

give uniform subsequent penetration) is pumped through a filling system into a digester simultaneously with the chips. The cooking operation, (the initial phase is removal of lignin) is performed by direct steaming natural circulation and manual relief.

Steam is admitted through stainless steel nozzles in the bottom cone, the input being governed by a time cycle pressure controller according to a definite pre-set schedule. Cooking is done at approximately 110 lbs. depending on grade of pulp desired, the length of cook being 3 hours.

At the end of this time the digester contents, (brown stock and black liquor) are blown through one of the pair of blow lines by means of remote controlled Blow Valves into a large blow tank of sufficient size to hold 4 cooks.

The vapours from the "blow" are directed through a multiple pass surface condenser of some 6500 sq. ft. of condensing surface. Automatic temperature controls regulate water flow through this equipment so as to cool the vapours and obtain hot water for use in subsequent phases of the operation.

Only the lower portion of the cone of the Blow tank is equipped with propeller agitation. The brown stock of controlled consistence is pumped through a metering head box where further consistence regulation is performed before the stock flows by gravity to vibratory preknotters thence to two lines of Brown stock washers operated in parallel each having 3 effects.

By means of countercurrent washing, utilizing vacuum with drop legs from the drums, the operation is carried out with the aim being to produce a stock, washed relatively free of soda compounds, with a minimum of hot water so as to give a fairly concentrated black liquor of some 15% solids content as feed for the evaporators.

The washed stock after consistence regulation is stored at approximately $3\frac{1}{2}\%$ in a tile lined chest equipped with agitation. This stock diluted with "brown stock" white water to 0.5% consistence is fed to seven lines of primary flat screens operating in parallel. Each line consists of two sections of 14 plate flat-screens with 0.014 and 0.012 inch slots: The rejects from these screens are re-diluted and re-screened on 3 lines of finer cut screens (.012 and .010). The rejects from the latter are after another consistence adjustment handled on two lines of 10 cut tertiary or tailings screens. All flat screens are chrome plated and dilution on the screens is accomplished by addition of white water from dilution ponds instead of the conventional showers.

Accepted stock from all screens is mixed and is thickened on two Oliver 8' x 10' vacuum leg deckers using a hydradoctor discharge prior to re-pulping and passage through a consistence regulator to either or all of 5 tile lined chests having a capacity of some 60 tons.

Continuous 5 Stage Bleachery

The screened stock, after consistence is further tempered through a Trimbe regulator, is elevated to twin stock meters thence by gravity flows through low density rubber lined mixers where it is thoroughly and intimately mixed with chlorine gas. The chlorine previously being vaporized in a hot water double pipe heat exchanger with gas pressure controlled by an Askania regulator and volume measured by rotameters.

The mixture of stock, chlorine and water then rises through two tile lined concrete tanks 16 ft. in diameter x 55 ft. high operated in parallel. To prevent segregation of pulp and water in its upward movement, the contents are kept mixed by a