



Ti-Pure™
Titanium Dioxide

Application Guide for Plastic End Uses

Finished Product	Grade					
	R-101	R-103	R-104	R-105*	R-350	R-960*
Polyethylene/Polypropylene						
Injection Molding	●	●	●		◆	
Blow Molding	●	●	●		◆	
Blown Film	●	●	●		◆	
Cast Film	●	●	●		◆	
High-Temperature Cast Film or Extrusion Coating	◆		◆		◆	
Exterior, Durable*				◆		●
Liquid Colorants		●				
PVC						
Interior, Rigid	●	●	●			
Exterior, Chalking	●	●	●			
Exterior, Nonchalking				◆		◆
Flexible	●	●		●		
Plastisol		●		●		●
Lead-Stabilized Systems		●		◆		
Pipe**	●	●	●			
ABS		●	●			◆
Polystyrene	●	◆	◆			●
Polycarbonate		●		●		
Polyamide	●	●	●			●
Polyester		●	●	●		
Thermoset (PES)	●	●	●			●

◆ Preferred grade for application

● Grade fully usable for application

*Grades R-105 and R-960 are maximum durability grades and recommended for all applications that require extended outdoor service life.

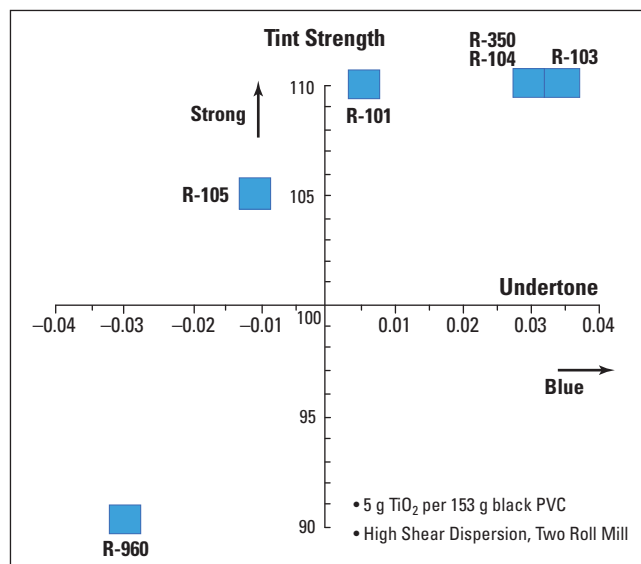
**Grades R-101, R-103, R-104, R-105, R-900 and R-902+ are listed with the NSF International for plastic pipe use.

Plastics Grades TiO₂ Physical Properties

Property	Grade					
	R-101	R-103	R-104	R-105	R-350	R-960
TiO ₂ , wt%, min.	97	96	97	92	95	89
Alumina, wt%, max.	1.7	3.2	1.7	3.2	1.7	3.5
Silica, wt%, max.	N/A	N/A	N/A	3.5	3.0	6.5
Organic Treatment	hydrophilic	hydrophilic	hydrophobic	hydrophobic	hydrophobic	N/A
Color CIE L*, min.	97.9	97.8	97.5	98.5	98.5	98.5
Specific Gravity	4.2	4.1	4.2	4.0	4.1	3.9
Vinyl Tint Strength	110	110	110	105	110	90
Vinyl Undertone	0.005	0.035	0.030	-0.010	0.030	-0.030
pH	8.5	6.5	N/A	N/A	N/A	7.4
Resistance, min.	2.0	4.0	N/A	N/A	N/A	4.0

Notes: Unless noted, values are typical. Resistance is reported as the minimum value in k ohm-cm. Test methods used to determine the values reported are available from your TiO₂ sales or technical service representative.

Figure 1. Titanium Dioxide Plastics Optical Properties



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