

عنوان مقاله:

Forming and polishing of glass into the tin bath

محل انتشار:

دهمین کنگره ملی مهندسی شیمی ایران (سال: 1384)

تعداد صفحات اصل مقاله: 7

نویسندگان:

Salem - Chemical Engineering Department of Sahand University of Technology Tabriz Iran

Ghaemi - Azar Float Glass Manufacture Company Tabriz Iran

Hoseini

خلاصه مقاله:

The molten glass in the furnace, passing the canal at the end of cooling section in the furnace, comes into the tin bath. There it forms into a stream of definite geometry, which stretched, attenuated, thinned or thickened by automatic top rollers, cooled and formed into a glass ribbon of required thickness. In order to protect the molten tin in the tin bath from oxidization, and to avoid some defects of the glass arisen in the tin bath, the protective gas ($H_2 + N_2$ in required ratio) of required purity is continuously conducted into the tin bath. The formed glass ribbon then leaves the tin bath via the lift-out rollers and enters into an annealing lehr. It is well known, that forming of glass can only be proceeded when temperature of molten glass reduces and the glass has a certain viscosity. For production of flat glass, it's forming beings at the viscosity of 102.5_3.0 Pa.s. When the glass viscosity is less than 102.5 Pa.s, i.e. the temperature is over 1100° C, forming is impossible. For production of flat glass by traditional processes, glass forming under such small viscosity is impossible. Forming of glass by traditional processes is only possible when glass viscosity is at 103.5 Pa.s. Because of specific advantage of float process, forming of glass can begin at such small viscosity, normally under temperature 1050 – 1080° C. If the temperature is too low, it is impossible to produce super-quality float glass. Polishing of molten glass which flows onto the surface of the molten tin will be discussed elow

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