

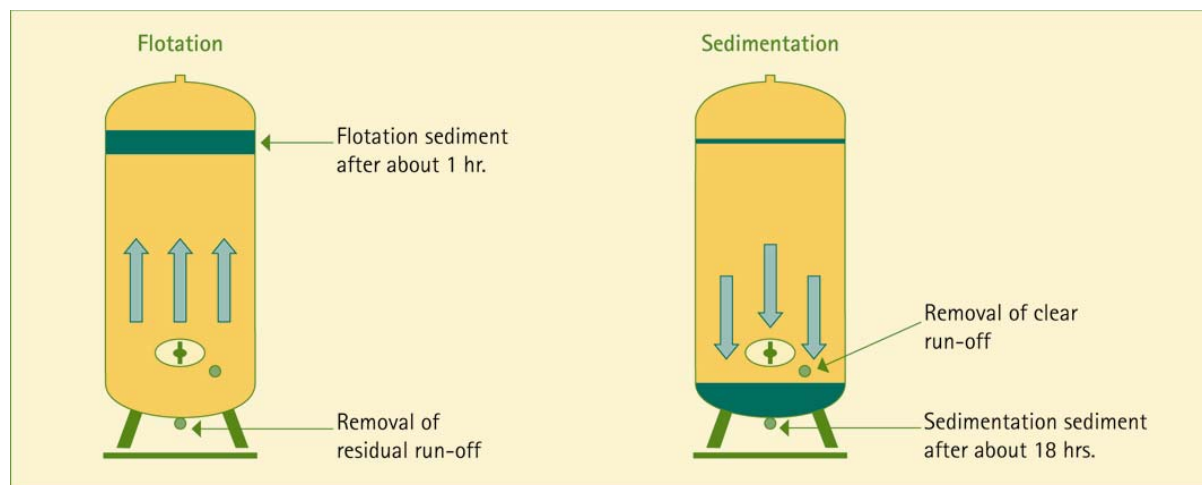
Flotation

Saving time during the labour-intensive harvest period provides the winemaker with a smoother-running operation. Flotation makes it possible for him to have more intensive control over the other important steps in the production of high-quality vintage wines.

This extra time creates scope for intensive sensory and analytic control, as well as rapid intervention of unwanted compounds formed in young wine. Several years ago, flotation caught on as an alternative to sedimentation in the range of technical possibilities during must pre-clarification. To produce contemporary, modern and fruity wines, a residual sediment content in the must of less than 0.6% by weight is a crucial requirement in order to accomplish the necessary controlled fermentation. With flotation it is possible to rapidly achieve these values.

How does flotation work?

Flotation means a solid/liquid separation process in which the sediments present in the must are transported by adhesion to gas bubbles on the must surface and removed from there. By addition of gelatin in the form of LiquiGel Flot or ErbiGel® Flot, one gets a compact, easily separable sediment cake and a clear phase, which forms the basis for controlled fermentation and thus for vinification of premium wines.



Advantages of Flotation

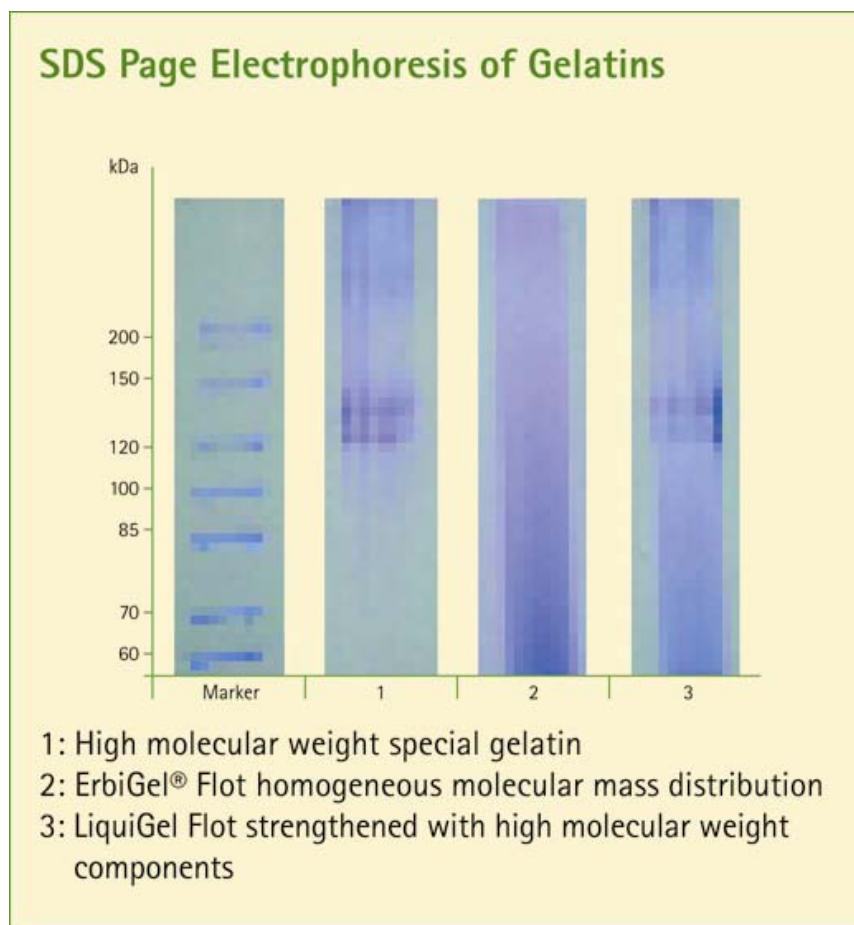
Flotation represents a fast, high-performance procedure for must pre-clarification. Its contribution to quality assurance comes into its own particularly in years with heavier grape rot or higher vintage temperatures. Additionally, for faster and gentle clarification of musts, a phenol oxidation is achieved through shorter holding times and use of the flotation technique as a whole. The nitrogen supply of musts is not more strongly reduced by flotation than after sedimentation, so that any fermentation problems are due rather to too low yeast dosages during too vigorous must pre-clarification. For testing of the nutrient situation in the must, it is advisable to perform a measurement with the Erbslöh EasyLab yeast-utilisable nitrogen test which gives the winemaker a fast estimate of the nutrient requirement.

Differences in Flotation Media

Particularly during stronger phenolic loading, conventional liquid gelatins do not bring enough lift through formation of too few flakes and thus are suitable to only a limited extent for tannin-reducing flotation. Powdered gelatins like ErbiGel® Flot possess a Bloom number between 160 and 200. For this reason, they are highly reactive and bring a fast flotation result.

Fast and complete flocculation of the flotation media used is important for the efficiency of the flotation. With powdered gelatins, the Bloom number is an important parameter as a measure of the swelling property and also, consequently, of the reactive surface. Cold-soluble gelatins are low-blooming and therefore possess a small active surface which can react with wine compounds. High-blooming gelatins such as ErbiGel® Flot (200 Bloom), which have a high reactivity, are preferred for the flotation. Conventional liquid gelatin does not react fast enough in order to obtain an appropriate flotation result. The new product LiquiGel Flot contains a high molecular weight component which has a large reactive surface and therefore ensures an optimal flotation result. Methods such as electrophoresis show the differences with respect to molecular mass distribution.

LiquiGel Flot combines the advantages of conventional gelatin (fast flocculation) with those of high molecular weight proteins (good clarifying effect with small dosages).



Differences in Sedimentation Content

Treatment	Sedimentation in % by Weight
Unfloated	0.97
Erbigel Flot®	0.40
Liquigel Flot	0.24

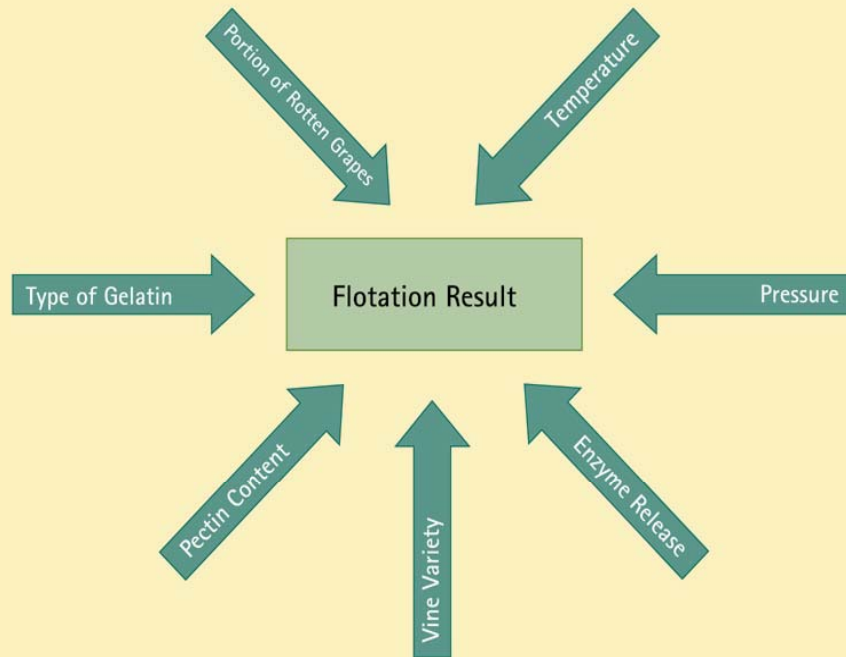
These numbers substantiate that use of the two flotation gelatins removes the sediment in the desired framework. These values are between 0.2 and 0.6% by weight. The new special product Liquigel Flot is characterised by its liquid form and, consequently, direct usability. By using different types of gelatin, an optimal combination was developed.

An important requirement is a low pectin content in the must, since a high pectin content increases the viscosity and therefore worsens the result of the flotation. With the addition of the enzyme Trenolin® Flot DF, the degradation of the pectin can be accelerated, in doing so the reactions are very temperature-dependent.

At temperatures of 15 to 20 °C, 5 to 10 mL/100 L is usually sufficient, in order to break open the pectin framework in a few hours. Through previous enzyme addition, the quantity of gelatin added afterwards for flotation can be reduced.



Influences on the Flotation Result



What must be considered during flotation?

- The must which is to be floated should not yet be in fermentation since the ascending CO₂ makes a flotation impossible.
- Because the gelatin hardly reacts at less than 8–10°C and thus does not form flakes which carry along the sediment, a higher temperature should be maintained.
- Purified air is generally used to impregnate, nitrogen in special cases, if importance is attached to reductive vinification. According to experience, the lowest limit is 5 bar pressure. Over 6 bar, there are no more advantages. The correct amount of air must be carefully determined according to the circumstances.
- Because of good pre-clarification, the sowing of yeast is to be increased to at least 20 g/100 L.
- With a rot-laden vintage, activated charcoal Granuacol® GE, must bentonite Seporit PORE-TEC or adsorptive mixed product MostRein® PORE-TEC should be additionally added during the flotation procedure.
- Particularly with early harvested grapes, an enzymatisation is recommended since the fruit's own enzymes are not fully developed at this time.

Advantages of LiquiGel Flot **NEU**

LiquiGel Flot is liquid and makes application easy.

High effectiveness is achieved with a low dosage.

LiquiGel Flot makes high phenol adsorption possible.

Because of the heterogeneous structure of LiquiGel Flot, it is absolutely necessary to thoroughly mix the can shortly before use since a phase separation can take place with longer storage.