

# ADVANCE™ COAT

## PRILL STRENGTH

Stamicarbon's coating composition solution for strengthening urea prill stability





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### **The challenge**

Urea prills readily absorb moisture from the atmosphere, which leads to caking, a decrease in dynamic strength and increased dust formation. This problem is particularly notable when stored in bulk. Prolonged bulk storage often leads to out of spec product, handling problems and health risks. Conventional ways to reduce these problems include packaging the urea in bags rather than in bulk or adding urea formaldehyde to increase the prill strength. Both solutions come with significant disadvantages. It adds complexity to loading and unloading and increases the product costs. Addition of urea formaldehyde further poses limitations on the technical applications of the product.

### **Our solution: ADVANCE COAT™**

Easily applied as an additive coating, ADVANCE COAT™ increases the moisture resistance of urea prills which dramatically improves the handling and storage properties. ADVANCE COAT™ is easier and cheaper to apply than urea formaldehyde making it a cost-effective, safe and crop-friendly solution.

### **With its very effective anti-caking and water-repellent properties, ADVANCE COAT™ offers the following benefits:**

- Product storage for several months with minimal changes in product quality
- Allows bulk storage and shipping of prills without the use of urea formaldehyde
- Product specifications are maintained during shipping
- Our special coating formulation allows use in technical applications without the risk of foaming

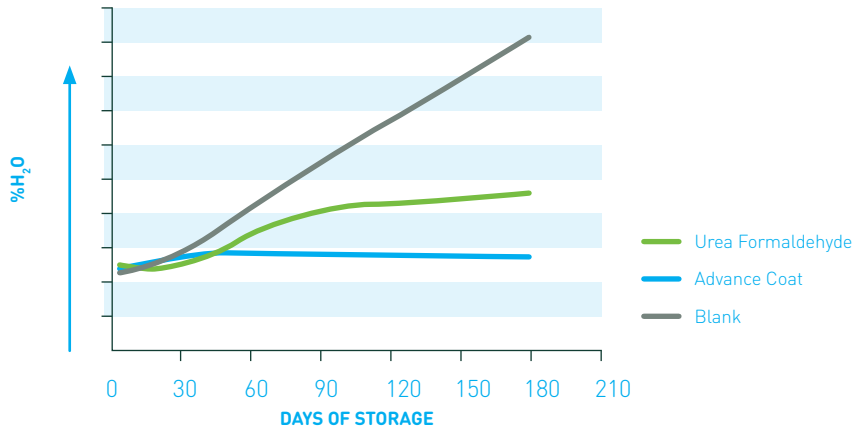
### **What you can expect from Stamicarbon:**

- You can be certain that you have assured quality from an out-performing product
- You can rely on our integrated approach which covers a deep knowledge of the urea value chain from production of urea melt to urea finished prilled product to product quality improvement by a world market leader in urea technology
- A highly skilled technical support team
- A full range of state-of-the-art laboratory services (analysis, testing, R&D)



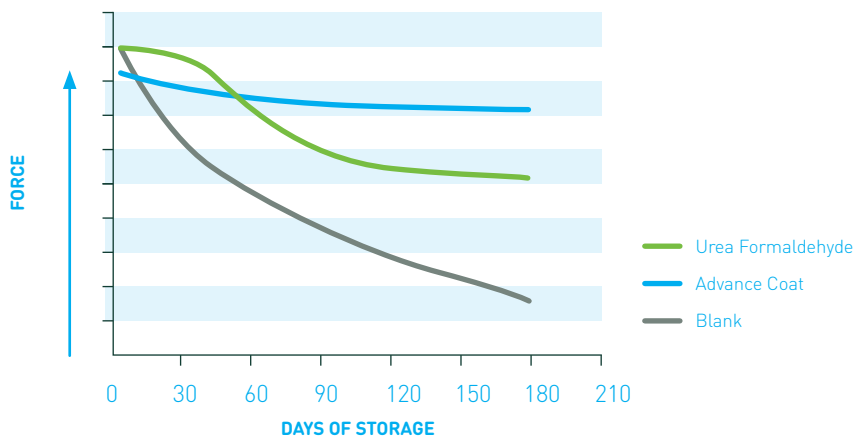
The following graphs reveal the results of test cases performed by Stamicarbon:

% H<sub>2</sub>O



### H<sub>2</sub>O Test Result:

Prills treated with ADVANCE COAT™ absorbed less water than both those untreated and those treated with Urea Formaldehyde.

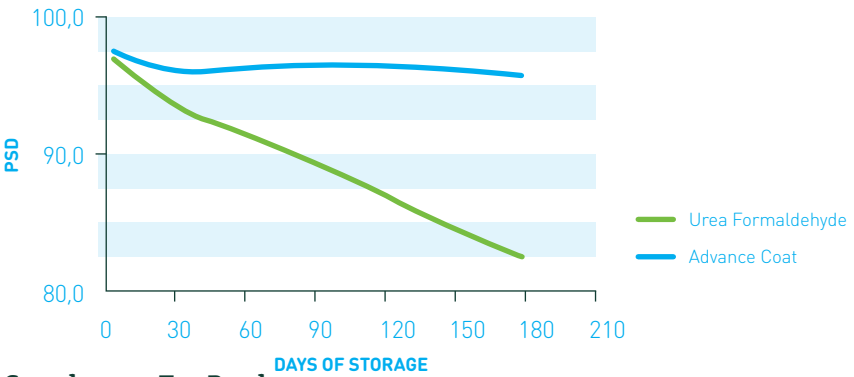


Dynamic strength

### Dynamic Strength Test Result:

The dynamic strength of urea prills treated with ADVANCE COAT™ hardly declined in comparison with the untreated prills and the urea formaldehyde treated prills which has lost more than half of its dynamic strength after 6 months of storage.

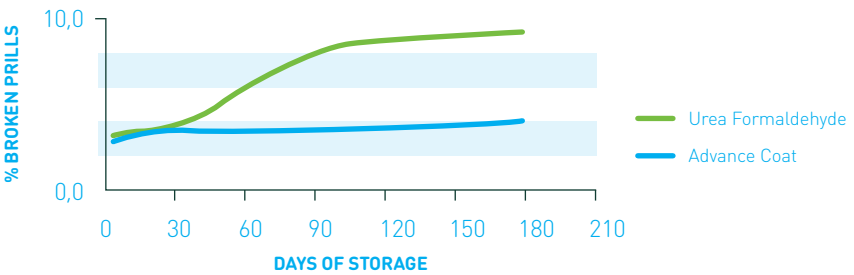
### Granulometry 2.5 - 1.0 mm



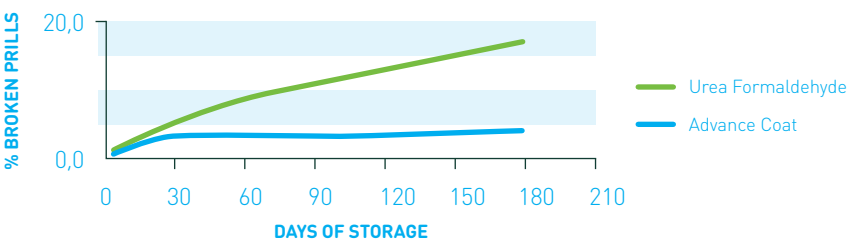
#### Granulometry Test Result:

The granulometry (PSD, Particle Size Distribution) of the urea prills treated with ADVANCE COAT™ remained constant whilst that treated with urea formaldehyde decreased drastically.

### Granulometry 1.0 - 0.5 mm



### Granulometry < 0.5 mm



#### Granulometry (dust) Test Result:

- The low size fraction is less at ADVANCE COAT™ products
- The dust content (fines) is significantly lower by use of ADVANCE COAT™

#### Advantages Client perspective:

- Logistic costs are lower
- The caking tendency is better at the products using ADVANCE COAT™
- From health- and safety point of view, ADVANCE COAT™ is the best solution
- More selling product in range due to better granulometry
- Longer storage possibilities

