



FILTERAID APPLICATION PROCEDURES FOR PRESSURE LEAF FILTERS

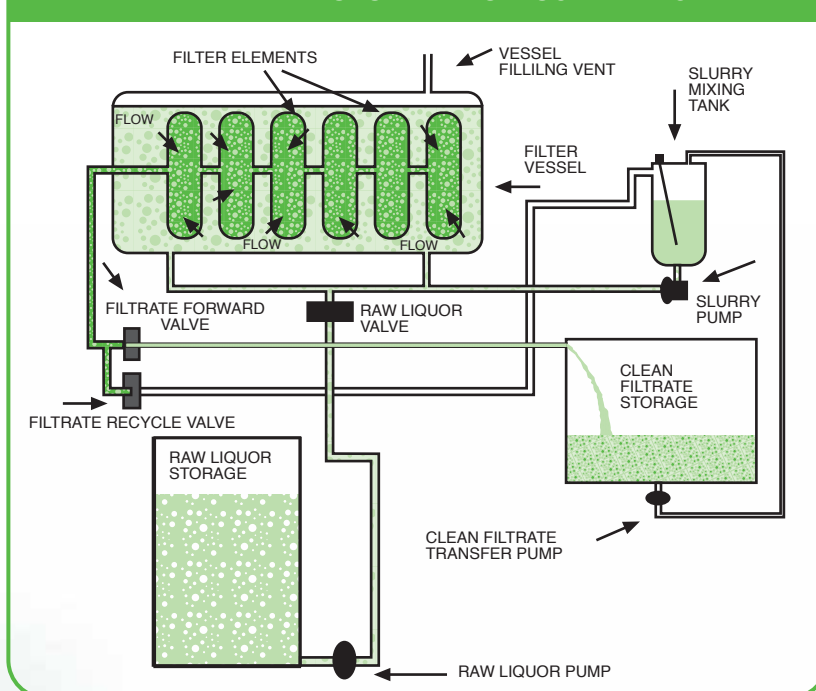
In precoating pressure leaf filters, sufficient Filtraflo® should be applied to assure complete coating of all filter element surfaces to a thickness of at least 2-3 mm. The rule of thumb for precoat thickness is generally a half Kg per square meter of filter surface area.

In applying admix or body feed filteraid, the amount of Filtraflo® to use will vary, since the filterability of the feed liquor varies with the viscosity and temperature of the liquor and with the quantity and character of the suspended insoluble solids being removed. When Filtraflo® is used to disperse impermeable feed liquor solids which are being deposited on the precoat surface during filtration, the proper amount of Filtraflo® to introduce into the feed liquor stream as body feed may be approximated by introducing a volume of Filtraflo® which is equal to the volume of the suspended impermeable solids in the feed liquor. This volume can often be determined by centrifuging a sample of feed liquor in the laboratory and measuring the percent by volume of centrifuged solids in the sample.

For processes where the feed liquor solids volume varies significantly hour-by-hour or batch-to-batch, the sampling process may be repeated at regular intervals during the filtration cycle. The solids volume information thus obtained may then be used to increase or decrease the quantity of Filtraflo® bodyfeed being introduced into the feed liquor stream.

By thus maintaining adequate dispersion of impermeable "mud" solids in the filtered cake until inter-element filter cake space is almost completely utilized, cake permeability maintained throughout the filter cycle and maximum flow end cycle length are achieved. The result is lowest overall filtration cost.

PREFERRED SYSTEM FLOW SCHEMATIC



TO PRECOAT: Fill slurry mixing tank with sufficient clean filtrate to completely fill the filter vessel. Add Filtraflo® at the rate of one bag per 37 square meters of filter element surface area. This application rate is sufficient to coat all elements with Filtraflo® to 2-3mm thickness. Open the vessel filling vent. Start slurry pump. Pump precoat slurry to vessel until it is full. Close the vent. Open filtrate recycle valve. Allow filtrate to recirculate to slurry mixing tank until filtrate is clear. Precoat is now formed. Start raw liquor pump, close filtrate recycle valve, and open filtrate forward valve, allowing filtration to begin.

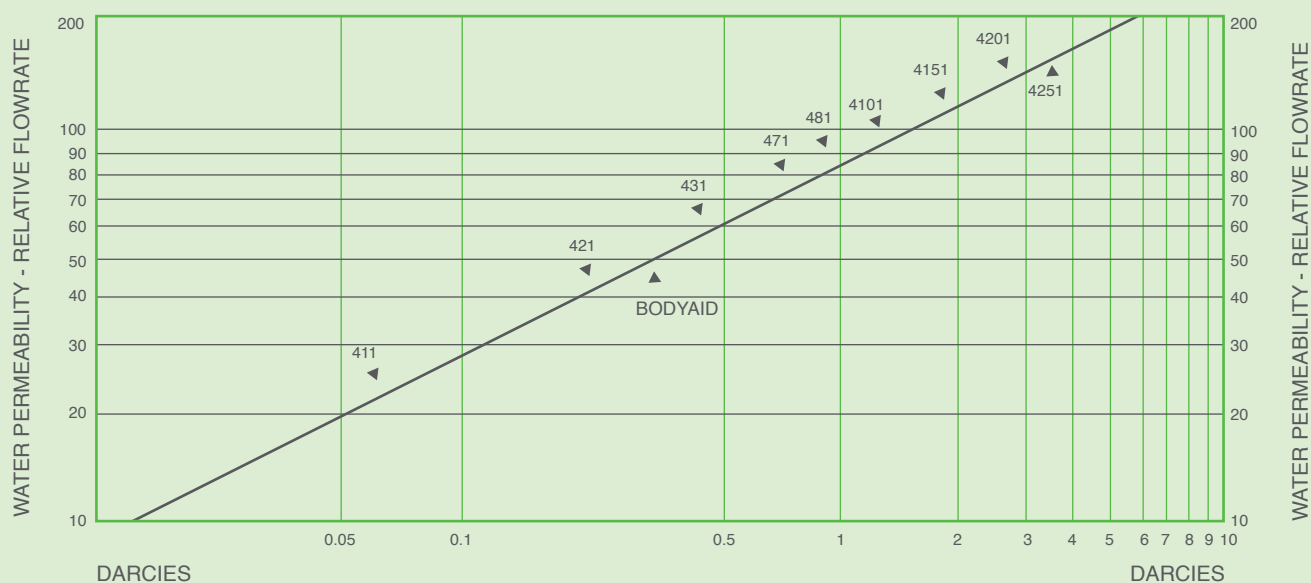
TO BODYFEED: Prepare a bodyfeed slurry in the slurry mixing tank, and modulate slurry pump output to obtain a bodyfeed injection rate which adequately disperses raw mud solids being deposited on the precoat surface. Adequate bodyfeed allows maximum throughput to be maintained during the filtration cycle, with a slow, steady rise in input pressure to the filter vessel. The filter cycle should be terminated before the accumulation of solids on the filter elements fills the spaces between them. This bodyfeed procedure provides the optimum combination of filteraid cost per unit of filtrate and maximum filtration throughput roles during each filter cycle.



Substitution of Filter Media

When a competitive product has previously been used, substitute Filtraflo® cubic meter for cubic meter. When changing from a competitive diatomite product, this is a simple bag-for-bag substitution. Do not use equal weight substitution, as this will invariably result in overuse of Filtraflo®, possibly resulting in shortened cycle length due to premature filling of the inter-element filter cake spaces, or excessive retention of filtrate on the spent filter cake.

RELATIVE PERMEABILITY OF FILTRAFLO® GRADES (Water at 30°C)



Filtraflo® Grade	Relative Flowrate	Permeability Darcies	Max Filter Cake Density kg/m ³	Particle Size of Solids Removed (µm)	Mean Particle Diameter (µm) (1)	Max Floats %v
411	15 - 33	0,026 - 0,109	350	0,1	15,0	NIL
421	27 - 53	0,109 - 0,314	290	0,3	20,0	1
BodyAid	37 - 58	0,205 - 0,390	280	0,4	22,0	2
431	47 - 68	0,314 - 0,541	260	0,55	24,0	2
471	62 - 88	0,541 - 0,944	240	0,60	30,0	4
481	72 - 98	0,728 - 1,189	240	0,70	34,0	5
4101	77 - 108	0,944 - 1,463	240	0,80	41,0	5
4151	102 - 133	1,463 - 2,277	220	0,90	47,0	10
4201	127 - 153	2,277 - 3,064	210	1,10	50,0	12
4251	147 - 175	3,064 - 3,971	210	1,20	58,0	15