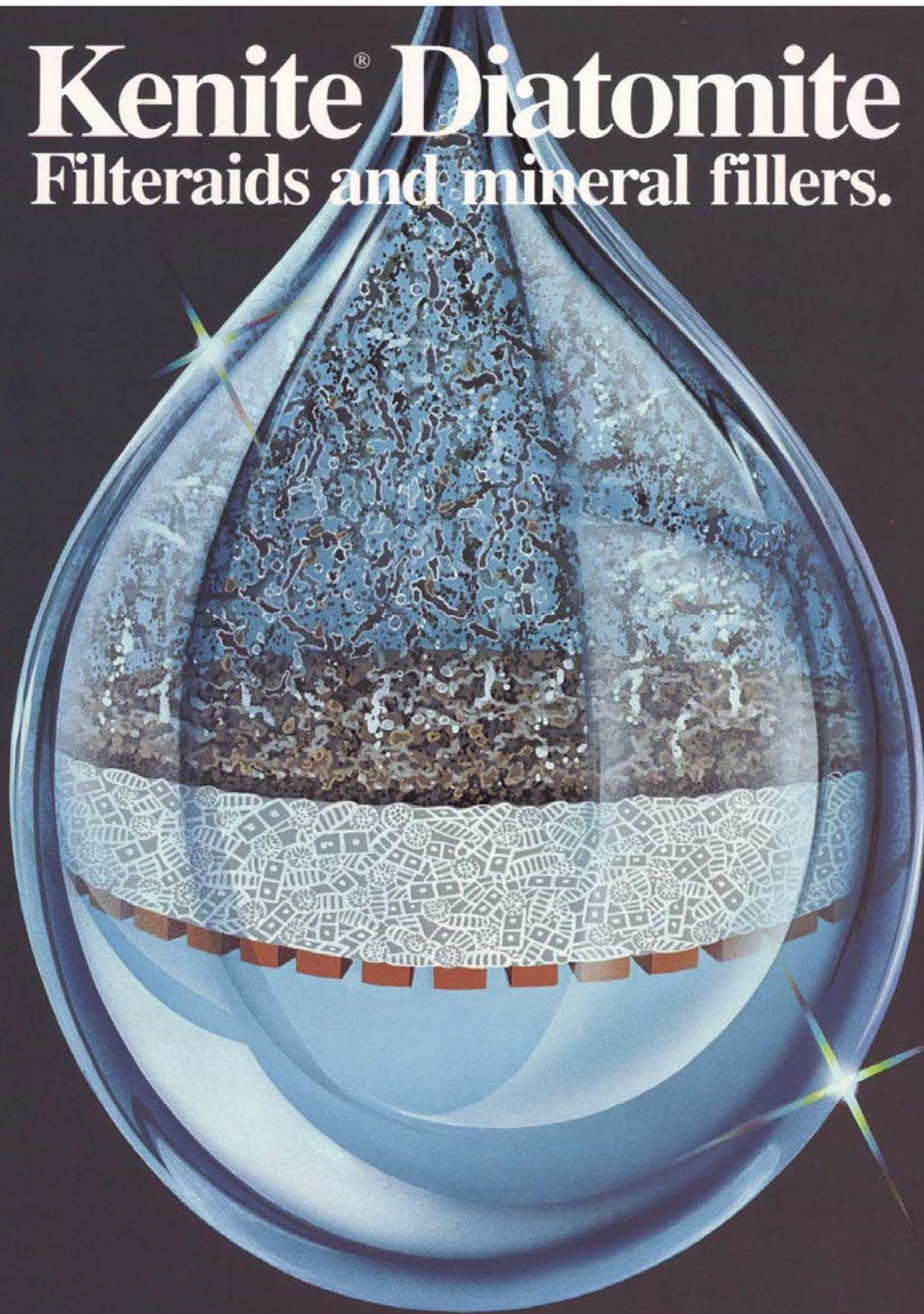


Kenite[®] Diatomite

Filteraids and mineral fillers.



It took decades to build the best filtration company in the business.

Celite Corporation is a worldwide mining and minerals company and a leading producer of filteraids and functional mineral fillers.

But our capability involves far more than owning extensive deposits of raw material. During our more than six decades of involvement in the filtration business, we've put together a staff of experts who can work with you to develop the most cost-effective system for your process.

Here's a brief review of our capability:

Ore: Celite owns extensive reserves of high-quality freshwater and marine diatomite ore in Grant County, Washington.

Processing: At the Quincy plants, near the mines, the crude ore is milled, dried at relatively low temperatures and air-classified to produce a variety of particle-size grades. These natural powders from crude ore may be calcined, with or without a flux, to produce a variety of filteraids of carefully controlled particle sizes. The importance of this variety of sizes is that it enables us to supply you with the filteraid that provides the ideal combination of flow rate and clarity.

Quality control: Over the years, we've developed a sophisticated, computerized quality-control system based upon relevant tests for diatomite products. In these tests, we also place special emphasis on any specification necessary for our customer's individual quality control program.

Food Chemicals Codex: Kenite diatomite products conform to the standards for Diatomaceous Silica published in the Food Chemicals Codex, Committee on Food Protection, National Research Council.

Technical service: In the field, our experienced technicians work closely with plant and production managers in a wide range of industries. They offer problem-solving advice and make suggestions for increasing productivity of the filtration system.

Backing up their expertise are our laboratory facil-



Our plants in Quincy, Washington, produce a steady supply of the highest quality filteraids in the industry.

ities at the Quincy plants and other Celite research and testing laboratories. Our primary technical service activities include basic and applied research, product development, process improvement and pilot plant operations.

And we present technical seminars on topics of interest to our customers involving the use and handling of the Kenite products.

You can get the most efficient filtration system now.

Diatomite filtration removes undesirable suspended solids from a liquid.

An effective diatomite filtration process can remove solids smaller than a micrometer, at flow rates in the range of 0.5 to 3.0 gallons per minute per square foot of filter surface, from liquids too difficult to filter by any other commercial filtration process.

To achieve optimum filtration, you should carefully consider the following factors:

- (1) Selection of the correct filtration equipment: filters, cloths or screens, pumps, tanks, pipes, agitators, valves.
- (2) Utilization of the correct filtration techniques.
- (3) Variations in the amount and kind of sus-

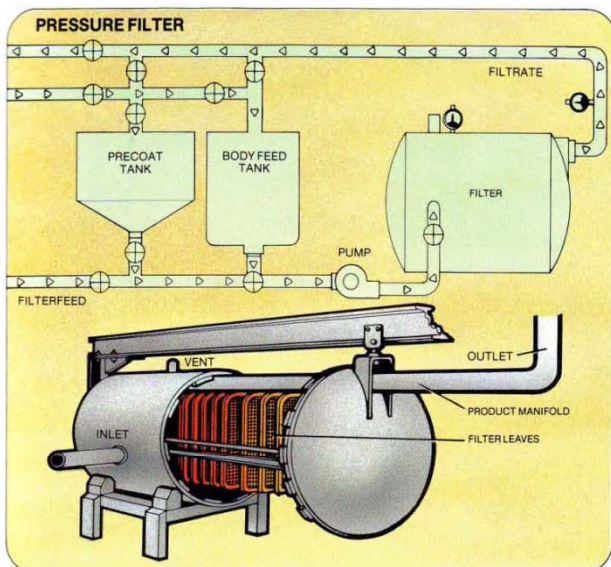
pended solids in the unfiltered liquor. Pre-treatment should render the liquor suitable for the selected diatomite filtration process.

(4) Selection of the filteraid which provides the best combination of flow rate and clarity.

There are two methods used to achieve effective filtration with Kenite diatomite: pressure filtration and vacuum filtration.

Pressure filters include tank-type and plate- and frame-presses. Vacuum filters include rotary precoat and leaf types.

The choice of the best system depends upon many factors. Our experts are available to help you choose the best system for your application.



A. Pressure filtration: The customary diatomite pressure-filtration process consists of three important steps:

(1) The formation of a firm precoat cake.

(2) The use of the correct amount and kind of body feed (admix or dosing) in the unfiltered liquor to obtain the optimum filter-cycle length.

(3) The separation of spent filter cake from the septum prior to the next filtration cycle.

The formation of a firm precoat cake is essential, and requires:

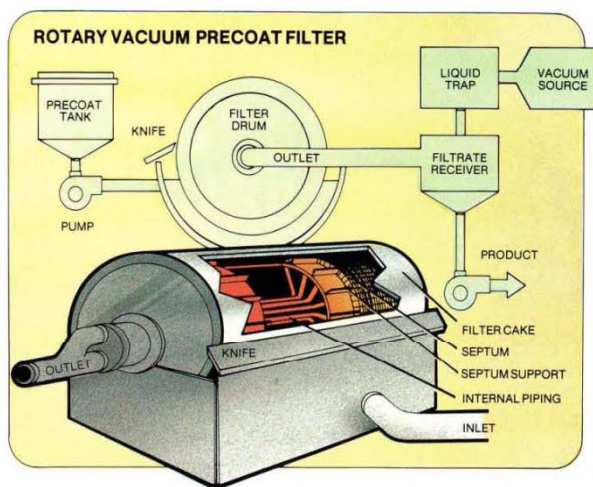
(1) Selection of the optimum filteraid.

(2) Correct weight percent precoat slurry.

(3) Adequate agitation and precoat flow rate to deliver all of the filteraid particles uniformly to the precoat septum.

(4) Sufficient time to precoat. The time may be calculated precisely, knowing the flow rate and the volume of precoat liquor. Two passes of the precoat slurry through the septum are required to deposit all of the filteraid completely during cake formation.

The minimum precoat amount is 10 pounds per 100 square feet; and the average is 15 pounds per 100 square feet. The normal maximum is 20 pounds for this area.



B. Vacuum filtration: Kenite filteraids and rotary vacuum precoat filters (RVPF) are widely used in many industries to clarify liquors of very difficult filterability while providing fast flow rates not possible by any other process technique.

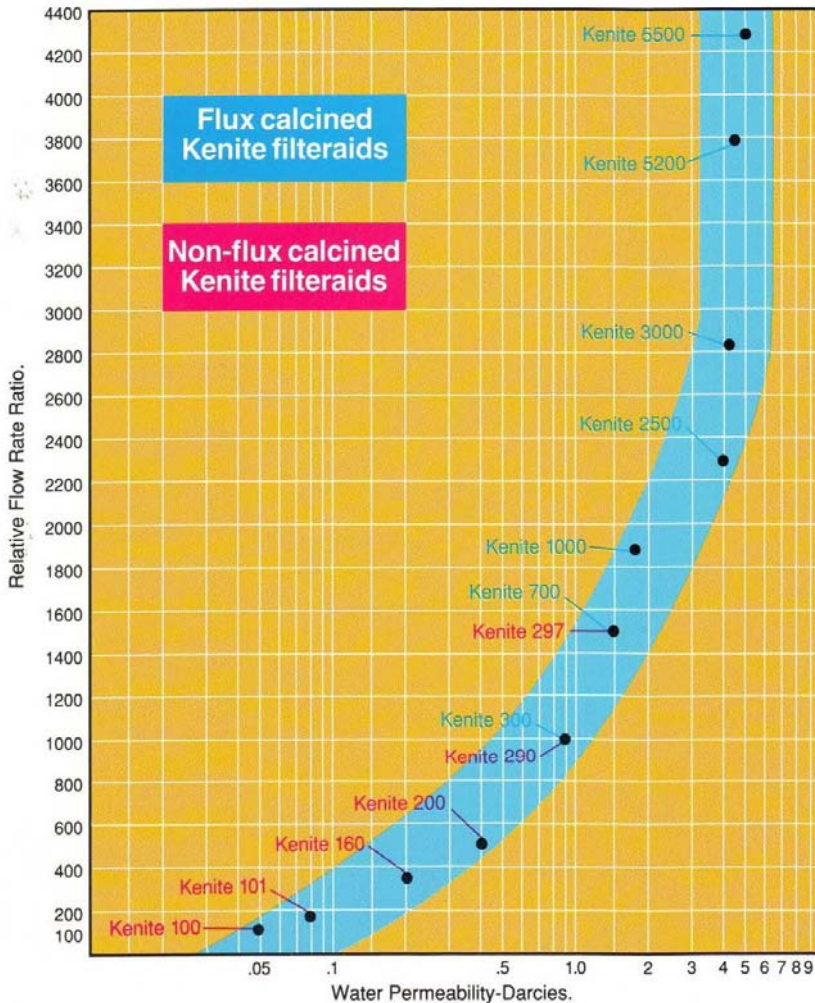
There are two basic steps in the operation of a RVPF:

(1) Formation of a precoat, which should be achieved quickly, uniformly and without cracks.

(2) Filtration, to achieve desired flow rate and clarity over long, economical filtration cycles.

Efficient precoat formation requires attention to a series of interrelated factors including: precoat slurry concentration, filteraid selection, drum speed, vacuum control, drum submergence, precoat liquor, and filter cloth. Kenite filteraids may precoat up to five inches within a half hour without cracks.

Celite provides the above process technology to its customers. Optimum vacuum-filtration conditions will provide the lowest cost per unit of product filtered and include control of knife advance, liquor viscosity, drum speed, drum submergence and vacuum. The correct choice of Kenite filteraid and filter cloth for each process liquor is important to obtain best results.



Permeability and relative flow rate of Kenite filteraids.

This chart shows the permeability and relative flow rate ratios of various grades of Kenite filteraids. We produce a wide variety of grades of Kenite diatomite to provide optimum filtration efficiency. The primary considerations in choosing the grade for your application are the desired degree of clarity and flow rate.

Other Kenite products and mineral fillers.

Kenite Diatomite Swimming Pool Powder: A high-quality, flux-calcined diatomite filteraid for use in swimming pool filters. This powder provides brilliant water clarity by removing fine suspended-solids and even certain bacteria. It provides excellent flow rate and clarity in pressure and vacuum filter systems.

Kenite Natural Diatomite: Natural diatomite products for pesticides, catalyst carriers and other applications.

In addition to Kenite, we also offer other fine diatomite products, including:

Micro-Ken™ Flux-Calcined Fillers: Fine mesh, flux-calcined diatomite products for use as anti-blocking agents in polyethylene and copolymer films and as flattening agents and paint pigment extenders in high-quality paint formulations.

Shipping information.

Kenite diatomite products can be shipped in multi-wall paper bags (50 pounds net) or in bulk. Bags are shipped in box cars and by truck; bulk shipments in trucks and rail hopper cars.

The hopper cars, which carry approximately 55 short tons of diatomite products, are the preferred method for large shipments. Celite maintains a large fleet of these 5,700 cubic-foot cars, dedicated exclusively to the transport of Kenite diatomite, thus minimizing the possibility of contamination. And we can provide technical support to help you get the most efficient bulk handling systems.

Safety.

Refer to individual Material Safety Data Sheets for safety and handling information.



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