

Study of High Temperature Glass Wetting Behaviour on Various Coated Substrates

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Abstract

The glass molding process is considered to have a great potential for the mass

production of aspherical and free form glass lenses with high precision and lower cost.

In glass molding process, the die surfaces are exposed to the chemically active glass

and also subjected to mechanical and thermal cyclic operations, which leads to three

critical problems including sticking/adhesion of glass to the die surface, oxidation and

wear of the die. These problems result in imperfections in the glass products, loss of

dimensional control of glass products and limited service life of dies.

This study

aims to design protective coatings to improve service life of die. High temperature

glass wetting experiment was carried out to investigate the high temperature

interfacial reaction between the coatings and glass gobs.

Keyword : Wetting

Various Coated Substrates