

Double-glass components have large warping





Overview

Non-isothermal hot embossing has great potential in the mass production of glass micro optical components due to the relatively short heating-cooling cycle time. However, warpage was induced by the tem.

What is the shape of warpage on glass?

The shape of warpage on most glass surfaces are convex, with an amplitude of less than 2 μm . The side of glass replica with microstructures is defined as “upper surface”, while the opposite side is defined as “lower surface”.

Do glass replicas have warpage?

The shape and amplitude of warpage on both upper and lower surfaces of glass replicas under process parameters were compared for evaluating the warpage behavior, and the filling heights and curvature radii of glass microstructures was analyzed for understanding the filling behavior of glass.

Why is glass replica prone to warping deformation?

That is to say, the warping deformation of glass replica is mainly contributed by the viscous deformation. VFT equation suggests that the glass viscosity decreases exponentially with temperature. Therefore, glass replica is prone to viscous deformation at higher temperatures. Fig. 7 a compares W P u p p e r 5 under different embossing temperatures.

Does molding affect warpage in glass interposer packaging?

A wafer-level glass interposer packaging process based on TGV and molding was proposed. The warpage values were measured by a laser-assisted method, and the simulated values agreed well with the experimental measurements. Furthermore, the effect of different molding and glass materials on warpage was explored.



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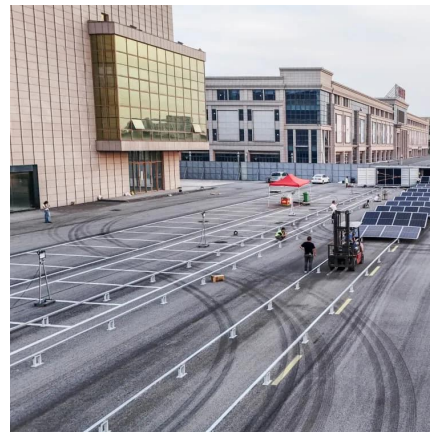


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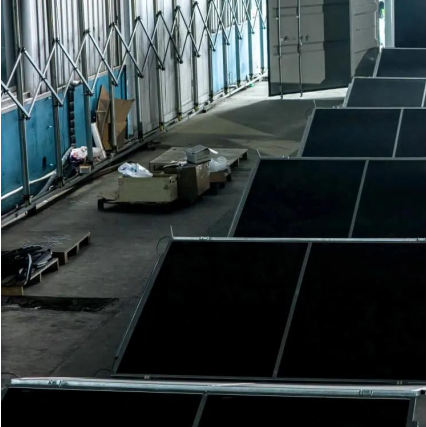
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