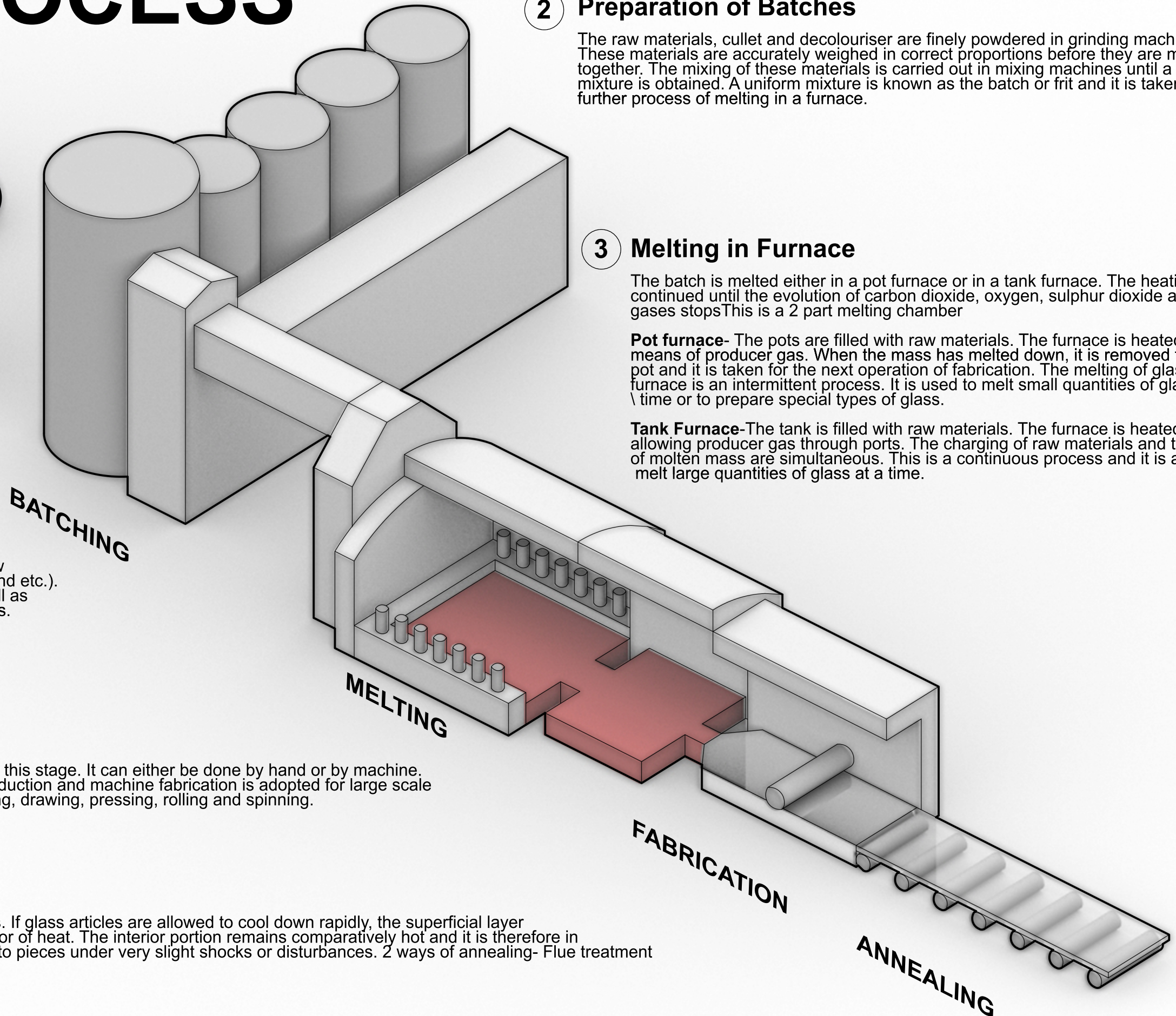
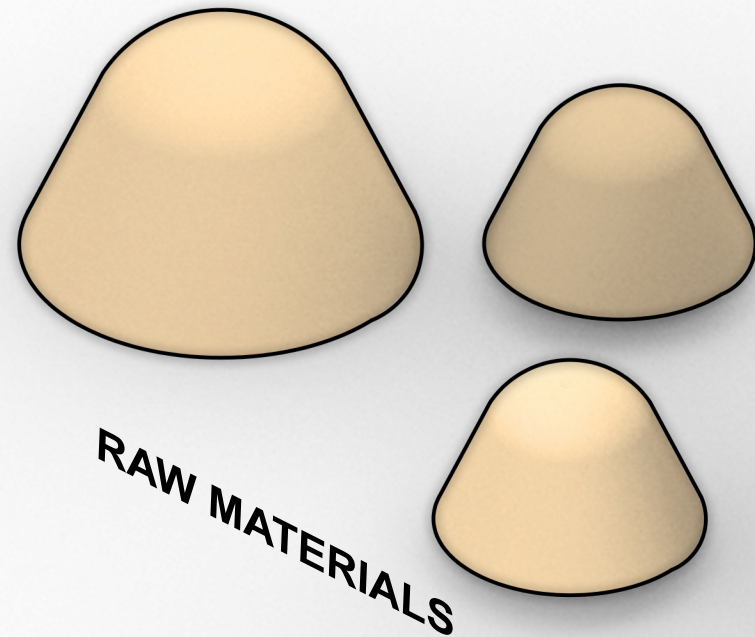


GLASS PROCESS



1 Collecting Raw materials

Depending on the type of glass you want to manufacture, you would collect the right type of raw materials (ex.Chalk, salt cake, clean sand, pure sand etc.). Cullet - waste glass/ broken pieces of glass- as well as decolorizers are added into the mix of raw materials.

4 Fabrication

The molten glass is given suitable shape or form in this stage. It can either be done by hand or by machine. The hand fabrication is adopted for small scale production and machine fabrication is adopted for large scale production. Ways of fabrication are: Blowing, casting, drawing, pressing, rolling and spinning.

5 Annealing

The annealing of glass is a very important process. If glass articles are allowed to cool down rapidly, the superficial layer of glass cools down first as glass is a bad conductor of heat. The interior portion remains comparatively hot and it is therefore in a state of strain. Hence, such glass articles break to pieces under very slight shocks or disturbances. 2 ways of annealing- Flue treatment and oven treatment.

2 Preparation of Batches

The raw materials, cullet and decolouriser are finely powdered in grinding machines. These materials are accurately weighed in correct proportions before they are mixed together. The mixing of these materials is carried out in mixing machines until a uniform mixture is obtained. A uniform mixture is known as the batch or frit and it is taken for further process of melting in a furnace.

3 Melting in Furnace

The batch is melted either in a pot furnace or in a tank furnace. The heating is continued until the evolution of carbon dioxide, oxygen, sulphur dioxide and other gases stops. This is a 2 part melting chamber

Pot furnace- The pots are filled with raw materials. The furnace is heated by means of producer gas. When the mass has melted down, it is removed from the pot and it is taken for the next operation of fabrication. The melting of glass by pot furnace is an intermittent process. It is used to melt small quantities of glass at a time or to prepare special types of glass.

Tank Furnace- The tank is filled with raw materials. The furnace is heated by allowing producer gas through ports. The charging of raw materials and taking out of molten mass are simultaneous. This is a continuous process and it is adopted to melt large quantities of glass at a time.