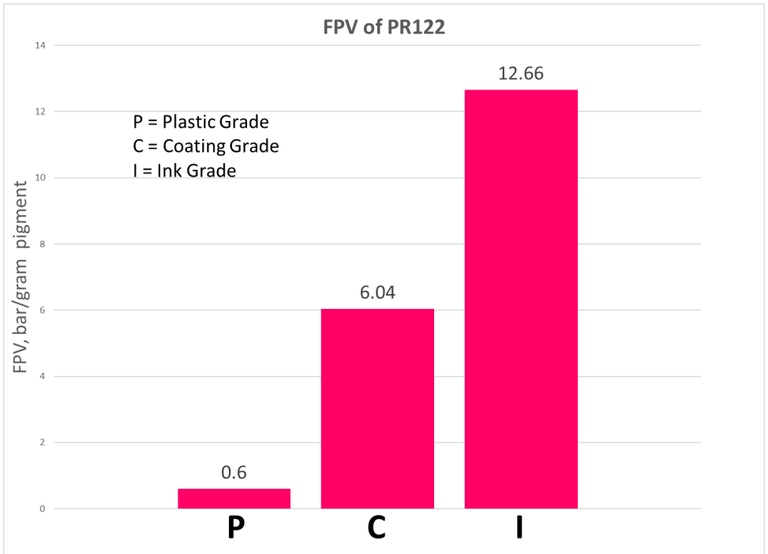

Chart 1: FPV of PR122 grades, 25 mesh screen

Data generated at Sudarshan Chemicals. Cross referenced to DIN EN 13900-5. 25 mesh screen.

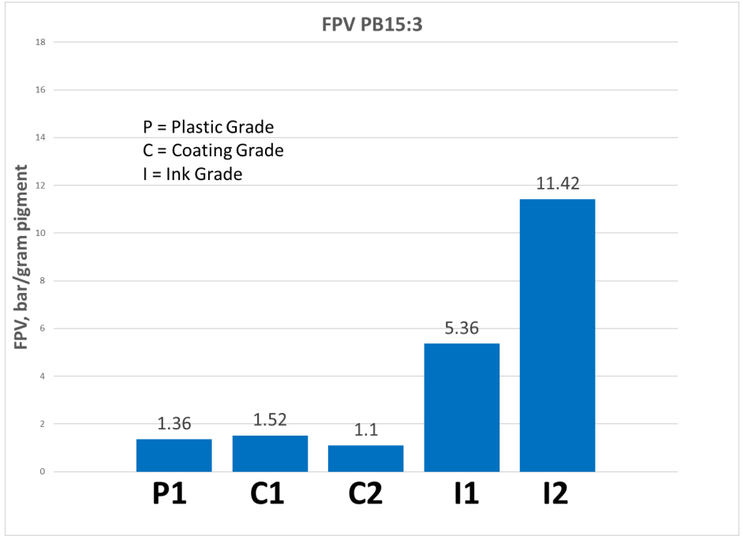

Chart 2: FPV of PB15:3 grades, 25 mesh screen

Data generated at Sudarshan Chemicals. Cross referenced to DIN EN 13900-5. 25 mesh screen.

Blown film applications are a subset of the fiber application. Those products that have an FPV of less than or equal to 2 bars/gram of pigment are candidates for film. The film note test further examines dispersibility to the next level. In the above PB15:3 example, three of the five products could be considered acceptable for a fiber application – 1 plastic and 2 coatings grades. However, when the dispersibility is examined closer via the film note test, the two coatings grades show less dispersion than the plastic grade.

CI	Application	Type		FPV (fiber/dispersibility) Value	FPV (fiber/dispersibility) Impact	Film Note Value	Film Note Impact
PB15:3	Plastic	Classical		1.36		1	
	Coatings 1			1.52		2-3	
	Coatings 2			1.1		2-3	
	Ink 1			5.36			
	Ink 2			11.42			

Table 4: Film Note of various pigment chemistries.

Data generated at Sudarshan Chemicals. Cross referenced to DIN 13900-6.

Heat stability is primarily a chemistry related property. However, within the chemistry class the finishing steps of the individual product can impact this property thus providing additional product options. Pigment Violet 19 is a very heat stable chemistry but this property can be altered with finishing. Comparing the products in the chart below, the finishing of the Coatings 2 product reduces the stability by 30 °C limiting the polymer/process options for this product. Similarly, the Ink 1 product provides an option as well so that this property can be balanced with the others when choosing a PV19 product.

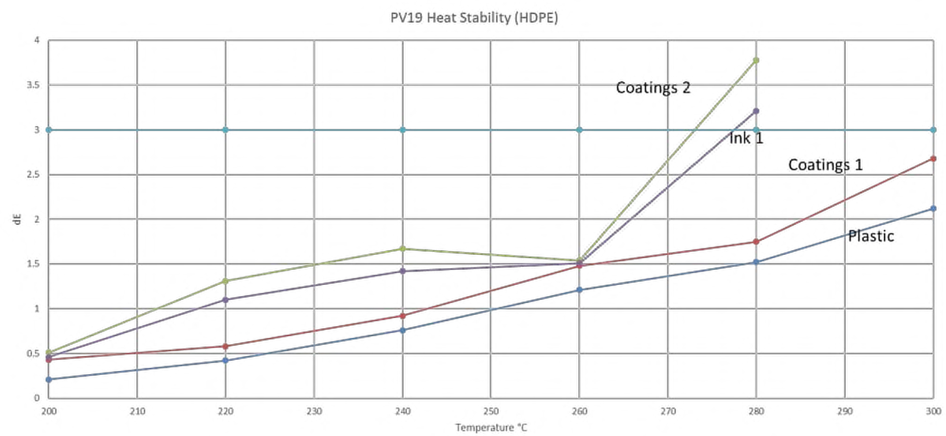

Chart 3: Heat Stability of PV19 grades.

Data generated at Sudarshan Chemicals. Cross referenced to DIN EN 53272.

Color strength and shade are also properties that are impacted by the finishing steps dictated by the original application design. These are the remaining properties used in the selection of the colorant product. Pigment Orange 64 is a chemistry used in both plastic and coatings applications and even within the grade, the finishing steps used will result in strength differences. In this example, two grades of plastic and one coatings grade are compared in a tint tone formulation with titanium dioxide. The bubble size is the L value – the lower the L, the stronger the product in this polymer matrix formulation.

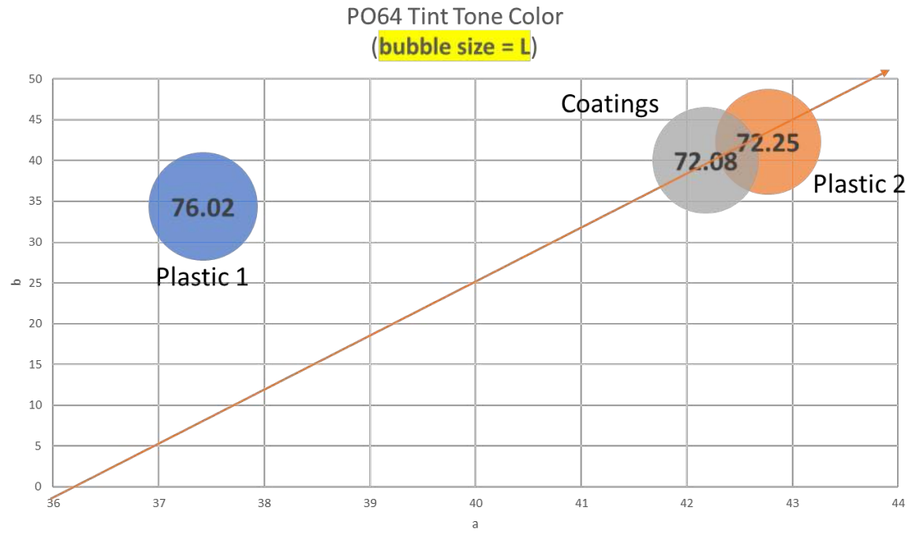

Chart 4: Color Strength (expressed as Tint Tone L) of PO64 grades.

Data generated at Sudarshan Chemicals.

When it comes to color shade, options are always nice to have depending on whether you are tasked with finding a new source for existing formulations or designing a new formulation with a checklist of needs. PB15:3 is a beta blue phthalocyanine pigment which means it has a green shade to it so the color development will be to the blue (-b) and green (-a) direction.

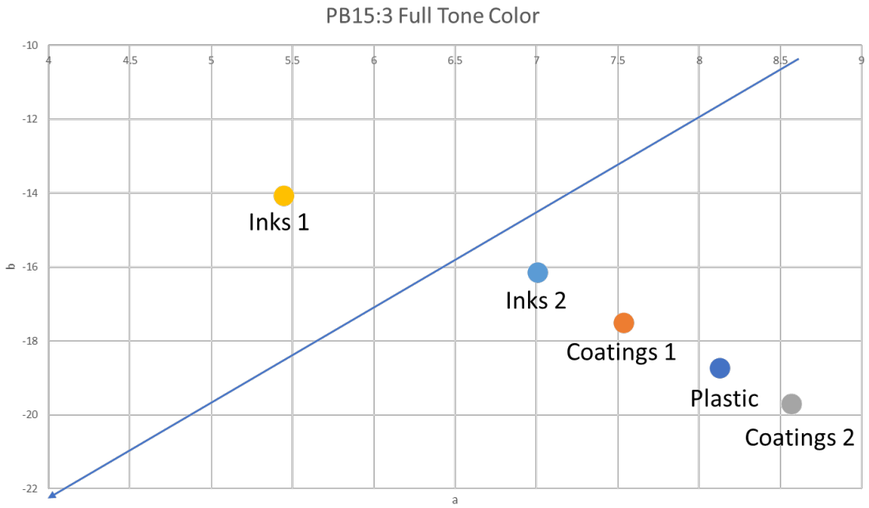

Chart 5: Color Shade of PB15:3 grades.

Data generated at Sudarshan Chemicals.

The Inks 1 product is the greenest of the five products while the Coatings 2 product is the bluest but not the greenest. The color development along with all the other properties feed the decision process on colorant selection.

It is always going to be a balance between the pigment performance (chemistry + finishing) and the application performance (application chemistry + process). A structured selection process is required to ensure that you select the best overall product for your need regardless of which application the pigment grade was developed for.

MEET THE BOARD MEMBER

MICHELE CLAESON - BY DOREEN BECKER

Michele Claeson is one of our four new board members for 2025.

Michele works at Trust Chem USA, which is based in FL, but works out of a home office in East Greenwich, RI. She is their VP of Sales.

She completed her undergraduate studies at Providence College and later earned an MBA from Bryant University. During her undergraduate time, Michele also studied for a semester at the College International de Cannes, that she found to be “an amazing experience” that fueled her “passion for travel.”

She has three kids: a 19-year-old daughter, a 17-year-old daughter, and a 16-year-old son. We have an adorable Coton Tzu dog, a fish, and a bearded dragon, which she “avoid at all costs”.

Michele attended her first RETEC show in 1996 in St. Louis, MO and when asked what she liked about the Color & Appearance Division she mentioned, “The RETEC is always an extremely well-organized show with fun events and many key customers in attendance. It’s a smaller, more focused show, and the quality and ROI can’t be beat!” She also mentioned that she would like to see new destinations added to the mix for the RETEC meetings.

Fun facts about Michele: hobbies include travel and scuba diving. In fact, last year all three of her kids earned their scuba certification (big accomplishment) and their first official family dive was a shark feeding dive in the Bahamas. According to Michele “It was a very up-close experience and totally surreal.”

Her favorite sports teams are the Boston Red Sox and the New England Patriots.

We are excited to have Michele on our board and are certain she will be a great contributor to our activities.

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Color and Appearance Division

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Society of Plastics Engineers
Color & Appearance Division
Endowment Scholarship Program
for the 2026 – 2027 School Year

The Endowment Scholarship Program offered by the Color & Appearance Division of the Society of Plastics Engineers awards multiple scholarships each year to students who have demonstrated or expressed an interest in the coloring of plastics industry. The students must be majoring in or taking courses that would be beneficial to a career in this industry. This would include, but is not limited to, plastics engineering, polymer science, coloring of plastics, chemistry, physics, chemical engineering, mechanical engineering, industrial design and industrial engineering. All applicants must be in good standing with their colleges. Financial need is considered for most scholarships.

Undergraduate and graduate scholarships have ranged up to $8,000 annually. Scholarships are awarded for one year only, but applicants may apply for a re-award for each year they are enrolled in school.

Scholarship Eligibility
1. Applicants for these scholarships must be full-time undergraduate students in either a four-year college or a two-year technical program or enrolled in a graduate program.
2. All applicants must be graduates of public or private high schools.

Scholarship Criteria
1. Applicants must have a demonstrated or expressed interest in the coloring of plastics industry.
2. Applicants must be majoring in or taking courses that would be beneficial to a career in the coloring of plastics industry.
3. An applicant must be in good academic standing with his or her school.
4. Preference is given to student members of SPE and also to students who have a parent(s) as a member of the Color & Appearance Division of the SPE.
4. Financial need of an applicant will be considered for most scholarships.

Application Procedure
To be considered for a scholarship from the Color & Appearance Division Endowment Scholarship Program, applicants must complete an on-line application in the Spring of 2026. Check www.specad.org for deadlines and for any additional updates to the process. All applications submitted must include:
1. A completed application form.
2. Three recommendation letters: two from a teacher or school official and one from an employer or non-relative.
3. A high school and/or college transcript for the last two years.
4. An essay by the student (500 words or less) telling why the applicant is applying for the scholarship, the applicant's qualifications, and the applicant's educational and career goals in the coloring of plastics industry.

For more information, visit www.specad.org or contact Ann Smeltzer at (412) 298-4373 or e-mail at ann.smeltzer@sudarshan.com

All scholarships will be paid directly to the recipients' schools. Schools must reside in the US and all funds are paid in US funds. The Color & Appearance Division Endowment Scholarship Program will not award scholarships to applicants who are not qualified and reserves the right to not award a scholarship in a given year if it so chooses.

OFFICERS

Chairman:
Kimberly Williamson, 706-892-8102
Techmer PM LLC
kwilliamson@techmerpm.com

Chair-Elect:
TJ Stubbs, (270) 827-5571 Ext. 7142
Teknor Color Corp
tstubbs@teknorapex.com

Immediate Past Chairman:
George Iannuzzi 914-261-8189
Koel Colours
george@koelcolours.com

Treasurer:
Bruce Mulholland, 859-982-5256
Celanese (Retired)
captcolour@aol.com

Finance Chair:
Tony Tanner, 304-482-6904
Baerlocher
tony.tanner@baerlocher.com

Secretary:
Mark Ryan, 513-874-0714
Shepherd Color
mryan@shepherdcolor.com

Councilor:
Doreen Becker, 914-769-1679
Ampacet Corporation
doreen.becker@ampacet.com

DIRECTORS UNTIL 2026

Bennett Chin, 310-632-9211, Ext. 3664
Techmer PM
btchin@techmerpm.com

Jeff Drusda, 302 683 8025
Chemours
jeffrey.drusda@chemours.com

Steve Esker, 614-679-4677
Paramount Colors, Inc.
Steve@paramountcolors.com

Chritine Gehres, 973-641-4852
Coaching with Passion
coachingwithpassion@proton.me

Cory Singleton, 682-420-0657
Techmer PM
csingleton@techmerpm.com

Mark Tyler, 330-697-1698
Tempo Chemicals and Solutions
mark@tempochem.com

DIRECTORS UNTIL 2027

Earl Balthazar, 817-719-0224
DataColor
ebalthazar@datacolor.com

Matt Billiter, 412-260-0146
LANXESS Corporation
matthew.billiter@lanxess.com

Karen Carlson, 912-604-3537
SUSONITY
karen.carlson@susonity.com

Brian Colemen, 859-525-5814
Celanese
Brian.Coleman@celanese.com

Josh Jacobs, 419-575-4806
Uniform Color
Joshua.Jacobs@audia.com

Jack Ladson, 267-981-7112
Color Science Consultancy
jack@ColorScienceConsultancy.com

Mercedes Landazuri, 773-988-0857
Ampacet Corporation
mercedes.landazuri@ampacet.com

Bruce Mulholland, 859-982-5256
Celanese (Retired)
captcolour@gmail.com

DIRECTORS UNTIL 2028

Scott Aumann, 912-210-0175
Independent
SRA@USA.com

Lisa Clapp, 513-382-9637
Sun Chemical Corporation
Lisa.Clapp@sunchemical.com

Michele Claeson, 401-225-6818
Trust Chem USA
michele@trustchemusa.com

Eric Duncan, 330-618-4143
Akrochem Corporation
EricDuncan@Akrochem.com

Jim Figaniak, 215-768-0769
Lehvoss North America
jfiganiak1028@gmail.com

Mike Manley, 765-542-9448
Holland Colours Americas, Inc.
mmanley@hollandcolours.com

Alex Prosapio, 845-641-0506
Sudarshan Pigments
aprosapio@sudarshan.com

Ann Smeltzer, 412-298-4373
Sudarshan Pigments
asmeltzer@sudarshan.com

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THE COLOR AND APPEARANCE DIVISION OF SPE STRIVES TO EDUCATE, TRAIN, INFORM AND PROVIDE PROFESSIONAL INTERACTION OPPORTUNITIES TO THE GLOBAL COMMUNITY INVOLVED IN VISUAL PERFORMANCE AND AESTHETICS OF PLASTICS.