
CASE STUDY

Chemical Applications

The amafilter® team joins forces with Asbeter to develop a new affordable and sustainable filtration solution in their process to destroy asbestos

THE AMAFILTER® TEAM DESIGNED AND DEVELOPED A PLASTIC HOUSING WITH A PTS ELEMENT THAT SAFELY AND EFFICIENTLY REMOVES SOLIDS FROM THE WASTE ACID AFTER THE DESTRUCTION OF THE ASBESTOS FIBRES HAD TAKEN PLACE.



Chemical Applications

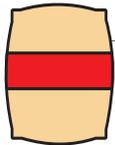
BACKGROUND

The Dutch Ministry of Economic Affairs and Climate (EZK), commissioned a project to establish techniques that would make it possible to treat asbestos cement roof plates by using industrial waste acids, neutralizing these acids without the current need for lime, which lead to a significant CO₂ reduction. The combination of two waste streams into one solution will avoid landfilling of asbestos roof plates and discharging of industrial waste acids.



NO

Discharging tons of waste acids



NO

Landfilling of asbestos cement



BUT

1 permanent, safe affordable solution

Asbeter Holding BV initiated this project by investigating the process required to destroy asbestos with industrial waste acids. As part of the project, Asbeter Holding BV joined forces with Amafilter® to develop effective filtration solutions for this process.

THE CHALLENGE

The challenge was to safely and efficiently remove the remaining solids from the waste acid after the destruction of the cement fibres and the asbestos fibres had taken place. These solids, which mainly consist of silica, can be used in concrete and in other industrial applications.



Customer:
Asbeter Holding BV
Location:
The Netherlands
Industry:
Chemical
Application:
Industrial Waste Acid
Product:
Plastic Filter Housing with PTS Element

THE SOLUTION

Cake filtration is an effective solution to efficiently remove solids in this process. However, the corrosive nature of the acids does not allow the use of the regular metallic materials.

The Amafilter® team designed and developed a plastic housing, complete with approval according to PED requirements, with a plastic PTS element which ensures an efficient separation of the solids.

The housing is filled with the industrial waste acid and the solids. Pressure is then applied to push the liquid through the filter cloth. The solids retained in the element builds-up cake and this can be discharged either as a dry or wet cake.

This plastic housing and PTS elements are resistant to the corrosive medium, making it possible to produce a safe reusable product.

The new Amafilter® product brings new solutions to the corrosive chemical market, enabling cake filtrations systems to be used in highly corrosive media.

THE RESULTS

The result is an efficient and safe method of separating the solid products from the acids, making the process both safe and environmentally friendly. This has also lead to a more effective solution to the filtration of corrosive chemical applications.

Furthermore, the remaining product is also stripped off magnesium or iron. The remaining product, silica, is an excellent material for producing new concrete which is of great benefit to the construction industry, bringing concrete producers a reusable raw material with a low footprint.

