[TITLE OF DOCUMENT] ABSTRACT

An apparatus for peeling an adhesive tape is provided for enabling fragmented adhesive tapes to be readily and efficiently peeled from a plate-shaped member.

The apparatus for peeling a surface protection tape (adhesive tape) 2a adhered on the surface of a wafer (plate-shaped member) W and fragmented into chip-size pieces from the wafer W comprises peeling tape supplying means 20 for feeding a peeling tape 3 to the wafer W set on a suction table 10; peeling tape adhering means for adhering the peeling tape 3 fed out by the peeling tape supplying means 20 over the entire surface of the surface protection tape 2a adhered on the surface of the wafer W; heating means for heating the peeling tape adhered over the entire surface of the adhesive tape by the peeling tape adhering means together with the adhesive tape; tape peeling means for peeling the adhesive tape sticking to the peeling tape through the heating by the heating means from the plate-shaped member together with the peeling tape; and collecting means for collecting the adhesive tape and peeling tape peeled from the plate-shaped member by the tape peeling means.