

SCRIBING DEVICE AND METHOD FOR BRITTLE MATERIAL SUBSTRATE,
AND AUTOMATED BREAKING LINE

ABSTRACT

Along a region where a scribe line is formed on a surface of a glass substrate 50, a laser spot is continuously applied for heating at a temperature lower than a softening point of the glass substrate 50, and a region in the vicinity of the heated region is cooled. In this manner, a blind crack is formed along a line to be scribed. A detection unit 40 applies light to the blind crack, immediately after formed in the vicinity of to a cooling spot, through an optical fiber 41. When the blind crack has been formed, part of the light is obtained in the optical fiber 41 because of diffuse reflection. Therefore, detection of the level of this reflected light allows checking as to whether the blind crack has been normally formed or not.

Figure 2