Ti-Pure™
R-350 Titanium Dioxide

Grade Snapshot

Product Information

Product Description

Ti-Pure™ R-350 is a rutile titanium dioxide pigment, manufactured by the chloride process that is delivered as a fine, dry powder. Ti-Pure™ R-350 demonstrates excellent dispersion, processability, and exceptionally low volatility. Plus, Ti-Pure™ R-350 provides excellent protection against discoloration and enhanced durability. This combination of functions in one TiO_2 makes R-350 the prime choice for high temperature cast films, exterior films, and general purpose applications.

Ti-Pure™ R-350 is designed to provide a unique set of processing characteristics for a wide variety of polyolefin-based resins. The unique surface chemistry for Ti-Pure™ R-350 creates the ability to achieve desirable masterbatch viscosities while minimizing volatile materials typically associated with TiO_2 and is suitable for food contact applications.

Available in 25 kg bag and 1 metric ton (1000 kg) FIBC packaging.

Key Benefits

- Excellent lacing resistance to enable downgauging
- Outstanding chemical and thermal discoloration resistance that keeps products looking new for longer
- Unmatched dispersion, which facilitates higher productivity
- Blue undertone for clean, brighter white surfaces for the product's lifetime brighter, cleaner whites
- Suitable for use in food contact applications

Suggestions For Use

Ti-Pure™ R-350 is frequently found in ABS parts for automotive or appliances that require color stability under UV stress; Thermoplastic masterbatches that need high pigment concentrations and minimal melt flow impact; High-performance films such as biaxially oriented polypropylene (BOPP) for snack packaging; Demanding

plastics applications with highly sensitive processing that requires minimal defects, minimal impact to color, and mechanical properties (thin films, high temperatures, etc.).

ABS Parts for Automotive and Appliance

In ABS resin applications, Ti-Pure™ R-350 provides a bright clean initial color and the unique surface treatment gives excellent thermal and UV stability, helping to maintain that brand new look over time. The superior dispersion of Ti-Pure™ R-350 allows ABS to better retain mechanical impact properties in demanding applications and provides the optimal blend of performance in ABS.

Flexible Packaging

Ti-Pure™ R-350 is the prime choice for high temperature cast films used in packaging applications. It's combination of excellent dispersion and outstanding lacing resistance provides flexibility in film design and performance allowing for thinner, high performing films. The high opacity, blue undertone, and discoloration resistance assure a bright blue and clean appearance to plastics while the enhanced durability assures that the appearance and performance will last.

Table 1. Physical Properties

Property	Ti-Pure™ R-350
Titanium Dioxide, wt%, min.	95
Specific Gravity	4.1
L*, Typical	99.0

Note: All values are typical unless otherwise specified.

Figure 1. Optical Properties

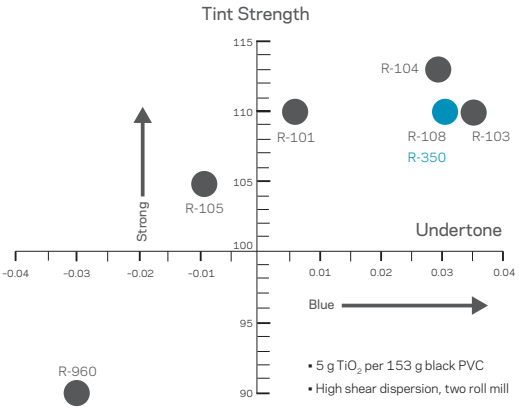
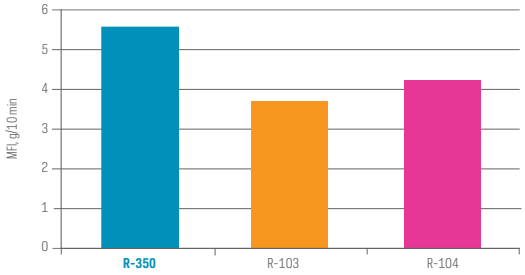


Figure 2. Melt Flow Index ASTM D1238 (condition 190 °C / 2160 gr)



13 MI LDPE at 70 wt% TiO_2 loading

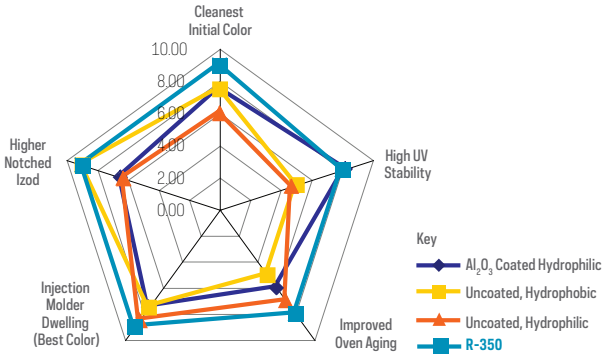
Ti-Pure™ R-350 chemistry allows the TiO_2 to slide into polymers during let down from a TiO_2 concentrate with ease. Matching of resin and TiO_2 masterbatch melt viscosity values is getting simpler **(see Figure 2)**.

Figure 3. Screenpack Dispersion (70% TiO_2 Loading)

Ti-Pure™ R-350 Typical General Purpose Grade

Ti-Pure™ R-350 exceeds the TiO_2 dispersion performance of other materials **(see Figure 3)**.

Figure 4. ABS Performance — Summary Data



R-350 provides the best-balanced performance in ABS attributes.

Figure 5. Polyethylene Yellowing Test, One Week

Ti-Pure™ R-350 Typical General Purpose Grade

Ti-Pure™ R-350 chemistry allows the use of a wide variety of necessary polymer additives with minimal worry of yellowing.

(Test : 2.6 wt% TiO_2 UV Light Exposure in LDPE with 0.3 wt% BHT, 0.3 wt% Tinuvin® 770)

Figure 6. Unmatched Lacing Resistance

Ti-Pure™ R-350 Competitor A

Competitor B Competitor C

Ti-Pure™ R-350 contains a minimum amount of volatile material and has amazing ability to maintain film integrity during stressful processing conditions.

For more information, visit tipure.com

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