

AUTHENTICATION PRODUCTS

Technology-Driven Thermoplastics from RTP Company

Quick Information

- ▶ Identify counterfeit products, even in the field
- ▶ Prove authenticity for warranty claims
- ▶ Minimize unauthorized production by controlling authenticated raw material supply
- ▶ Confirm manufacturing facility or raw materials

Imagine a specialty thermoplastic masterbatch or compound capable of uniquely identifying your product, one that covertly “fingerprints” your products yet can be identified using non-destructive methods. At RTP Company, we’ll create an ideal Authentication product for your application.

Not only do counterfeit products deprive rightful OEMs of lost revenue, they also pose a threat to consumer welfare and product brand integrity. As no single authentication technology can identify and prevent counterfeit products from reaching the marketplace, a multi-faceted strategy incorporating thermoplastic Authentication technologies may be appropriate.

Driven by counterfeiting, increasing warranty/liability costs, and outsourced manufacturing, as well as areas in which copyrights and trademarks are not enforceable, OEMs are recognizing the need for product authentication. In addition, OEM quality assurance may require better traceability (manufacturing location, raw materials, etc.). To address these concerns, RTP Company offers traceable, cost-effective Authentication technologies for thermoplastics: marker taggants and tracer chemical identified under a certain light source.

Marker taggants, microscopic unique identifiers, can be added to thermoplastics (see details on back). Originally developed for the explosives industry to track terrorism and original manufacturer, marker taggants have found applications in high margin markets (sporting goods and luxury goods) and high warranty cost markets (medical, electronics, automotive, construction and aerospace).

Optical pigments and dyes can be used to discreetly differentiate between two products. They may appear the same under standard lighting conditions, but one may change color under specific light wavelengths (see details on back).

Authentication products can be formulated using a variety of thermoplastic polymers. They can enhance other innovative technologies, customizing a product’s structural, conductive, wear resistant or flame retardant properties for your specific application.

Authentication masterbatches and compounds from RTP Company... another innovation from the leader in specialty compounding.

AUTHENTICATION

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The Leader in Specialty Compounding

Manufacturing Facilities:

Winona, MN
South Boston, VA
Fort Worth, TX
Indianapolis, IN
Beaune, France
Singapore
Suzhou, China



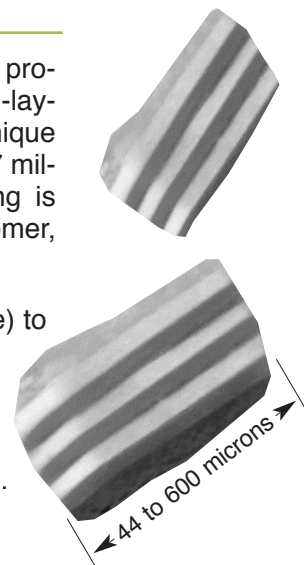
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Marker Taggants

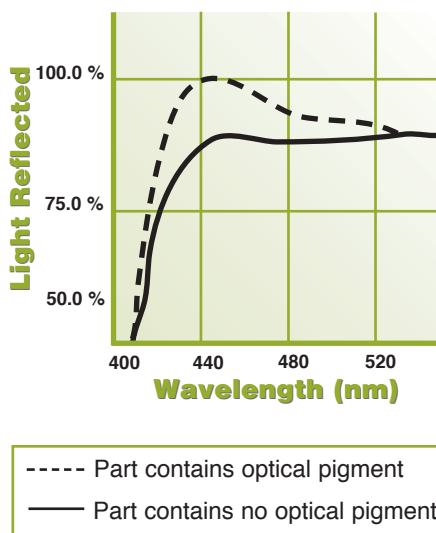
The addition of taggant particles to thermoplastic masterbatches and compounds provides a means of identification and authentication. Taggants are multi-colored, multi-layered, highly cross-linked polymeric particles. The color sequence represents a unique code (registered to exactly one customer or product) from a palette of more than 37 million distinct codes. The code becomes a unique "fingerprint" to which meaning is assigned, such as identifying an OEM's product, manufacturing location, end-customer, or raw materials.

Customers can specify taggants from 44 microns (almost invisible to the naked eye) to 600 microns (approximately table salt size). While taggants are visually readable with a 100X pocket magnifier, optional ultraviolet and magnetically responsive layers further reduce locating time via scanners and electronic sensors. Taggants are chemically stable, inert, and unaffected by most solvents, acids, and bases. They are thermally stable to 392°F (200°C) and survive 662°F (350°C) for short exposures. RTP Company compounds taggant technology into thermoplastics in two forms: masterbatches or ready-to-mold compounds.



Optical Pigments and Dyes

When compounded into thermoplastics, these pigments and dyes create unique spectral curves (or "fingerprints") on a spectrophotometer. Two thermoplastic parts (one with an optical pigment and one without) appear to be the same color under visible light. When compared under ultraviolet light on a spectrophotometer, the graph shows more light is reflected by the part containing optical pigment (between 400 and 520 nanometers). In other words, the optical pigment converts invisible UV energy into visible light, effectively increasing light reflectance over a narrow wavelength range. RTP Company can provide these tracer dyes and pigments in the form of a masterbatch or a ready-to-use compound.



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