



## HEATING ELEMENTS REHABILITATE CONTAMINATED SOIL

**As the world’s urban areas continue to expand, an increasing number of industrial plants are being converted into construction sites for housing projects. However, many of these sites are unfit for residential use due to contamination, requiring major remediation of the soil and groundwater. This is a time-consuming and costly process, but thanks to a collaboration between Kanthal and GB Eco Solutions of Brazil, it can now be done faster and more efficiently than ever before.**

GB Eco Solutions, a Brazilian soil remediation and revitalization specialist, has launched an innovative system for the rehabilitation of industrial areas with Kanthal’s heating elements as the key component. A joint development project was set up in 2016. Tests were completed in 2017 and the system is now in full-scale operation in Sao Paulo.

Gernot Beutle, Chief Executive of GB Eco Solutions, says the collaboration with Kanthal has enabled the time required for decontamination work to be considerably reduced, in many cases to months instead of years. In addition, the collaboration has created other important benefits in terms of quality, reliability, and flexibility in helping GB Eco Solutions to meet demands for fast and efficient soil remediation.

GB Eco Solutions, based in Sao Paulo, is normally engaged as a sub-supplier to large building contractors and developers. Since introducing Kanthal’s Tubothal® heating elements it has increased its competitiveness and is looking to expand.

## THE CHALLENGE

### MEETING THE NEED FOR NEW HOMES

“The market for soil remediation and revitalization is huge,” says Mr Beutle. “In Sao Paulo, which has 27 million inhabitants, there is a constant need for new homes and building land is hard to come by, so a lot of industrial areas are being converted for residential use.”

The remediation of soil and groundwater is often a big obstacle. In most cases, soil contamination has resulted from the use of solvents and oils in industrial processes over long periods of time.

In conventional remediation, large volumes of soil mass have to be removed in order to be decontaminated at another location. At the same time, the groundwater table has to be lowered and walls have to be built around the site to secure the area.

GB Eco Solutions decided to explore the possibility of installing heating elements directly into the ground and develop a new method.

## THE SOLUTION

### SIMPLICITY AND FLEXIBILITY

GB Eco Solutions knew that eliminating the need for soil removal would be a huge plus point. Using Kanthal’s Tubothal® heating elements installed in the ground, an altogether easier and quicker soil remediation method could be developed.

The elements heat the soil to the required temperature, depending on the type of soil and level of contamination, and at a predetermined temperature, vapors containing the contaminants can then be vacuum-extracted and incinerated in catalyzers.

The Kanthal Tubothal® elements offer maximum flexibility as the system can be run at the highest temperature at sites with highly volatile contaminants where speed is vital, as well as at lower temperatures for sites where contaminants are less aggressive.

“As a specialist in this field we are very happy to have this collaboration with Kanthal because it saves time and cuts costs for the site developers. The Tubothal® elements are robust and flexible. They offer a wide heating range up to 1250°C and can be run on low voltage power,” says Mr Beutle.

## THE RESULT

### DEVELOPING TOMORROW’S TECHNOLOGY

GB Eco Solutions is now closely monitoring the performance of the Kanthal Tubothal® heating elements at a number of sites in the Sao Paulo area and predicts substantial productivity gains for property developers and construction companies alike.

At the same time, the company is working with Kanthal’s engineers to further optimize the system and a European expansion is also being planned.

“The collaboration with Kanthal has enabled us to give our customers new technology which also benefits the environment. Our dream is to clean up ten million cubic metres of soil over the next ten years and expand into China, Europe, South America and Africa so we are going to need all the help we can get,” says Beutle.

He concludes: “We regard Kanthal as a close and reliable partner with a global production and service platform.”

### BENEFITS OF TUBOTHAL® HEATING ELEMENTS

- Robust and flexible cartridge based elements
- Wide heating range up to 1250°C
- Can be used for most soil conditions
- Superior power output (up to 45 kW/m length)
- Global production and maintenance

**Read more about Kanthal Tubothal® Heating Elements**  
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