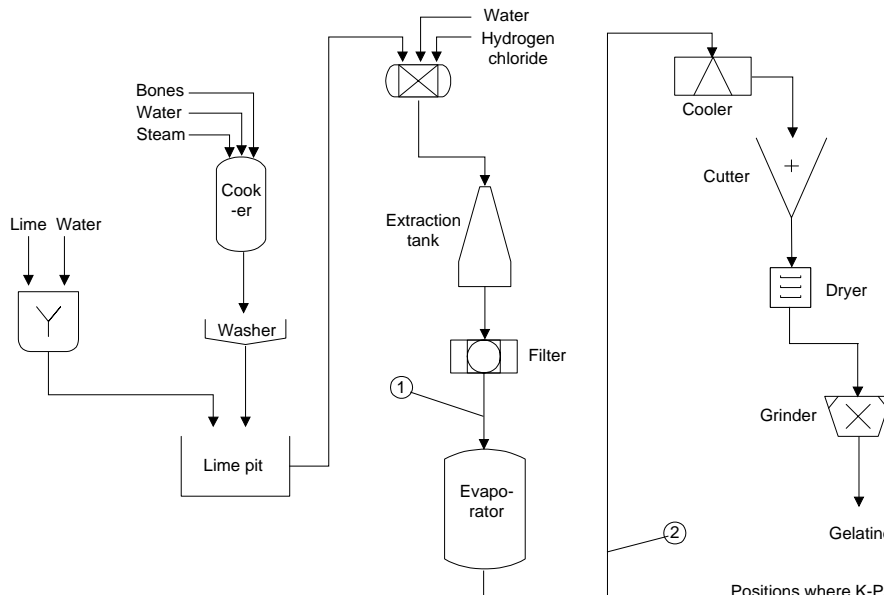


### Gelatine



Positions where K-Patents PR-01-S is used:

- ① Before evaporator
- ② After evaporator

### Gelatine

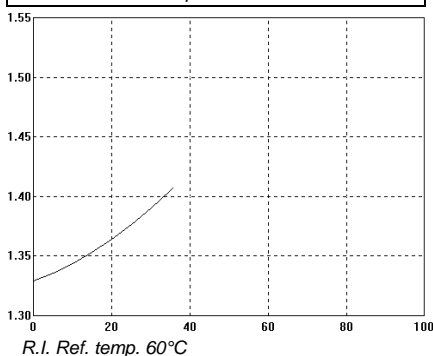
Soluble in

hot water

Typical end products

photographic films, pharmaceutical products, food

Chemical curve: R.I. per Conc% b.w.



### Introduction

Collagen is the greatest organic component in the bones and skins of mammals. Acid process and liming process production methods are used to produce gelatine, which is purified protein derived from the selective hydrolysis of collagen.

Gelatine is an organic, colloidal protein substance whose principal

value depends on its coagulative, protective and adhesive powers. Gelatines swell in cold water, but are insoluble in it. They dissolve in hot water to give very viscous solutions.

Gelatines are manufactured from bones and hides, and are used in different industries: photographic, pharmaceutical and food industries.

### Application

The acid process method consists of placing the bones or skins in a vat containing a dilute solution of acid for a determined period. The solution is then washed in cold water, which reduces the pH to approximately pH 4.

The liming process method consists of placing the ossein or hides into liming pits with a lime slurry, which is periodically renewed for a period of up to 90 days for ossein. At the end of this operation, the raw material is washed to remove residual lime and the hydrolysed organic impurities.

The next stage, where the K-Patents Process Refractometer PR-01-S is used, is the most important in providing different quality of gelatine. At this point, the gelatine extract with a concentration of around 5% is filtered, deionised in an ion exchanger and concentrated in multiple-effect vacuum evaporators. A 15% solution is obtained and filtered through cellulose filter-cakes and evaporated up to 30-40%. The concentrated solution is then sterilized, cooled and extruded to gelatine strains. The final gelatine product is dried in a tunnel dryer.

### Installation

K-Patents PR-01-S is used just after the filtration and before the evaporation plant. The sensor is installed directly in a pipe just after a circulation pump.

Typical measurement ranges of gelatine production are 0-15% or 0-40% and the process temperature about 60°C (140°F). Steam cleaning is recommended for concentrations more than 5%.