**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/m³ (50 lb/ft³)
- **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**