Ti-Pure™
R-350 Titanium Dioxide

Product Information

Product Description

Ti-Pure™ R-350 is designed to exceed today's expectations for a titanium dioxide and set tomorrow's standard in plastics formulations. The product is designed for formulators searching for a single grade of TiO_2 with performance covering a broad range of plastics end uses. R-350 provides a matchless combination of excellent dispersion and processing, minimal volatile content, minimal interaction with polymer additives, durability and the brightness only a chloride-produced rutile TiO_2 can provide. R-350 is the only TiO_2 available that can offer such an exceptional set of properties.

The pigment is a fine, dry, white powder with the following general properties:

Table 1. Physical Properties

Titanium Dioxide, wt%, min.	95
Specific Gravity	4.1
L*, Typical	99.0

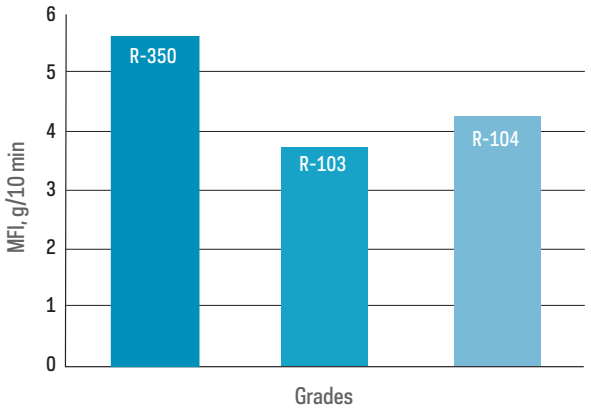
Suggestions for Use

Ti-Pure™ R-350 is optimized for polyolefin and ABS applications. R-350 allows a plastics formulator to design products that can be used in diverse applications ranging from general purpose plastics, durable/non-durable plastics and high quality products with critical end use applications. R-350 demonstrates excellent dispersion, marvelous processibility, exceptionally low volatility and enhanced durability. This combination of functions in one TiO_2 make R-350 the prime choice for high temperature cast films, exterior films and general purpose applications while providing excellent assurance against discoloration.

Chemours Titanium Technologies pioneered the development of products that provide high opacity and blue undertone. This optical performance is something that is expected from Ti-Pure™ TiO_2 products. R-350 continues Chemours Titanium Technologies' commitment to produce a TiO_2 that can provide bright blue and clean appearance to plastics.

The Ti-Pure™ R-350 surface allows for exceptional processing even in highly loaded TiO_2 PE systems. Unique R-350 chemistry permits the product to achieve desirable masterbatch viscosities in a wide variety of polyolefin based resins. This function allows a formulator to minimize the TiO_2 impact on melt properties during processing and end use applications (Figure 1).

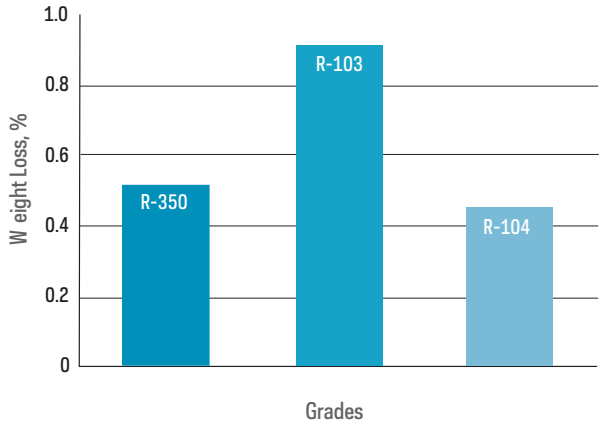
Figure 1. Melt Flow Index (MFI)



Chemours™

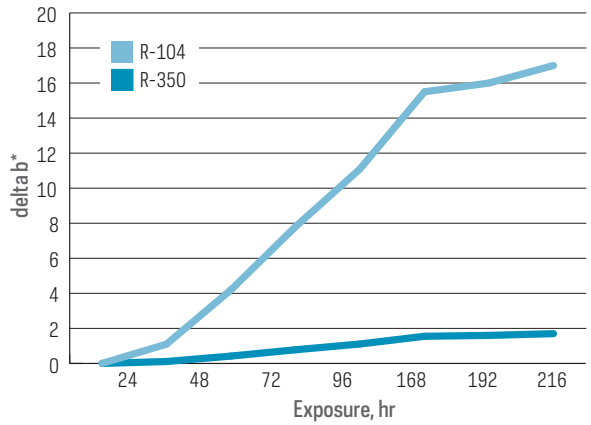
The unique surface of Ti-Pure™ R-350 minimizes volatile materials typically associated with TiO_2. Thermogravimetric Analysis (see Figure 2) highlights the low level of volatiles contained in R-350. This characteristic gives R-350 superior performance in high temperature, thin gauge extrusion applications such as polyolefin cast film or extrusion coating.

Figure 2. High Temperature Weight Loss



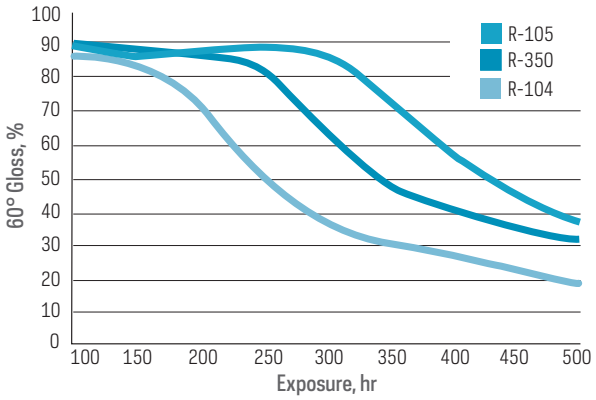
Another benefit from using Ti-Pure™ R-350 is the ability to use the TiO_2 in combination with materials that tend to discolor. Certain polymer additives can interact with a TiO_2 surface. Under UV light illumination, this interaction can lead to discoloration. The R-350 chemistry minimizes the risk of discoloration. (see Figure 3).

Figure 3. Polyethylene Discoloration



Ti-Pure™ R-350 has the ability to absorb ultraviolet light with minimal impact on the polymer matrix. A means of determining the impact is to monitor the change in surface gloss of a plastic article during ultraviolet exposure. Typically, the surface gloss of an article will decrease as exposure time increases (see Figure 4). R-350 performs admirably in comparison to general purpose TiO_2 and provides the durability necessary for many polyolefin applications.

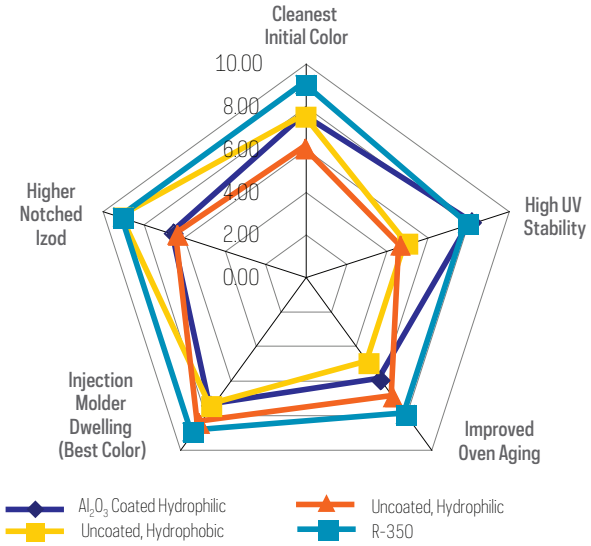
Figure 4. Polyolefin Gloss Retention



In ABS resin applications, R-350 provides a bright clean initial color. R-350's unique surface treatment gives excellent thermal and UV stability, helping to maintain that brand new look. The superior dispersion of R-350 allows ABS to better retain mechanical impact properties in demanding applications. R-350 provides the optimal blend of performance in ABS (Figure 5).

Figure 5. ABS Performance — Summary Data

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



For further information about this grade or to request a sample, please see the Ti-Pure™ web site.

For more information, visit tipure.com

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