Ti-Pure™ R-101 Titanium Dioxide

Grade Snapshot

Product Information

Product Description

Ti-Pure™ R-101 is a rutile titanium dioxide pigment, manufactured by the chloride process and is delivered as a fine, dry powder. Ti-Pure™ R-101 is a highly versatile grade, with more than 60 years of proven performance in high-temperature applications requiring a warm-white tone and outstanding dispersibility and lowest possible volatility.

To achieve these performance characteristics, Ti-Pure™ R-101 is designed with a particle size tailored to achieve a neutral undertone plus an organic-based coating to support good bulk flow and ease of dispersion. The particle surface has been optimized for minimal volatile content.

Available in 25 kg bag or 2000 lb (907 kg) FIBC packaging.

Key Benefits

- Maximum lacing resistance for high temperature processes
- Simple surface design for applications that require low additive content
- Neutral undertone to obtain warm-white tones and consistent color matching

Suggestions for Use

Ti-Pure™ R-101 is frequently found in high-temperature cast and extrusion coating films, extrusion coated paper, high-quality color masterbatch for color-match applications and chalking PVC applications.

Cast and Extrusion Coated Films

These thin film processes are extremely sensitive to variations in pigment treatments that create film defects.

Ti-Pure™ R-101 overcomes this challenge with optimized surface treatment and low volatiles content resulting in maximum lacing resistance.

Masterbatch Applications

When incorporating plastic components into new product designs, color matching between parts of different composition is critical. The high tint strength and neutral undertone of Ti-Pure™ R-101 helps conceal color inconsistency in the base resin while providing a neutral white canvas for easy color formulation.

PVC Building Products

Consumers purchasing white PVC building products such as trim, molding, windows, doors, fencing, and siding, may have a preference for warmer white color. Building product producers that use surface chalking to reduce color change can meet this need with the warm neutral undertone of Ti-Pure™ R-101 while benefiting from enhanced dry blend performance.

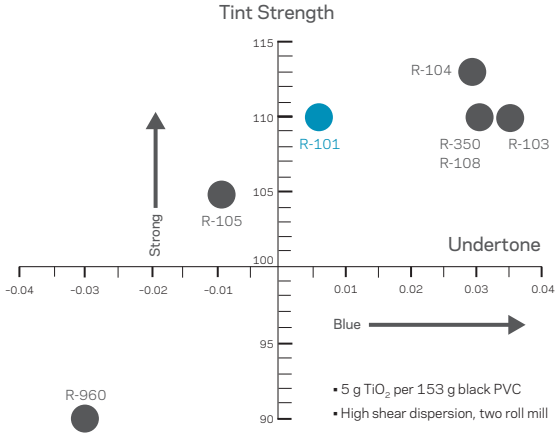
Chemours™

Table 1. Physical Properties

Property	Ti-Pure™ R-101
Titanium Dioxide, wt%, min.	97
Alumina, wt%, max.	1.7
Organic Treatment, wt%, carbon	0.2
Specific Gravity	4.2
Mean Particle Size, µm	0.29
pH (aqueous slurry)	8.5

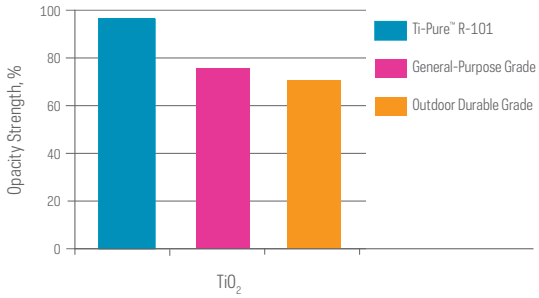
Note: All values are typical unless otherwise specified.

Figure 1. Optical Properties



Ti-Pure™ R-101 offers versatility in plastics applications by combining a high tint strength, that helps to produce high opacity white masterbatch, with a neutral undertone, that supports easy color matching and the creation of warm-white tones.

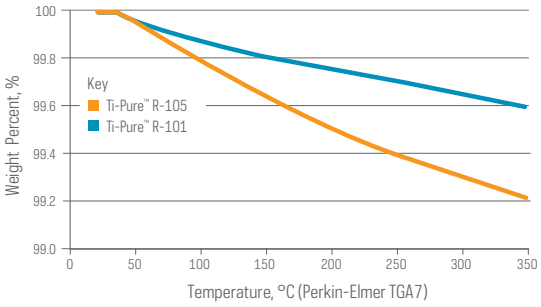
Figure 2. Dry Blend Dispersion Performance



The low surface-treatment level of Ti-Pure™ R-101 facilitates dry blending in powdered-polymer applications, resulting in higher functional opacity than many TiO_2 products.

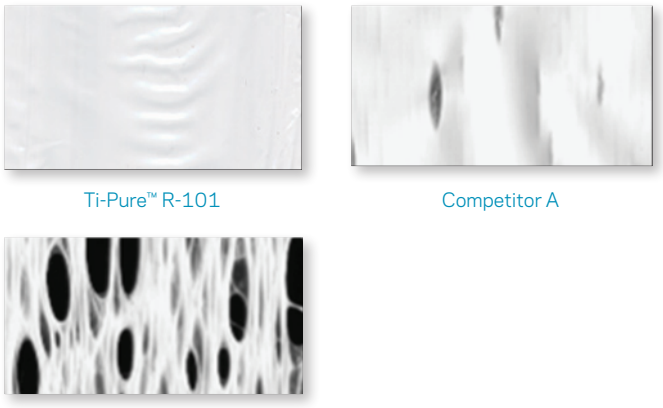
Figure 3. Ti-Pure™ R-101 Demonstrates Lower Volatility

Thermogravimetric Measurement of TiO_2 Volatility



Ti-Pure™ R-101 is ideal for high temperature applications due to its low crystalline and surface-adsorbed water content (**Figure 3**).

Figure 4. Titanium Dioxide Lacing Resistance

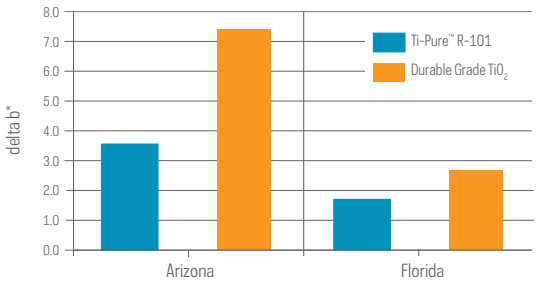


Ti-Pure™ R-101 Competitor A

Competitor B

This feature is useful in the production of high temperature cast film and extrusion coating processes sensitive to lacing defects. Processed films (**Figure 4**). show consistent quality, color, and mechanical integrity.

Figure 5. Ti-Pure™ R-101 Outdoor Chalking Performance (b*) Rigid PVC Profile, Tin-stabilized



delta b* After 36 Months Outdoor Exposure

Outdoor weathering results of Ti-Pure™ R-101 and a durable TiO_2. The chalking character of Ti-Pure™ R-101 provides whiteness and resists yellowing in rigid PVC profiles, maintaining color over the life of the finished part.

For more information, visit tipure.com

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