

Gelatine Flocculation, Clarification & Recovery Process

Description

The **ADAMELIA** gelatine recovery process is primarily used for increasing the yield and improving the quality of the final extraction from limed ossein derived gelatine solution.

The process requires the re-boiling of the final extract residue followed by chemical flocculation of the impurities. These impurities are then removed by the clarification process by means of a dissolved air flotation technique, whereby the insoluble impurities are quickly separated as a floating sludge, leaving a clear supernatant liquor.

For further recovery of gelatine, the sludge from the clarification process may be pressed in a plate filter. This produces a solid cake as the only waste product. In addition to the value of recovered gelatine, the gelatine recovery process eliminates the production of wet sludge. This sludge usually imposes a significant load on a plant's effluent treatment facility and results in high trade effluent costs.

Benefits

1. Gelatine Clarification Process

Our clarification process will achieve between 15-20% increase in yield. Therefore, for every 100m³ of gelatine liquor at 6% gelatine solids, the increase in yield would be 1.2 tonnes. Assuming this grade of gelatine is valued at \$4,000 per tonne, the following table gives a summary of increased revenue based on various annual throughputs.

Annual Production Of Boiling Yield	Additional Yield	Additional Revenue
5,000 m ³ @ 6%	60 tonnes	\$240,000
10,000 m ³ @ 6%	120 tonnes	\$480,000
15,000 m ³ @ 6%	180 tonnes	\$720,000
20,000 m ³ @ 6%	240 tonnes	\$960,000
25,000 m ³ @ 6%	300 tonnes	\$1,200,000

Note: With this process, the waste solids would be discharged in the form of a wet sludge. Typically it would contain about 10-15% insoluble solids.

2. Gelatine Recovery Process

This process can recover 80% of the gelatine contained in the sludge, which is discharged from the clarification process. It has the added benefit of consolidating the waste solids into a cake, thereby significantly reducing the environmental impact of the gelatine factory

For every 100 m³ of low grade gelatine solution that is processed, we estimate 15 m³ of sludge would be produced. The gelatine recovery process would recover a further 0.72 tonnes of gelatine from this sludge. The additional revenue is summarised in the table below.

Annual Production Of Boiling Yield	Additional Yield	Additional Revenue
5,000 m ³ @ 6%	36 tonnes	\$ 144,000
10,000 m ³ @ 6%	72 tonnes	\$288,000
15,000 m ³ @ 6%	108 tonnes	\$432,000
20,000 m ³ @ 6%	144 tonnes	\$576,000
25,000 m ³ @ 6%	180 tonnes	\$720,000