Polymeric Inc.
The Science of Custom Rubber Mixing

DLD’s, Cure Blends, Pre-Weighs, and the Development of New Products
Our History
Dry Liquid Dispersions (DLD’s)
Chemical Blends
Single Chemical Pre-weighs
New Products – Liquid Bound Dispersions
Partnership
Founded in 1972 by Bob Samples. We are still a strong Samples family business today.

Our Specialties

- Cure Blends / Pre-weigh chemicals
- DLD’s
- Polymer Bound Dispersions
- Liquid Bound Dispersions
- Custom Rubber Mixing
- Currently 80+ employees
Dry Liquid Dispersions

- Typical 68% to 75% active
- Custom % available
- Carrier highly absorbent precipitated silica
- Offers easy weighment for liquid antioxidants, activators, and curatives
- Offers improved batch to batch consistency
- Reduces raw material loss associated with drums of oil
Chemical Blends

- Blends of waxes, antioxidants or cure packages that would traditionally be weighed at a compounders station.
- Reduces raw material inventory, saves warehouse space and reduces housekeeping issues
- Offers “peace of mind” through 100% raw material and weigh out accuracy
  - State of the art computer weigh out system that eliminates operator error
  - Eliminates production down time due to incorrect raw material weigh outs
- Reduces scrap – root cause analysis
How Chemical Blends Improve Quality

- Blends reduce individual chemical melt point values improving dispersability
- Blends reduce fly loss in the mixer and on the mill
- Definitely REDUCE batch to batch variation
- Eliminates open bags of raw materials that can cause
  - Cross Contamination
  - Hazardous conditions
  - Housekeeping issues
How Chemical Blends Improve Quality

- Actual customer results - before & after BLENDS were used
- Note the BENEFICIAL CHANGE!
Computer system requires all raw material bar code labels to be scanned
- If incorrect bar code is scanned, the operator cannot continue
- Once the correct raw material has been scanned then weigh-out commences based on pre-defined tolerances
  - If a weigh out is outside of the tolerance then, once again, the operator cannot go any further
All Weights and Raw Material Lot Numbers are recorded for Each Batch

POLYMERICS DATA COLLECTION SYSTEM
-- WEIGHT OUT CERTIFICATION --

COMPOUND: 200624
CUSTOMER: 10870
OPERATOR: SHUBBARD

PRODUCTION NUMBER: 15277
BATCH NUMBER: 1
DATE WEIGHED: 01/14/2005
TIME: 04:06 PM

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Total: 373.6  373.7  0.1
Chemical blends are mixed in a Littleford mixer
- Offers high and low speed mix
- Internal blades finely disperse powder and additives
- Internal cooling to reducing pasting
Preweighs

- Individual chemicals or blends pre-weighed to customer specifications
  - Bags labeled and sealed
  - 100% traceability
  - Low melt bags can be added directly to the mixer
Pre-weigh Quality Control

- Bag weight histograms
  - Basic statistics
  - Capability - Cpk
  - % Out of Spec

ISO 9001:2008
Liquid Bound Dispersions
- Available in the same activity as polymer bound
- Incorporates FASTER than powders!!
- Cost saving alternative to polymer bound dispersions
- Liquid Bound Dispersions (LBD’s) reduce:
  - Housekeeping issues – no dust
  - Hazmat issues – no powder
  - Health issues – no PHTHALATE content
- Available in pre-weighs or 50 lb boxes
Powder chemicals are finely dispersed with specific additives that promote adhesion of the LBD to the rubber compound reducing:

- Mix and cycle times
- Energy needed to disperse powder chemicals
- Powder chemical fly loss
- Batch to batch variation
LBDs at Work

- MBT powder video
- Takes 33 seconds to blend MBT powder on the mill.
MBT cure bead video
Takes 18 seconds to blend MBT liquid bound dispersion on the mill.

45% improvement in Dispersion cycle time
Partnership

- Offer custom pre-weighs and chemical blends to fit any customer needs
- Offer our own technical, mixing, and testing support with our own Research and Development lab
- Great customer service and satisfaction
Partnership

- Offer help with platforms to reduce costs and improve quality or performance.

- Look for new products we can develop to improve processes and increase efficiencies.

- Suggestions?? We take them!