

LASER MARKERS

APPLICATIONS





Laser marking masterbatch additives enable precise, high-contrast, and permanent marking directly on plastic packaging—no inks or labels required. Ideal for branding, batch codes, barcodes, logos, and security features, these additives also support functional marks like easy-open scoring and recycling codes. Designed for efficiency and sustainability, they're compatible with a wide range of resins used in rigid consumer packaging.

ADVANTAGES

Durability, Cost Efficiency, and Precision

Durability is key across consumer packaging applications. Our laser marking masterbatches ensure permanent, smudge-proof marks that resist moisture, oils, heat, and chemicals. By optimizing polymer-laser interaction, we enable fast, precise marking without inks or labels—cutting costs and reducing environmental impact.

High Contrast Branding & Traceability

-  **Ideal for:** Bottles, caps, closures, tubes, Food & Beverage, Personal Care, Cosmetics, Home Care, and Industrial
-  **Delivers:** Crisp white and deep black marks, lot codes, expiration dates, bar codes, high-end logo etching, and ink-free, antimony free sustainable performance
-  **Compatible With:**
Polymers: PET, PP, and PE
Laser types: Fiber, CO₂, UV, and Nd:YAG
Processes: Injection Molding, ISBM, EBM, and thermoforming
-  **Benefits:** Clean, consistent marks, faster production, and supports recycling goals



PRODUCT DETAILS

Ready to upgrade your packaging with laser-ready precision? Contact us to explore our full range of off-the-shelf or customized laser marking solutions. We offer our products around the globe in an easy to dose pellet. Designed for optimal performance in various polymers and processes. Consultation with Penn Color regarding your unique application and specific requirements ensures that the recommended product and dosage levels align with your desired outcomes.

Polyethylene Terephthalate (PET) Laser Marking Solutions

Engineered specifically for PET substrates, our laser marking additives are optimized to enable high-contrast dark or light markings using near-infrared laser systems (typically 1064 nm fiber lasers). These formulations modify the laser energy absorption characteristics of PET, enabling precise surface carbonization or micro-foaming depending on the desired effect. The result is durable, high-resolution marks—deep blacks or bright whites—that enhance both the visual appeal and traceability of your packaging, without compromising material integrity or processing performance.

Mark Type	Code	LDR	Polymer
DARK	66PA15087	1.00%	OPAQUE/TRANSPARENT PET
LIGHT	66Z14320	0.50%	OPAQUE/TRANSPARENT PET

Polyolefin Laser Markers

Designed for use in both injection molding and extrusion blow molding processes, these laser marking additives enable high-contrast marking—either dark or light—on polypropylene (PP) and polyethylene (PE) substrates. Formulated to interact efficiently with near-infrared laser wavelengths (typically 1064 nm), they promote localized surface carbonization or foaming to produce crisp, permanent marks. The result is deep, bold dark marks or vivid, bright contrasts, depending on the formulation and laser parameters used.

Mark Type	Code	LDR	Polymer
DARK	62PA21703	1.00%	OPAQUE PP
LIGHT	60PA7519	1.00%	TRANSPARENT PP
DARK	62PA21699	1.00%	OPAQUE PE
LIGHT	62PA20937	1.00%	OPAQUE PE/PP



IMPORTANT INFORMATION

LDR recommendation is intended for guidance only and may need to be adjusted based on performance, processing method and regulatory requirements. Detailed compliance documentation can be provided by Penn Color's Product Stewardship Department upon request. However, be advised it is the responsibility of the user to assess its product uses and applications and assure compliance to all applicable laws and regulations, including FDA 21 CFR and EU food contact status. Regional coding suffixes may apply.

