



Tektoseal® Clay RM

Innovative Red Mud Containment

Tektoseal Clay RM

Increased safety with polymer free high performing sodium bentonite mixture

As a result of our experience in the manufacturing process of Geosynthetic Clay Liners (GCL), we have successfully developed a unique, high performing GCL. Tektoseal Clay RM is easy to install and solves the challenges faced with sealing red mud storage facilities at bauxite refineries globally. Due to high pH values and high electric conductivity, bauxite residuals pose significant challenges to the sealing characteristics of bentonite. The sealing layer incorporated into Tektoseal Clay RM comprises a customised mixture of different sodium bentonites and no polymer whatsoever. This eliminates concerns with regards to service life, caused by polymer loss through washout and polymer degradation over time. The installation of Tektoseal Clay RM ensures the long-term barrier performance required for all red mud containment applications.

Key benefits additional to high sealing performance

- Unique high swelling sodium bentonite mixture
- No polymer added
- No risk of polymer wash-out
- No risk of polymer degradation
- Long-Lasting sealing performance
- High chemical durability
- Self-healing effect against mechanical damages
- Customised product configuration to suit on site requirements



Top layer

Nonwoven surface layer



Project-specific configuration:
Type of Nonwoven, thickness and mechanical properties

Middle layer

Granulated sodium bentonite for sealing



Project-specific configuration:
Granulate composition and weight

Bottom layer

Carrier material made of high-tensile woven fabric



Project-specific configuration:
Type of geotextile and mechanical properties

Scientifically proven performance

Tektoseal Clay RM has been tested at the University of Virginia by the research team under Prof. Craig Benson.

Test conditions

- Direct contact with a synthetic red mud leachate (pH = 13.2 | EC = 42,100 $\mu\text{S}/\text{cm}$)
- No pre-swelling with DI water
- Test duration: 128 days

Effluent analysis results

- pH value: 13.2
- Electronic Conductivity: 42,100 $\mu\text{S}/\text{cm}$

Hydraulic conductivity result

- 1.9×10^{-11} m/s

Installation options according to local regulations and conditions

Tektoseal Clay RM can be installed individually, quickly and safely in a geosynthetic barrier system. Two of the most common installation configurations are:

Barrier system including leakage detection

- Red mud
- Incomat concrete mattress (8–56 cm)
- Nonwoven
- Geomembrane
- Tektoseal Clay RM
- Cusped drainage element
- Geomembrane
- Soil

Basic barrier system

- Red mud
- Soil
- Nonwoven
- Geomembrane
- Tektoseal Clay RM
- Soil



Each project is
unique

We are pleased to support
with project specific testing.

Tektoseal® is a registered trademark of HUESKER Synthetic GmbH.
HUESKER Synthetic is certified to ISO 9001 and ISO 50001.



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