BENDABLE GLASS STACK ASSEMBLIES, ARTICLES AND METHODS OF MAKING THE SAME

ABSTRACT

A glass element having a thickness from 25 μm to 125 μm, a first primary surface, a second primary surface, and a compressive stress region extending from the first primary surface to a first depth, the region defined by a compressive stress σI of at least about 100 MPa at the first primary surface. Further, the glass element has a stress profile such that when the glass element is bent to a target bend radius of from 1 mm to 20 mm, with the center of curvature on the side of the second primary surface so as to induce a bending stress σB at the first primary surface, $\sigma I + \sigma B < 0$. Still further, the glass element has a puncture resistance of ≥ 1.5 kgf when the first primary surface of the glass element is loaded with a tungsten carbide ball having a diameter of 1.5 mm.

Fig. 1A