



ANTI-CAKING COATINGS WITH MOISTURE RESISTANCE

Next-Generation Technology for Today's Fertilizers

INNOVATIVE CHEMISTRY DELAYS MOISTURE UPTAKE IN FERTILIZER BLENDS

With increased economic and sustainability pressures, agriculture stakeholders continue to seek new opportunities to increase yield while improving operational efficiency. Tightening margins demand that the fertilizer supply chain of producers, distributors and retailers deliver innovative products faster with minimal interruption. Growers today require products that not only meet their goals for crop quality, yield, resource stewardship and profitability, but also enable them to plant more acres within tighter fertilizer field application windows. However, the tendency for fertilizer blends to take up moisture presents fertilizer handling challenges which make it difficult to achieve these objectives.

In response to industry need, ArrMaz began focusing efforts on better understanding the fundamental mechanisms which lead to moisture uptake in fertilizers, a phenomenon referred to as deliquescence. We invested resources to develop better test methods and leverage research from related industries also affected by this issue. The result is ArrMaz's next-generation moisture-resistant coating technology which reduces deliquescence when granular fertilizers are bulk blended together for improved fertilizer handling. The coating delays the onset of deliquescence, reducing a fertilizer blend's propensity for moisture uptake and extending the time available from blending to field application.

BENEFITS

EASIER HANDLING FOR DISTRIBUTORS & RETAILERS

- Blends maintain free flowing characteristics for up to 4x longer compared to traditional coatings under the same conditions
- Reduces moisture uptake during problematic environmental conditions by up to 35%
- Delivers significant anti-caking control
- Compatible with typical blending, coating and application equipment and practices

LESS HASSLE FOR GROWERS

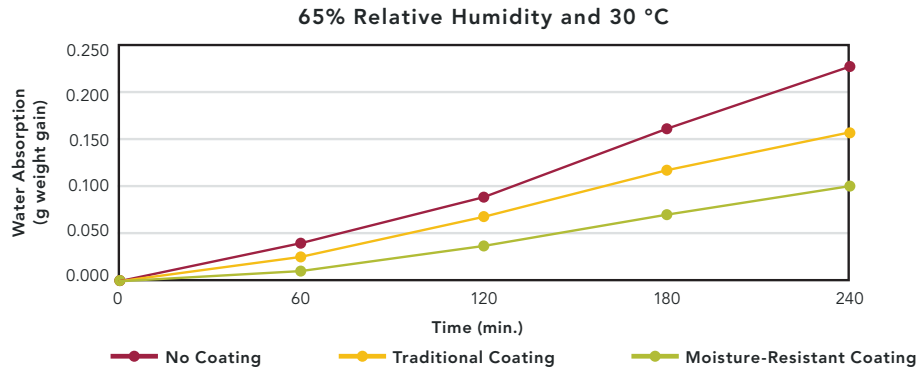
- Makes it easier to work within narrow fertilizer application windows during Spring and Fall
- Reduces potential for missed nutrient application to crop rows or sections
- Compatible with most fertilizers and blends

BETTER ECONOMICS

- Creates a differentiated, high-value product your customers want
- Offsets financial risk of managing more sensitive fertilizer blends
- Reduces potential for loss of valuable product
- Improves customer loyalty



COATING RESULTS — IMPROVED RESISTANCE TO MOISTURE UPTAKE



MOISTURE-RESISTANT VS. TRADITIONAL OR NO COATINGS

Comparison Criteria		No Coating	Traditional Coatings	Moisture-Resistant Coatings
Fertilizer Types	High CRH fertilizers (e.g. TSP, SOP, DAP)	✓	✓	✓
	Medium CRH blends or fertilizers (e.g. Urea + TSP, Urea + AS, CAN)			✓
	Low CRH blends (e.g. Urea + DAP or Urea + MOP)			✓
Safety & Handling	Anti-Caking		✓	✓
	Significant delay or reduction in moisture uptake			✓
Conditions of Use	Precision farming application		✓	✓
	High or variable relative humidity environments			✓
	Narrow application windows in spring and fall			✓
	Early morning or late evening application			✓

ArrMaz specializes in the development of custom coatings to meet specific customer needs. Different markets may require coatings that meet certain criteria including moisture resistance, color, gloss, solubility, compliance certifications or handling and storage specifications. ArrMaz provides moisture-resistant coatings as part of our GALORYL® product line.

THE ARRMMAZ ADVANTAGE

Since 1967, ArrMaz has been a trusted partner to fertilizer manufacturers and distributors worldwide, delivering innovative chemical solutions for process improvement with superior responsiveness, expert technical advice and outstanding customer support. Each year, we treat millions of tons of fertilizer for some of the world's largest fertilizer producers. Let us do the same for you.

Contact ArrMaz today to discover how our high-quality custom fertilizer solutions can improve your product and process. Email Fertilizer@ArrMaz.com for further information.

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