EDGE STRENGTHENED SUBSTRATE OF A DATA STORAGE DISK AND METHOD FOR FABRICATING SAME

ABSTRACT

An edge strengthened substrate (37) of a data storage disk and a method for fabricating same is disclosed. A strengthening agent is preferably applied to selected portions of a disk-shaped glass substrate (37) to increase the overall strength of the glass substrate (37). In one embodiment, a strengthening agent is preferably applied along an inner diameter portion (76) of a disk-shaped glass substrate (37). A binder is preferably mixed with the strengthening agent to limit the mobility of the strengthening agent to the selected inner diameter portion (76) of the substrate (37) during the strengthening process. The glass substrate (37) is then heated to a diffusion temperature for a sufficient duration of time to permit diffusion of the strengthening agent into the glass substrate (37). Selective application of a strengthening agent to an outer diameter portion (78) of the glass substrate (37) may be performed to further strengthen the glass substrate.

Fig. 3