

Collage of Engineering  
Materials Department

Third Class  
Lecture (8)

# GLASS

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## Vind

It can also be result of a fault during processing of product:

- accumulation on old cooled glass,
- accumulation on edge of workspace,
- incorrect position of fireclay ring in the pot
- uncleaned glass surface in the pot.

Vind that is a result of faults during processing occurs only at separate working brigades and not on the whole process lines. Vind is always present in the pot and on workspace, but can be avoided by correct handling.

## Color

Color is compared with standards. Glass can be colored due to the presence of metal oxides that are present in materials, glass shards or as a result of small trash particles. Glass is usually colored green or blue.

## Over cooling

During the process of hot molding, high tensions are formed throughout the product. This can result in product failing, during the process of cooling or during sanding and polishing. It can also happen during the usage of product. That's why it is important that products are cooled correctly and that process is daily monitored.

Proper tension decrease can be checked with the help of polarized light on the polariscopic machine. This needs to be done daily, by using random test samples from production line. Products can also be tested by using SHOCK tests, which are performed in a lab. 26

## 5.2.2. Product shape and dimension

The product shape and dimensions are two very important characteristics and are used as basic guidelines for production. Dimensions are marked on the drawing of the product and have to be strictly set.

Dimensions can vary according to the product type: height, width, diameter of the bottom and top, diameter of the disc, thickness of the foot, edge, wall, etc. Tolerances have to be added to the median value of the dimension. This means that if product is made within tolerances, it is considered suitable.

Example: The height of the product on the picture is  $187 \pm 2$  mm. The product height can be 185-189mm; everything below or above this height is not consistent and is discarded.

Weight is also an important dimension in the glass industry.

The set tolerance for weight of hand made products is  $\pm 15\%$ , according to the median set weight and  $\pm 10\%$  in machine production.

In order to avoid discarding of too many products, it is very important that the dimensions are checked in the starting phases of production.