

Reliance Mixers Delivers Consistent Color Dispersion with High-Speed Rotomolding Mixers

High-intensity mixer designs reduce blending time to 3-5 minutes while eliminating streaking and pigment agglomeration for rotational molders

Missouri City, Texas Jun 1, 2026 ([IssueWire.com](https://www.issuewire.com)) - Reliance Mixers has expanded its RFM (Reliance Rotomolding High Intensity Mixers) series – rotomolding mixer line to address color consistency challenges facing rotational molding operations. The Missouri City, Texas-based manufacturer engineered the high-speed mixers to rapidly fluidize polyethylene and pigment blends, achieving homogeneous color dispersion in 3-5 minutes per batch while eliminating streaking, spotting, and pigment agglomeration common to conventional blending methods.

The RFM series targets rotational molders producing tanks, containers, and industrial parts where surface appearance directly impacts product value. Inconsistent color dispersion remains a primary quality defect in rotomolding, with poorly blended pigments causing visual rejects, reduced mechanical properties, and customer returns.

What RFM Series Delivers

- **Rapid Processing:** 3-5 minute blend cycles for polyethylene and pigment mixtures at 20 meters per second tip speed
- **Defect Elimination:** Deep vortex flow patterns prevent pigment agglomerates and color streaking
- **Material Integrity:** Gentle fluidization preserves powder flow properties essential for rotational molding
- **Flexible Configuration:** Clam-shell, swivel, or pivot lid designs; jacketed or non-jacketed bowls; horizontal or vertical discharge

The Color Dispersion Challenge

Rotational molding requires dry-blending pigments with polyethylene powder before mold charging. Unlike injection molding, the process involves no melt shear during forming, making pre-mold color dispersion critical. Inadequate blending results in speckled color, lumps of undispersed pigment, and inconsistent part appearance.

Conventional low-intensity mixing often fails to break up pigment agglomerates or distribute colorants evenly throughout the resin batch. This forces molders to either accept higher reject rates or invest in costly pre-compounded color pellets that increase material costs significantly.

[High-intensity mixers](#) have become essential equipment for rotational molders seeking to produce fully developed color blends while maintaining the cost advantages of dry-blend coloring.

Engineered For Rotomolding Applications

[Reliance rotomolding High Intensity Mixers](#) operate at lower intensities than PVC or masterbatch mixing equipment, providing sufficient energy for homogeneous blending without excessive heat generation that could affect powder flow properties.

Key features include:

- **High-Intensity Mixer Tools.** Specially designed blades fluidize material and create deep vortex flow patterns within the bowl. Tools are self-cleaning, polished smooth, and engineered to suit specific mixing requirements.
- **Precision Deflectors.** Positioned to turn material back into the vortex center, forcing recirculation that achieves highly homogenized end products. Deflectors are optional for polyethylene mixing but recommended for complex color formulations.
- **Stainless Steel Construction.** Mixer bowls feature 150-grit high polish finishes for easy cleaning and contamination prevention between color changes. Contact surfaces resist pigment adhesion and support rapid product changeovers.
- **Intelligent Discharge Systems.** Pneumatic cylinder-operated discharge plugs match bowl radius for fast, complete material removal. Contoured discharge assemblies feature easy-clean designs, facilitating fast turnarounds between batches.

Performance Specification

Reliance RFM rotomolding mixers are available in configurations from 200 to 2,000 L bowl capacities, handling batch sizes from 120 to 1,440 pounds, depending on resin bulk density. Tip speeds of 20 meters per second achieve complete pigment dispersion without generating excessive heat that could degrade the properties of polyethylene powder.

The dual control system includes timer and temperature controllers, allowing mix-cycle control based on time or temperature parameters. This prevents over-mixing while ensuring complete color development.

Target Application

RFM series mixers serve rotational molding operations producing:

- Tanks and containers for agricultural, chemical, and water storage
- Industrial parts requiring a consistent surface appearance
- Consumer products where color uniformity affects brand perception
- Multi-layer structures requiring precise dry-blend preparation

The systems particularly benefit molders running frequent color changes or processing custom color matches where pre-compounded pellets are unavailable or cost-prohibitive.

Why It Matters

As rotational molders increasingly adopt dry-blend coloring to reduce material costs and inventory waste, mixing equipment performance directly impacts manufacturing economics. The shift toward custom colors and shorter production runs increases the frequency of color changeovers, making rapid, complete discharge and fast cleaning capabilities essential for operational efficiency.

Reliance Mixers has served the rotational molding industry since 1982, with RFM series installations producing tanks, containers, and industrial parts across North America. The company's high-intensity mixing technology enables molders to maintain color quality standards while achieving the cost advantages of in-house dry-blend preparation.

Leadership Insight

"A rotational molder in the agricultural tank market was rejecting 8-12% of production due to color streaking from inadequate tumble blending," said a Reliance Mixers spokesperson. "The RFM-800 reduced blend time from 25 minutes to 4 minutes, eliminated visual defects, and paid for itself in six months through reduced scrap and the ability to use dry-blend color instead of pre-compounded pellets."

About Reliance Mixers

Reliance Mixers has designed and manufactured industrial mixing equipment in Missouri City, Texas, since 1982. The company serves plastics, chemicals, coatings, battery materials, food, pharmaceutical, and rubber industries across North and South America. Reliance operates 340+ installations and holds 12 patents in thermal management and discharge system design. The company provides new equipment manufacturing, custom engineering, rebuild services, and field installation support. reliancemixers.com

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