

AZO raw material analysis

Determination of physical properties to evaluate the suitability of raw materials for automation in process functions

Raw material characterisation

Bulk material laboratory

Technology centre

Bulk material properties

Raw material behaviour

Functions in raw material automation

How AZO creates added value with raw material analysis and supports your individual tasks

AZO's core competence is the automation of your raw materials and raw material blends. This requires specific knowledge of the physical properties of the raw materials, which allow an accurate assessment of the process behaviour within your production.

Physical parameters, such as bulk density, particle size and many more, have a considerable influence on important raw material automation process

functions such as storage, conveying, screening, dosing and thus represent a central element for the quality of your products.

Our team of experts develops individual solutions for your task, from the storage and discharge of raw materials to the weighing and filling of mixtures and your end products. New raw materials and other containers, changes in physical properties, as well as the highest flexibility of your

formulations influence the behaviour in the process functions and thus the assurance of your constant product quality.

By determining the relevant bulk material properties, AZO raw material analysis makes it possible to detect these changes in behaviour and to adapt the raw material automation process functions and system parameters.

SERVICES



Raw material properties

Bulk density
Material density
Particle size and shape
Flowability
Flow function
Internal friction angle
Wall friction angle
Compressibility
Permeability

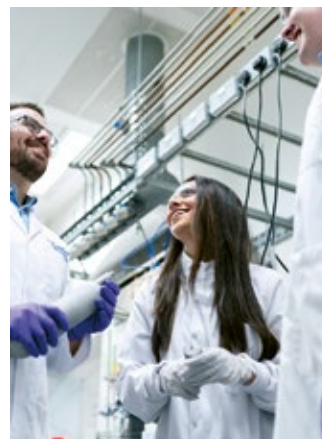
Functions

Storage • Discharge
Converting • Screening
Conveying/transporting
Filtering • Dosing
Weighing • Filling

Many raw material properties correlate with different functions.

We provide answers to the questions of how changed product properties affect raw material automation:

- Does the discharge behaviour out of the silo change?
- Do these changes effect behaviour in dosing, cycle times and weighing accuracy?
- Does the process of pneumatic conveying continue to work free of caking and pipe blockages?
- Is there an impact on the explosion characteristics?



We can answer such questions in advance by carrying out appropriate raw material analyses in our laboratory and verified by additional tests in the AZO technology centre. This allows us to jointly develop a solution for your task - for new and also for existing plants.

AZO.[®]

The AZO laboratory for raw material analysis

In our AZO laboratory for raw material analysis, essential properties of the raw materials can be analysed and thus an assessment of the expected process behaviour can be made. Beside the determination of bulk and tapped density as well as consistency, the size distribution and shape of particles can be identified by means of vibration sieving, air jet sieving, dynamic image analysis and light microscopy. The powder

rheometer also enables various material parameters to be determined to assess flow behaviour in the aerated and deaerated state, compressibility, permeability, internal friction and wall friction. Furthermore, the raw material moisture can be analysed via a moisture measuring scale and a possible change of raw material behaviour due to different temperature and humidity can be analysed via a climate test.



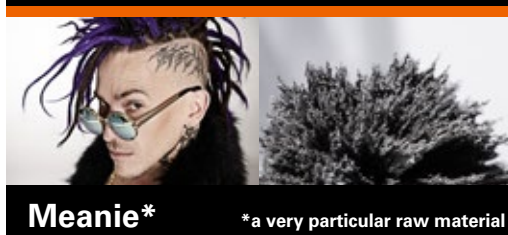
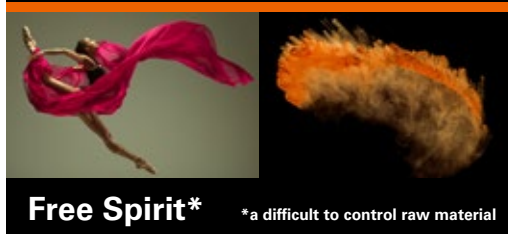
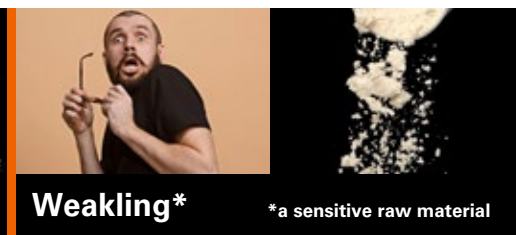
The AZO technology centre

The Link between your individual task and the raw material analysis is the AZO technology centre.

In order to be able to make an exact statement regarding the behaviour of the raw materials, we carry out tests under practical conditions on discharge, conveying, sieving and dosing up to the mapping of a complete process with the systems and machines in our test centre.

By linking this process data with the results from the laboratory, decisive conclusions can be drawn for the design of the plant.

The constant validation of the observations from the test centre and combined with the raw material analysis ensures our quality standards, so that you can benefit from our know-how. From the sum of the extensive data of physical properties, test centre results and project tasks – coupled with the experience of more than 70 years of plant construction – AZO ensures an optimal design for the customer's respective task and provides answers to all further questions you may have regarding raw material handling.



challenging | sensitive | difficult to control | obstinate | very particular | ...

[We also stand for simple solutions ...]

The more complex it is to handle raw materials, the more we are in our element!

We Love Ingredients.



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