

Types of Glassware and their Applications

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ABSTRACT: Strengthening the use of glassware, increasing demand in the economy.

Keywords: amorphous glass, optical glass, crystal glass, treble glass, elemental glass



An amorphous body, which is obtained by supercooling a solution, regardless of its chemical composition and solidification temperature, and which forms solid properties due to a gradual increase in viscosity, is called glass. In this case, the transition from the liquid state to the glass nature must be repeated. According to historical sources, glassmaking began in Egypt in BC. The appearance of artificial glass is usually associated with pottery. In pottery, soda and sand may have been added to the clay during firing, resulting in a glazed surface. Glass mil. av. It began to be produced in ancient Egypt and Central Asia in 4,000 years. Initially, stranded glass was produced. The ingredients were gradually changed. Oxides of alkali metals in it are reduced from 30% to 20%. Lead and tin oxides were added to the glass, and manganese and cobalt compounds were added to add color. Mil. av. In the 2nd millennium BC, glass was melted in Egyptian ceramic jars with a capacity of 0.25 liters. Old Glass is baked at 1000-1100 °.

Matn tarjimasi

O‘ZBEK

INGLIZ

Manba matn

Shaffof shisha tayyorlash va mahsulotga puflab shakl berish hal qilingandan boshlab shishasozlik texnologiyasida muhim o'zgarish ro'y berdi. 19-asr oxirigacha shishasozlikda qo'l mehnati ustun edi, 20-asrning 20-yillaridan boshlab turli xil Shishalar ishlab chiqarish avtomatlashtirildi.

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Tarjima natijalari

Significant changes have taken place in the technology of glassmaking since the decision to make transparent glass and blow-mold the product. Until the end of the 19th century, manual labor was predominant in glassmaking, and from the 1920s onwards, the production of various types of glass was automated.

Glass is baked in the industry, mainly in bath ovens and special jars. Glass firing process involves liquefaction, clarification (purification of air and other gases), homogenization and cooling of the glass mass. The glass is baked at 1400-1450 °, clarified and homogenized at 1460-1500 °, cooled at 1200-1300 °. The city is shaped and made by pressing, puffing, stretching and rolling. A uniform distribution of internal stresses is achieved by cooling the city at 500-600 ° (20-30 ° above the glazing path) or by abrupt cooling (cooling) of the cooling path. The mechanical strength of glass increases when it is refined.

Glass condition - hard, transparent, amorphous.

It consists of SiO₂, Al₂O₃, CaO, MgO, NaOH.

The raw materials are natural and artificial compounds such as quartz, clay, limestone, magnesite, dolomite, soda.

The chemical composition of materials is expressed in terms of their composition in the form of glass, which are inorganic mineral materials. In our country, glass companies produce a variety of glass products.



Glassware is divided into several types depending on the area of use

Stained glass - 2.8 - 4.2 mm thick, used in the engineering industry for the windows of buses, tractors.

Showcase windows - differ from other windows in thickness by 10 mm and are used as a barrier in home stores.

Treplex windows - three-layer treplex windows are mainly heated, pressed and molded at 700 ° C by placing a treble film between the windshields of cars.

Optical glasses - Optical glasses are used to reflect images or transmit light in the desired direction. Optical glasses are used in the manufacture of sketches, optical lenses and optical glasses. Ultra-transparent, chemically stable homogeneous glass. It is made with the given optical properties - refractive index (1.47-2.04) and dispersion coefficient (70-78). Depending on these specifications, optical glass is divided into crowns (small refractive index and large dispersion) or flints (large refractive index and small dispersion). Optical glass is used in the manufacture of optical instruments and items (glasses, lenses, microscopes, binoculars, etc.).

Elemental Glass - consists of atoms of only one element. Sulfur, selenium, arsenic, phosphorus, and some metals can be obtained in the form of glass when cooled rapidly.

Crystal glass is different from ordinary glass in that it contains lead oxide and is used in the household.

In particular, we need to expand the range of glassware in our modern times, because glassware is one of the cheapest products. Heat-resistant, has the ability to maintain its quality for many years. In the future, we will produce heat-resistant, high-crystalline sheet glass for special furnaces in the national economy. It has several advantages:



No loss of quality over time;

No loss of quality over time;

There are no adverse effects on human health;

The cost is also cheap.



This type of glass jars, produced in our country with a sufficient level of raw materials, occupies a place in the world market.

Conclusion

Glassware was once needed for human consumption. Today, the glass industry has achieved many successes. We cannot imagine our lives without glassware. We need to increase the stocks of raw materials in our country and increase the demand for glassware. First of all, we need to increase the range of glassware on the basis of new innovations, new technologies. We need to create products that can truly compete with the global market.

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