



Case Study: Titanium Dioxide – Ace Hardware Corporation

IN BRIEF

Ace Hardware Corporation paint division of Matteson, Illinois relied on Macawber Engineering for its titanium dioxide conveying needs. The systems have provided reliable and efficient operation handling this cohesive material.

MATERIAL CHARACTERISTICS

Material	Titanium Dioxide
Bulk Density	Aerated 800 kg/m ³ (50 lb/ft ³)
Size	100% < below 250 microns
Temperature	Ambient
Moisture Content	1.0%
Condition	Highly cohesive and adhesive powder containing agglomerated lumps, tends to coat steel surfaces. Moderately abrasive.
Special Note	Systems also handle calcined clay, calcium carbonate, mica, amortized silica and feldspar.

SYSTEM OBJECTIVES

1. Capable of handling Titanium Dioxide and five other materials.
2. Reliable, low maintenance operation & low pipe wear.
3. Ability to prevent material build-up in vessels and pipelines.



SYSTEM PERFORMANCE

Transfer Capacity	36 Mt/h (40 t/h)
Conveying Distance	122 m (400ft)
Reception Points	Six

1. Dense phase mode of conveying resulted in low pipe wear – Macawber provides no-wear guarantees for pipe and bends.
2. Unique Denseveyor design provided for smooth, efficient vessel filling and discharge.
3. Vessel filled using the unique Macawber Dome Valve – maintenance free (no lubrication required).
4. Pipeline boosters not required.
5. Denseveyor is completely factory assembled, functionally tested before shipping, ready for start-up.

SYSTEM DESCRIPTION & SKETCH

