



# Material Flow Solutions, Inc.

*With 40 years consulting experience, we offer solutions to material flow problems*

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## Testing Services

### Partial List of Available Tests:

Cost per unique material (USD)

Standard Material Properties – bulk density, permeability, strength, friction angle	
Ambient conditions	\$ 1800.00
100°F – 268°F (38°C – 131°C)	\$ 2100.00
270°F – 500°F (132°C – 260°C)	\$ 2800.00
Room temperature @ controlled % humidity	\$ 1950.00
Bulk Density and Permeability only	
Ambient conditions	\$ 500.00
100°F – 268°F (38°C – 131°C)	\$ 600.00
Strength only	
Ambient conditions	\$ 900.00
100°F – 268°F (38°C – 131°C)	\$ 1100.00
270°F – 500°F (132°C – 260°C)	\$ 1400.00
Wall Friction Angle only	
Ambient conditions	\$ 400.00
100°F – 268°F (38°C – 131°C)	\$ 600.00
270°F – 500°F (132°C – 260°C)	\$ 800.00
Degradation Tendency	
Impact degradation	\$ 2800.00
Stress/Strain degradation	\$ 2800.00
Segregation Tendency	\$ 1800.00
Segregation Mechanistic Study (on a blend of up to 6 components)	
Includes segregation testing, angle of repose, true density and PSD analyses on all components and blend and a full segregation mechanism evaluation	\$ 8700.00
Segregation Mechanism evaluation (pre-supposes that segregation tendency test data, angle of repose data, true density data and PSD data is already available)	\$ 1200.00
Rheology/Viscosity Measurement	
H2O liquid at ambient conditions	\$ 1500.00
H2O liquid at elevated temperature      100°F – 176°F (38°C – 80°C)	\$ 1750.00
Non-H2O liquid at ambient conditions	\$ 1750.00
Non-H2O liquid at elevated temperature      100°F – 176°F (38°C – 80°C)	\$ 2000.00
Population Balance Modeling	\$ 3800.00
Particle Size Analysis	\$ 400.00
Angle of Repose	\$ 300.00
True Density (per material)	\$ 200.00
Thermal Conductivity Analysis	\$ 600.00
Moisture Sorption Isotherms	\$ 2100.00
ASTM Liquid Limit, ASTM Plastic Limit	Call for quote
Wear Test	Call for quote
Prototype Development	Call for quote

**Our testing procedures can be tailored to meet your plant's specific needs**