

BULK MATERIAL HANDLING IN BUILDING MATERIALS AND PAINT PRODUCTION

Cost drivers - and how to avoid them!

Not all industries have the luxury of large margins. This makes it all the more important to design manufacturing processes that are efficient and energy-saving and to ensure the reliability of the plant.

This guide gives an overview of how you can sustainably reduce your costs in the production of building materials and paints.



PLANT FAILURES DUE TO ABRASION

Many bulk solids, such as pigments, are very abrasive. Abrasion plays a role wherever the bulk solids move. The correct design of the pipes, the speed of conveying and the right choice of equipment have a dramatic influence on the service life of the plant components.

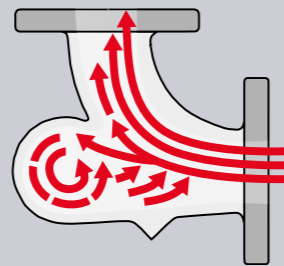


Abrasion caused by pigments in a rotary valve. Heavy-duty and modular rotary valves simplify maintenance in such plants.

Questions to consider:

- ✓ Do you often have to replace pipes (especially bends)?
- ✓ Are leaks caused by abrasion or wear?
- ✓ Do machines break down due to excessive use?
- ✓ Are impurities sometimes found in the end products?

Elbows are an effective way to minimise abrasion in pipelines. Due to a special geometry, the pipe as well as your product is protected during conveying.



<https://www.gerickegroup.com/elbows-gb>



DUST - EVERYWHERE

Many bulk material processes are susceptible to dust generation. Dust is a great burden for the employees and the environment. Dust deposits can also lead to machine breakdowns and even dust explosions!

To avoid dust, the transfer points in a process are particularly important. How is a bag emptied? How is a big bag connected? We will be happy to advise you.



Questions to consider:

- ✓ Does dust formation lead to employee complaints?
- ✓ Can dust create an ignitable mixture?
This can happen not only in the process, but also in the production building.
- ✓ Does dust formation increase the cleaning requirement?
- ✓ Is there a charge for the disposal of the dust?
- ✓ Does the dust cause interruptions in production?

Dust leads to safety and cost consequences. This can be avoided. The analysis must consider the entire system. Mass flows, pressure ratios, start-up and shut-down processes as well as the condition of the machines in a system, but also the programming of the control system influence cleanliness.

An on-site inspection shows the potential. Often, no large investments are necessary to remedy the situation, but the effect of improvements is noticeable and measurable.



<https://www.gerickegroup.com/services/engineering>



QUALITY PROBLEMS DUE TO IMPURITIES?

Raw materials can contain foreign bodies such as small stones or lumps. These can damage machines, but also have a strong influence on the quality of the end product. With suitable deagglomerators or sifting machines, you have a guarantee that your raw materials enter the process in the right quality.



Lump breakers and screening machines homogenise the bulk material and remove foreign bodies.

Questions to consider:

- ✓ Do your starting materials often contain lumps or impurities?
- ✓ Have you already taken measures to remove contamination?
- ✓ Have batches already had to be reworked or even recalled because of quality issues?
- ✓ Are accurate product specifications important for your customers?

Raw materials often have different specifications. These can also be different depending on the supplier.

Size calibration of raw materials and sifting are proven ways to increase process reliability and ensure a consistent end product.

A test with one of our sifting machines or lump breakers quickly and reproducibly shows the achievable results.



<https://www.gerickegroup.com/centrifugal-sifter-gs>



DO YOU HAVE YOUR ENERGY COSTS UNDER CONTROL?

Energy consumption is becoming increasingly important, and not only for reasons of sustainability. For products with low margins, every cost saving is significant. In many bulk material processes, transport within the plant is an energy guzzler. Often tons of material have to be moved. Here, it is important to choose the right powder transfer technology with the expertise of the system provider, which also takes into account the properties of the bulk material. Switching from batch production to a continuous process can also save a lot of energy.



Continuous processes often save energy compared to batch processes. We will advise whether your production can be implemented as a continuous process.

<https://www.gerickegroup.com/products>



Do you know your energy costs?

- ✓ Do you have long internal transport routes for your raw materials?
- ✓ Can you estimate the savings potential in your system?
- ✓ Do you know the advantages of a continuous production process?



Every transport requires energy. With the right process, a lot of money can be saved here and the reliability of the plant can be increased.

<https://www.gerickegroup.com/dense-phase-conveying>



FLUCTUATING PRODUCT QUALITY?

Whether you produce in batches or continuously: the ingredients must be added at the right time and in the right quantity. The use of automation also helps to achieve consistent quality.

The key to product quality is, above all, sufficiently accurate metering of the components and homogeneous mixing.



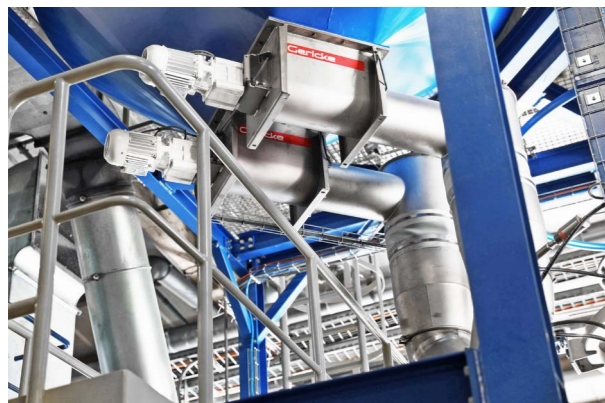
Precise dosing and automated processes increase product quality.

Questions to consider:

- ✓ Are you dosing accurately enough to keep to the recipe?
- ✓ Do you add components by hand?
- ✓ Do the raw materials delivered meet the desired specifications?
- ✓ Do you work with many different recipes?
- ✓ Do you always achieve homogeneous mixing results?

The use of accurate feeders and automated control of the process allows for more accurate recipe adherence and reduces quality variations.

By avoiding off-specification batches and ensuring the exact dosing of expensive raw materials, production costs can be reduced.



<https://www.gerickegroup.com/feeding>



OUR TEST CENTRES ARE OPEN FOR YOU

Gericke has the right experience to implement your project. An important factor here is our test centres, where we can verify the process with you under industrial conditions. The results are the basis for the design of the plant and ensure that the set goals are achieved.

During these test series, you also gain valuable experience on the functioning and operation of such a system. With the right knowledge, you increase the efficiency of your production and protect yourself from surprises!



**Benefit from our experience in your industry.
We are available for a consultation.**

<https://www.gerickegroup.com/services/test-centres>





Installation in a construction chemical plant (continuous mixing process).

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