



PACKAGING
& CONSUMER GOODS SOLUTIONS

JUST ADD COLOR

IMAGINATION. INNOVATION. UNCOMPROMISING QUALITY.

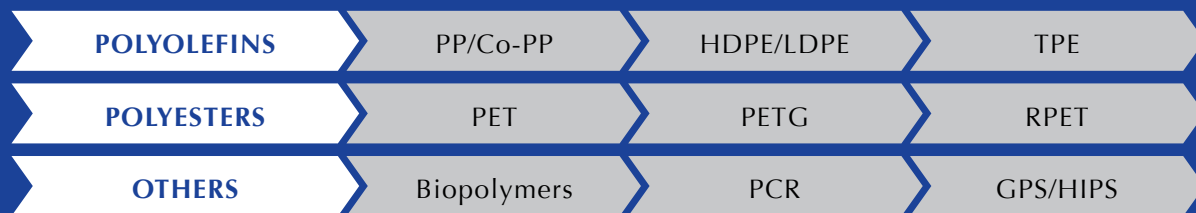
Penn Color is a worldwide leader in the development and manufacture of color and additive masterbatches for plastic packaging. You go to great lengths to differentiate your product and enhance shelf presence. It is our job to help you get there.

MEETING YOUR NEEDS, EXCEEDING YOUR EXPECTATIONS

The very nature of the packaging market is change, and the market has evolved considerably over the years. Expectations are not just for tighter specifications and shorter lead-times, but the need for technologies that enhance functionality, shelf appeal, and sustainability has never been greater. Penn Color's commitment to technology and customer satisfaction has made us a valued supplier to leading converters around the world.

PROVIDING CUSTOMIZED SUPPORT AND SOLUTIONS FOR YOUR PACKAGING NEEDS

Penn Color develops products for all common packaging polymers, including:



penneffex™, our global design team, combines all-new special effects raw materials and sustainability technologies with the latest design trends, to create eye-catching and professional-looking packages that enhance the shelf appeal of your products.

To support and augment our color development effort, Penn Color has invested in applications prototyping equipment, including:

BLOW MOLDING • INJECTION MOLDING • FILM & SHEET EXTRUSION

Food Packaging plays a vital role in preserving food throughout the supply chain. As a supplier to the food packaging industry, our Product Stewardship Team takes a leadership role interpreting and communicating the ever-changing landscape of global regulations to our customer base and supply chain. They stand ready to answer your questions or work together with your team on your most challenging product or regulatory needs.

WE UNDERSTAND AND WE LISTEN

Every customer's requirements and expectations are different, so our products and services are tailored to fit your distinct needs. Our color and additive masterbatches are found in all segments of the packaging market, so whether you're making...

BLOW MOLDED
BOTTLES

INJECTION MOLDED
CONTAINERS, CAPS,
CLOSURES

EXTRUDED
FILM, SHEETS,
TUBES

THERMOFORMED
CUPS, CONTAINERS,
TRAYS

...let PENN COLOR design an innovative and cost-effective solution for you.

pinnacle®

BLOW MOLDING TECHNOLOGIES

The best and brightest from Penn Color, pinnacle® is a line of unique technologies and novel solutions for blow molding applications. pinnacle® color and additive masterbatches are designed for optimal performance in all types of blow molding processes. Our proprietary carrier systems are fully compatible with all common blow molding resins, including PET, PP, PE, and many more.

pinnacle® Opaque Technology

Our opaque color masterbatch formulations utilize maximum pigment and dye loadings, which minimize the LDR. These masterbatch technologies improve color distribution, which yield less swirling in finished containers. And for two-stage PET applications, our opaque technology improves the preform reheat stage, significantly widening the process window and reducing scrap rate.

pinnacle® Opaque Technology reduces container cost and enhances bottle aesthetics to improve shelf appeal.

pinnacle® ARMORBLOK™

ARMORBLOK™ barrier masterbatches provide UV and visible light protection to prevent end products from loss of taste, odor, color, and nutritional value. ARMORBLOK™ barrier masterbatches can be customized for monolayer or multilayer containers and can be designed to be compatible with all common oxygen barrier resins and additives on the market today. Qualification time and cost analysis time is greatly reduced with our BARRIER MODEL™, which accurately predicts LDR and coloring cost based on physical and aesthetic requirements.

pinnacle® ARMORBLOK™ extends product shelf life and shortens the development cycle.

pinnacle® BOOST™

BOOST™ additives are a series of multi-functional chain extenders that increase melt strength and intrinsic viscosity (IV) in rPET resins. This technology improves the manufacturing process and ensures proper physical properties of the finished containers.

pinnacle® BOOST™ allows for a stable process at high PCR levels to help achieve sustainability initiatives.

pinnacle® AQUABRIGHT™

As rPET levels increase, the container begins to take on a dirty, grey appearance inherent in rPET resins. AQUABRIGHT™ technology provides an aesthetic enhancement designed to neutralize that murky appearance, giving the final part a brighter and cleaner look.

pinnacle® AQUABRIGHT™ improves shelf appeal and helps achieve sustainability initiatives.

pinnacle® Matte Technology

When a low gloss surface is more desirable in a PET container, our matte technology is incorporated into our color masterbatches to eliminate the gloss typically found in PET bottles.

pinnacle® Matte Technology harmonizes PP, HDPE, and PET to one gloss level across a product family.

pinnacle® SILK™

A colorless additive masterbatch, our SILK™ additive can be added to a clear or colored PET preform to improve preform compaction and streamline conveying along blow molding and filling lines.

pinnacle® SILK™ improves brand integrity by helping to protect the container from scratches and blemishes.

pinnacle® SPLASH™

For converters that prefer liquid coloring systems, our SPLASH™ technology successfully tackles common problems associated with liquid colors. SPLASH™ formulations are compatible with all common dosing systems, or we can provide our own turnkey dosing system.

pinnacle® SPLASH™ provides color dosing flexibility and cost savings in certain applications.





pennaject™

INJECTION MOLDING TECHNOLOGIES

As injection molding improves, new technologies demand better performing color and additive masterbatches. pennaject™ is a platform technology that significantly improves physical and dimensional properties for injection molding applications. These revolutionary color and additive masterbatches are formulated specifically for the end-use application, providing optimum processability and stability.

pennaject™ SILK™

SILK™ additives for injection molding include mold release, as well as external and internal lubrication. Typical applications include meeting torque requirements in closures and aiding in better part release in your molding process.

SILK™ will enhance package appearance and improve overall customer experience.

pennaject™ Laser Marking Additives

Our laser marking additive masterbatches are able to increase the contrast and sharpness of laser marking print through custom formulated additive solutions for colored or non-colored plastic applications.

pennaject™ Laser Marking Additives enhance the readability of a laser mark.

pennaject™ Dimensional Stability Technology

Shrinkage and warpage is inherent in the injection molding process and can cause leakage of content from containers. Using a blend of additives and colorant technologies, our dimensional stability technology stabilizes the finished part and provides consistency in the most difficult molding applications.

pennaject™ Dimensional Stability Technology lowers part cost and provides a tighter seal between container and closure.

pennaject™ Nucleating Agents

Our nucleating agent technologies include a range of additive masterbatches that help increase cycle times in the injection molding process as well as improve physical properties of finished parts.

pennaject™ Nucleating Agents reduce scrap rate, increase machine throughput, and lower the overall cost of a part.

pennapex™

SHEET EXTRUSION TECHNOLOGIES

As thermoformed sheet continues to be the packaging of choice in many applications, Penn Color's pennapex™ technologies lead the way in performance enhancement and in reaching global sustainability initiatives. pennapex™ color and additive masterbatches are designed for the sheet extrusion process, in which the benefits directly impact the performance of the sheet as well as the quality of the finished part.

pennapex™ BOOST™

BOOST™ additives are a series of multi-functional chain extenders that increase melt strength and intrinsic viscosity (IV) in rPET resins. This technology improves the manufacturing process and ensures proper physical properties of finished containers.

pennapex™ BOOST™ allows for a stable process at high PCR levels to help achieve sustainability initiatives.

pennapex™ AQUABRIGHT™

As rPET levels increase, the container begins to take on the dirty, grey appearance inherent in rPET resins. Our AQUABRIGHT™ technology provides an aesthetic enhancement designed to neutralize that murky appearance, giving the final part a brighter and cleaner look.

pennapex™ AQUABRIGHT™ improves shelf appeal and helps achieve sustainability initiatives.

pennapex™ Matte Technology

When a low gloss surface is more desirable in a PET container, our matte technology is incorporated into our color masterbatches to eliminate the gloss typically found in PET bottles.

pennapex™ Matte Technology harmonizes PP, HDPE, and PET to one gloss level across a product family.

pennapex™ SILK™

SILK™ anti-block additives and de-nesting agents are designed to improve the unwinding of plastic rolls and de-nesting of thermoformed trays. Formulated for the highest clarity and lowest haze, these products reduce the coefficient of friction (CoF) of the film and sheet for ease of use.

pennapex™ SILK™ improves the unwinding of film and de-nesting of thermoformed packages.



GREEN

IS ONE OF OUR FAVORITE COLORS



Penn Color's technological diversity and commitment to innovation uniquely positions us to collaborate with industry leaders in a multitude of markets, creating sustainable solutions across the globe.

Through ethical and fiscally responsible principles we are in a strong position to create value for our customers, employees, and communities while working to improve many of the challenges that face our planet.

As a link in the global supply chain, it is our responsibility to play a role in developing technologies to improve product life cycle, and this philosophy is at the core of our innovation initiatives today.

- Expanding capabilities in synthetic materials to reduce use of natural resources
- Reducing VOC emissions by converting ink and coating systems to more sustainable aqueous and 100% solids technologies
- Supporting customers in their efforts to create renewable and clean energy solutions
- Developing technologies to optimize the collection and reintroduction of post-consumer resins
- Reducing waste through the introduction of thermally and chemically stabilized formulations
- Designing products for the reduction of energy consumption through process optimization
- Developing solutions for the enhancement of thermal and energy management

NO ONE "GETS" COLOR THE WAY WE DO

Penn Color develops and manufactures the most diverse product line of color concentrates, masterbatches, and pigment dispersions of any colorant company in the world. Cutting-edge technology and innovation, market and product diversification, along with honesty and ethical business practices are just part of what has made Penn Color the company it is today. And with three third-generation Putman sons now involved in the business, the company should be expected to flourish and grow for decades to come. With a workforce of over 600 dedicated employees spread across North America, Europe, and Asia, Penn Color is committed to a leadership role in the global color and additive industry. Penn Color will continue to grow its global footprint in all regions of the world, continue to create and innovate, and continue the commitment to exceed the expectations of our customers.



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