Nouryon

Agglomeration—organic binders

Agglomeration sits at the intersection of fines generation, moisture variability, and downstream process stability. As a post-treatment step, it converts fine particles into larger, more stable structures that support transport, handling, and processing across pelletizing, briquetting, and extrusion applications.

Because this stage governs permeability and mechanical durability, even small weaknesses in agglomerate strength can ripple through the operation—affecting handling efficiency, dust generation, and downstream recovery. Effective agglomeration is therefore not just about strength, but about how particles bind and respond to changing operating conditions.

Stronger agglomerates for more stable mining operations

Particle binding and agglomerate stability

Agglomeration binder chemistry is applied to control how fine particles adhere and form durable structures during agglomerate formation.

Improved wet and dry strength development

Binder chemistry promotes particle adhesion and solid bridge formation, supporting both green (wet) strength and dry strength required for handling, drying, and transport.

Stability across variable operating conditions

Chemistry is designed to perform reliably under variable moisture levels, fine particle distributions, and challenging water chemistries, including high salinity and brine rich systems.

Compatibility with agglomeration processes

Binder solutions support pelletizing, briquetting, and extrusion without altering downstream process requirements or material purity.

Operational outcomes

- Stronger, more durable agglomerates under variable conditions
- Reduced fines generation, dust, and material segregation
- Improved handling efficiency and downstream permeability
- Greater process stability across formation, drying, and transport

How this works in practice

Across fines, moisture conditions, and agglomeration processes, these chemistries enable strong particle binding, agglomerate stability, and process compatibility. This is demonstrated in application specific operating conditions as seen in the case example on page 2.

Assess your agglomeration conditions and start a technical discussion at nouryon.com/mining/agglomeration

Our core brands include Celect® and Finnfix® organic binders.

Case Example: Controlled pellet growth under constrained mixing conditions

Challenge

Short mixing residence time limits binder hydration—reducing pellet growth control, yield, and process stability.

Solution

Celect® RBA binder delivers:

- Rapid hydration for immediate activation
- Stable performance across a wide dosage range
- Consistent pellet nucleation and growth—even in constrained mixing conditions

Proven performance

- Maintains stable pellet growth and strength at short residence time
- Enables higher binder dosage without reducing yield
- Improves process runnability and stability

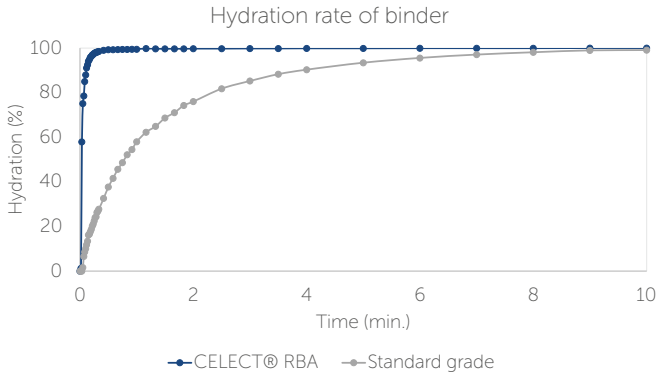
What the data shows (see graph)

- Celect® RBA binder hydrates significantly faster compared to standard grade binder

Impact

- Greater process flexibility
- Stronger, more consistent pellets
- Stable performance without sacrificing throughput

Higher yield, stronger pellets, and stable operation—no trade-offs with mixing time.



Review your agglomeration approach with our technical team at nouryon.com/mining/agglomeration

Nouryon

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