

## **G2 and G3 technology from Carolina Color Corporation increases plastic color options while reducing costs and processing headaches.**



Plastic processors are always looking for cost-cutting options. Reducing color costs is one way that some processors have gained a competitive advantage. Yet, many processors are still confused on the best colorant option to accomplish that goal. Is liquid best? Or pellet? Both have advantages and disadvantages.

Below, is a quick review of both options, followed by two “real-life” case studies in which color-processing challenges were overcome using recent advances in color processing with pellets.

### **Liquid colorant for manufacturing plastic parts and products:**

#### Advantages

- Can be added during processing
- Can be effective at extremely low levels
- Improves grindings of liquids
- Newer computer controlled pumps for consistent delivery

- Upfront cost can be lower

## Challenges

- Thin film requires lots of color and liquid and has not proven effective in this application
- Poor distribution causes streaks and some swirling in part
- Housekeeping issues: clean up and short shelf life that ends up increasing cost

## **Pellet colorant for manufacturing plastic parts and products:**

### Advantages

- Matches the size of the virgin resin pellets
- Excellent dispersion
- Reduced housekeeping and maintenance

### Challenges:

- Traditional pellets have been more costly

## **New options in pellet colorants reduce costs and processing headaches.**

To resolve the issue of what option is best for plastic processors, many have turned to their color suppliers for solutions. One such supplier is Carolina Color Corporation, producers of patented G2 colorants since 2008. This innovative, pelletized colorant technology features pigments and additives that are highly loaded, exceptionally

well dispersed, and can effectively distribute in both large and small parts.

Following are two case studies illustrating how G2 pellet technology resolved challenges that end-users had not previously been able to overcome using liquid colorants.

### 1.) The challenge:

**Overcoming the processing limitations of pearl liquid colorant.**



Color concentrates can be very complex and typically require extra care during processing to ensure that specified color results appear authentic.

A case in point is the use of liquid pearl colorants by the team responsible for packaging mint-flavored ICE BREAKERS. Although pearl coloring met the basic aesthetic and manufacturing needs, continual processing challenges persisted.

Specifically: the window of time for effective use of pearl liquid color is constrained by the product's limited shelf life. That fact often resulted

a shut down in production in order to stir the colorant. That, in turn, increased overall production costs.

Also, pearl liquid color concentrates are messy to handle during stirring, a characteristic that added to both processing and housekeeping times.

As a consequence of these obstacles to ease-of-use, the ICE BREAKERS packaging team decided to seek an alternative product to achieve the desired pearl color.

**The solution:  
G2 from Carolina Color Corporation**

The ICE BREAKERS packaging team benefited immediately from the switch because:

- G2 does not have a limited shelf life,
- G2 reduced flow lines that had frequently appeared on packages produced using pearl liquid colorants.
- G2 enabled quicker, more cost-effective color change-overs with less purge and reduced downtime.
- G2 was ultimately selected to replace all other liquid colors in use for ICE BREAKERS packaging.
- Pellet color feeders were integrated into the production line at the throat, resulting in significant overall cost reductions.

**2.) The challenge:  
Instability of teal color for jar cap, long lead times and inefficient letdown rates.**



Color is a critical feature for brands needing to positively differentiate themselves when stocked on shelves next to competing products.

Exactly such a feature is the teal-colored jar cap used for packaging SKIPPY Peanut Butter. The teal color is strategic in that its long-term use has resulted in it becoming easy brand identification for consumers.

For that reason, the SKIPPY packaging team recently found itself in a position of having to switch from the use of standard concentrate teal colorant.

First, unstable color properties created ongoing processing challenges, making it difficult to produce consistent color results. Color variations are unacceptable because they negatively impact consumer recognition of brand packaging, ultimately resulting in lost sales and profitability.

Additionally, shipping lead times for the necessary teal colorant were often as long as two weeks, leaving the SKIPPY packaging team scrambling for alternative sources of supply.

As well, the color simply was not providing a desired level of letdown rate necessary for achieving reduced production costs.

Consequently, the SKIPPY packaging team began its search for a replacement colorant to resolve the triple production challenges of color stability, shipping lead times, and let-down rates,

**The solution:  
G2 from Carolina Color Corporation**

- G2, well-dispersed color for molding jar the teal cap
- G2 was also able to reduce lead times down to no more than four days---reducing the let-down rate from approximately 4% to 1.5% and under for some of the other SKIPPY colors.
- Processed significantly more efficiently by providing stable patented color technology with ideal lead times and in-house supply--all with much more cost efficient letdown rates.

**New options in pelletized colorant technology continue to grow with G3, from Carolina Color Corporation**

In April of 2015, Carolina Color introduced new **G3** color pellets for plastic processors. It is effective in diverse applications such as packaging, house wares, lawn & garden and transportation and meets even more demands from customers looking for improved solutions.



Key attributes and advantages of using **G3** include:

- The highest pigment-loaded custom colors in the industry
- Can be used in all olefins and engineering resins
- Lowers environmental impact with a reduction in production energy, packaging materials, and CO2 emissions
- Supports Six Sigma/Lean production methods

Carolina Color's North Carolina and Ohio locations provide customers with full-service production capabilities and complete laboratories for color matching, testing, and analytics.

Carolina Color, a 3A1 Dun & Bradstreet-rated company, has one of the strongest balance sheets in the industry. The company's core strength comes from its ability to innovate as well as maintain strong relationships with the finest suppliers of resins, pigments, dyes, and additives.

For more information about **G3**, visit: [www.carolinacolor.com](http://www.carolinacolor.com).

#### References:

1-

<https://books.google.com/books?id=urctkFROYbkC&pg=PA439&lpg=PA439&dq=liquid+color+vs+pellet&source=bl&ots=luqZQ-mkoB&sig=-uRUrvG7pSfcmfFA12qs4YlfXZQ&hl=en&sa=X&ei=S2Y1VZHHCrGOsQSOI4D4Ag&ved=0CDYQ6AEwBw#v=onepage&q=liquid%20color%20vs%20pellet&f=false>

2-

<https://books.google.com/books?id=9IZSW9BVCyAC&pg=PA297&lpg=PA297&dq=liquid+color+vs+pellet&source=bl&ots=Q63Bdp6GLE&sig=FZA4FTDryATy0QapU6v9sLQzU1o&hl=en&sa=X&ei=S2Y1VZHHCrGOsQSOI4D4Ag&ved=0CDQQ6AEwBg#v=onepage&q=liquid%20color%20vs%20pellet&f=false>