

CASE STUDY

INDUSTRIAL FLUID TRANSFER: Mud Sucker® Diaphragm Pumps

Profile

Alcoa World Alumina

Model selected

Mud Sucker® 4B-M

Flow rate

100 US GPM

Fluid type

Bauxite slurry mixture

Objective

Finding a pump to transfer 43-49% solids



Almost 85% of all global bauxite production is used for aluminum manufacturing

Alcoa World Alumina

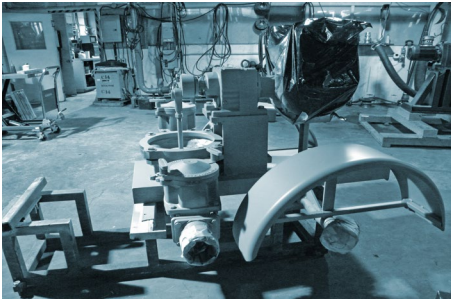
Background

Alcoa is the world leader in the production and management of primary aluminum, fabricated aluminum and alumina combined. Alcoa serves the aerospace, automotive, packaging, building and construction, commercial transportation and industrial markets. The company employs 63,000 employees in over 30 countries and is one of Fortune's most admired companies.

Issue

When it comes to pumping bauxite, many mining companies face the challenge of finding a pump that can serve multiple uses as needed for a variety of sites. This application involved pumping 43-49% solids in a uniformly mixed slurry with average fluid transfer rates of 100 US GPM (6.3 lps) at a surface mine. Pumping bauxite 'red mud' mixtures or residues can be a difficult process due to the thickness of the slurry during initial surface mining (see consistency left). And,

there are many classifications of bauxites according to their application, including: fertilizer neutralizer, mine reclamation materials, clay tailings, agri-industry nutrients, bauxite residue concentrates, alkaline clay and more. Any pump must be able to adapt to the changing consistencies of the liquid through one or more of these processes.



*Top
Two heavy duty Arcor primer
and final epoxy coatings pro-
tect the Mud Sucker 4B-M*

*The 4B-M in final testing prior
to coating application*

*The 4B-M with an automatic
start 8.5 hp diesel engine.*

Solution

Wastecorp recommended the four inch Mud Sucker 4-BM trailer mounted diaphragm pump for Alcoa's bauxite pumping needs. The standard 4B-M includes two heavy duty valve chambers on the suction and discharge to aid in pumping the high slurry content. We also suggested custom options for Alcoa's needs. First, the pump was designed with stainless steel valve seats in the valve chamber for higher wear tolerance and abrasion resistance. To protect the pump, we added two Arcor epoxy double primer and paint coatings for added protection and to prevent build up of materials on the pump.

With a heavy duty trailer unit and electric start feature, we delivered the three 4B-M's to meet the customer's rush delivery schedule.

Why Wastecorp?

With a flex-production floor, Wastecorp is able to quickly meet the custom pump needs for our customer's applications. Our experienced engineering staff can recommend the kinds of components needed for pumping tough fluids.

Experience.

From providing solutions for local businesses or multinational corporations, Wastecorp has the experience of working with customers over hundreds of unique

fluid handling applications.

Nothing Quite Like it.

There is nothing quite like a Mud Sucker diaphragm pump. With a variety of configurations, industry ratings and customized options, Mud Sucker's are designed for one application. Yours.



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