

Animal glues

There are two principal types of animal glues:

- Hide origin
- Bone origin

Hide glues are derived from the collagenous materials present in hide pieces and connective tissues associated with the hide. As a group, hide glues are the strongest and most versatile of animal glues with respect of broad usage.

Extracted bone glues are derived from the collagen present in the structure of bones. It is processed from clean, dry bones which have been degreased before processing for glue. As a group, the bone glues, while not as versatile as hide glues, find wide acceptance where glues of medium and lower strengths are indicated.

General properties of animal glues

In physical form, animal glues are odorless, dry, hard, hornlike materials, somewhat transparent, ranging in color from light amber to dark brown. They are supplied generally in ground form, pearls, flakes or pulverized states.

The average moisture content of animal glue lies in the range of 11 to 14 per cent (loss in weight), subject to slight variations due to changes in relative humidity. An ash content of from 3.00 to 4.50 per cent is considered normal. In water solution, hide glues are generally found to be practically neutral in reaction - pH range of 6.4 to 7.4; bone glues are generally slightly acidic in the pH range of 5.8 to 6.2. the specific gravity of dry animal glue is approximately 1.27.

Preparation of animal glue

- Use clean equipment
- Weigh glue and water
- Soak in clean, cold water
- Pour dry glue into water
- Prepare separate batches of glue
- Use gentle heat

Liquid animal glue

Liquid animal glues are readily formulated from the usual hot animal glue solutions by the addition of suitable jell-depressant, such as urea, which serves to retard and depress the rate of gelation of the glue. Adding 1 - 3 % urea prolongs the time of gelation, adding 2 - 3% urea increases the gelation time up to 5-10 minutes. An addition of 15% urea keeps the glue liquid at room temperature.

General use

Sizing and Coating, e.g. paper, silk, cotton, wool, walls, calcimines, paper making

Adhesive, e.g. abrasives, paper container, wood, musical instruments, book bindings

Composition and Colloidal, e.g. wood, cork, rubber