Alcotac FE14 is a base polymer, in a free flowing fine powder form, employed in the preparation of organic binders for the iron ore pelletisation industry. Appropriate blending with sodium carbonate, and a dry strength additive where appropriate, results in an effective replacement for silica containing bentonite binders.

Principal uses

Alcotac FE14 was specifically developed as an alternative means of manufacture to Alcotac FE10 base polymer maintaining its performance facets of improved surface quality, reduced pellet dusting, lower surface moisture and higher dry strengths.

The use of Alcotac FE14 in combination with sodium carbonate and a dry strength additive, where appropriate, means that our synthetic organic binders can be custom designed to meet specific plant requirements.

Sodium carbonate provides the following key benefits that maximise the effectiveness of the Alcotac products in our portfolio:

- Reduces polymer viscosity
- Improves polymer dissolution
- Softens available water
- Increases pellet dry strength

Fired pellet quality is comparable to bentonite pellets, however the particular induration process used will affect the final performance and Alcotac FE14 based products are noted for their ability to reduce the “pressure drop” on the travelling grate.

Another advantage of Alcotac FE14 based organic binders is that they are burned off during induration so improving pellet porosity which benefits iron oxide reduction. The lower silica pellet reduces the coke and flux requirements in the blast furnace.

Alcotac FE14 based organic binders have been shown to outperform the cellulose-based binders.

Typical properties

- Physical form: Off-white powder
- Particle size: 95% < 710 µm
- Bulk density: Approx. 0.75 g/cm³
Application

Typical dose rate for Alcotac FE14 based organic binder: 0.1 – 0.4 kg/tonne

The flow properties of Alcotac organic binders incorporating Alcotac FE14 are vastly superior to that of bentonite or cellulose-based binders, eliminating hopper bridging and blocking of pneumatic conveying systems.

Storage & Shelf life

Alcotac FE14 is at least stable for four years from date of manufacture in its unopened original packaging.

Shipping & Handling

Alcotac FE14 in its final blend with sodium carbonate and a dry strength additive, where appropriate, is available big bags.

Alcotac FE14 has a low order of toxicity and no special precautions are necessary in handling.

Corrosivity towards most standard material of construction is low, but aluminium and galvanised equipment should be avoided.

Technical service

Advice and assistance in the running of laboratory and plant tests to select the correct product and determine the best application can be provided by representatives of BASF, who are experienced in mineral processing applications.

Health & Safety

Please refer to the Safety Data Sheet for detailed information concerning product’s hazards and appropriate protective measures in the workplace.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

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