TENCATE

Geotube®

Geosynthetics
Power & Utility

CCR Dewatering & Containment Technology

Protective Outdoor Fabrics

Aerospace Composites

Armour Composites

Geosynthetics

Industrial Fabrics

Synthetic Grass

TENCATE
materials that make a difference

One Solution for Coal Ash Management

Despite the benefits and overall efficiency of the coal-fired process, its by-products have given rise to environmental concerns, which has prompted the Environmental Protection Agency (EPA) to establish national regulations for the safe disposal of coal combustion residuals (CCRs) from coal-fired power plants.

This new governance was initiated in response to the potential toxic environmental effects of CCRs, including the leaking of contaminants into ground water, airborne contamination from wind and the catastrophic failure of surface impoundments. Utilizing Geotube® dewatering and containment technology not only helps protect the environment from these harmful effects, but provides other advantages as well.

TenCate is the global leader in geosynthetics – with a focus on safety, protection and sustainability. Our geotextiles are engineered with advanced application knowledge to meet project specifications to increase performance and reduce costs. In addition to our Geotube® dewatering technology, TenCate offers engineering design assistance with our customized CCR reinforcement geotextiles utilized in pond capping stabilization applications.

The difference in the Geotube® dewatering technology solution is clear.

CASE STUDY

Application: Retention Pond Clean-Out

Product: Geotube® GT500 Dewatering Containers

A coal fired power plant with limited laydown area needed to clean their retention pond and remove mercury buildup. Two custom Geotube® GT500 containers effectively dewatered and contained 6,500 yds^3 of CCRs without interrupting the plant's operations. The dewatered residuals reached 62% dry solids and were combined with dry fly ash for landfill roads and site topping.

High-Performance CCR Containment Solution

TenCate's Geotube® dewatering and coal ash management technology offers a low-cost, economical solution for coal-fired plants for the proper containment and disposal of CCR materials for both small and large facilities while helping maintain key water-quality discharge parameters and sufficient free board for continuous operation.

The Geotube® difference is:

- Safe, sustainable and economical
- High volume dewatering and volume reduction
- Expertly engineered fabrics and fabrication techniques for increased stability
- Custom fabrication for tube size and configuration with stacking ability

1. Confinement

Geotube® containers are constructed from specially engineered filtration fabric that confines and captures fine solids while allowing water to drain.

2. Dewatering

Chemical conditioning optimizes the dewatering performance of Geotube® containers, increasing the dewatering rate, improving effluent quality, and achieving higher dry mass.

3. Consolidation

Once solids are fully consolidated, Geotube® containers can be cut open and the dewatered material excavated for disposal, remain contained for entombment, or can be beneficially reused to build a structure.

CASE STUDY

Application: Increasing Capacity of Ash Lagoons
Product: Geotube® GT500 Dewatering Containers

A coal-fired power plant needed to increase the capacity of their existing ash lagoons with minimal investment. Geotube® containers dewatered and contained waste material to increase the height of the ash lagoon. The filled units were curved to fit contours of the lagoon. The raised berms which beneficially used the dewatered ash to build structures lengthened the lagoon life by at least 2 years.

Key Applications for Coal Ash Management

By incorporating Geotube® technology, coal-fired facilities can dewater and contain CCRs for…

1. Clean closures of surface impoundments or capacity recovery of existing impoundments.
2. Beneficial reuse of consolidated and contained CCR material.
3. Direct sluicing daily flows of residuals from generating stations to eliminate impoundments.

Remediation & Clean Closure

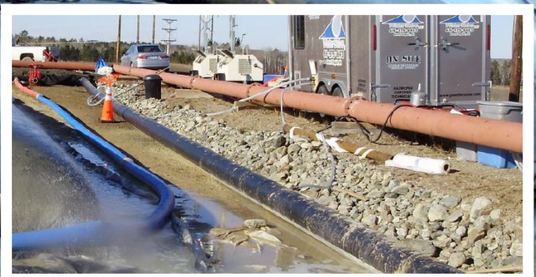
Removing the ash from the surface impoundments helps to protect groundwater and protects the impoundment from external events like flooding, erosion of ash piles and seismic events.

Containment Structures

With beneficial use applications, disposal is not required and the dewatered material may be re-used to eliminate the need to landfill. The final dewatered Geotube® container can be used to build containment structures for use as embankments, levees, revetments or reclaim land.

Direct Sluicing

Direct sluicing into Geotube® containers provides an advantage to the coal-fired plants to minimize and eliminate CCR material from surface impoundments by sluicing the daily flows directly from the plant.



CASE STUDY

Application: Dewatering of Direct Sluicing
Product: Geotube® GT500 Dewatering Containers

A coal-fired power plant needed a way to dewater solids being pumped from the plant's scrubber into an outside settling pond. As a result, 75-ft. circumference x 100-ft long Geotube® containers were positioned to collect solids from the scrubber ash water, which, with the help of a dual polymer system, effectively protected the settling pond from contamination.

Learn more at geotube.com or contact **spec@tencate.com**. For information on pond capping contact **capping@tencate.com.**

TenCate develops and produces materials that function to increase performance, reduce cost and deliver measurable results by working with our customers to provide advanced solutions.

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