CLAIMS

1. A method, comprising:

creating at least one crack at a point on an edge of a stack of at least a substrate and a superstrate for initiating separation between the substrate and the superstrate;

propagating the crack along the periphery; and

moving the superstrate relative to the substrate to complete separation of the superstrate from the substrate.

2. The method of Claim 1, further comprising introducing a positive fluid pressure between the substrate and the superstrate at the point on the edge to create the crack.

3. The method of Claim 2, wherein the positive fluid pressure includes a flow of clean dry air, helium, or nitrogen.

4. The method of Claim 1, further comprising:

retaining the superstrate in a superstrate chuck with a negative fluid pressure; and

applying a high flow of negative fluid pressure to a peripheral zone on the superstrate to propagate the crack along the edge of the stack.

5. The method of Claim 4, further comprising continuing to introduce the positive fluid pressure to the separated portion while applying the high flow of negative fluid pressure to the peripheral zone on the superstrate.

6. The method of Claim 1, further comprising moving the superstrate in a direction away from the substrate with a superstrate chuck.

7. The method of Claim 1, further comprising applying a negative fluid pressure to a center zone on the superstrate to complete the separation of the superstrate from the substrate with a superstrate chuck.

8. The method of Claim 1, further comprising applying a force at the point on an edge of the superstrate to create the crack.

9. The method of Claim 8, further comprising creating another crack by applying a positive fluid pressure between the substrate and the superstrate at another point of the edge of the stack.

10. The method of Claim 1, wherein the force is applied by introducing a positive fluid pressure or a mechanical contact,

11. The method of Claim 1, further comprising:

stacking the substrate and the superstrate in such a way that the superstrate includes an overhanging edge portion; and

applying a force to the overhanging edge portion to create a crack.

12. The method of Claim 11, further comprising:

aligning another edge portion of the superstrate with a notch at an edge portion of the substrate and

applying a force to the another edge portion to create another crack between the substrate and the superstrate.

13. A chucking system, comprising:

a superstrate chuck configured to retain a superstrate with negative fluid pressure; and

a source of force configured to apply a force to a point on an edge of the superstrate stacked with a substrate, so as to create a crack between the substrate and the superstrate at the point on the edge.

14. The chucking system of Claim 13, wherein the superstrate chuck includes a pattern of lands, and one of the lands located near an edge of the superstrate chuck is recessed below the other lands located an inner portion of the superstrate chuck to allow the superstrate to deflect towards the superstrate chuck while creating the crack.

15. The chucking system of Claim 13, further comprising a substrate chuck configured to retain the substrate with negative fluid pressure.

16. The chucking system of Claim 15, wherein the substrate chuck includes a pattern of lands, and one of the lands located at an edge of the substrate chuck is recessed below the other lands located at an inner portion of the substrate chuck to allow the substrate to deflect towards the substrate while creating the crack.

17. The chucking system of Claim 13, wherein the source of force includes a mechanism to create a lateral mechanical push or a source of positive fluid pressure towards the edge of the superstrate.

18. The chucking system of Claim 13, wherein the substrate includes a notch arranged at an edge thereof, and the source of force includes a source of negative fluid pressure applied to the superstrate via the notch.

19. The chucking system of Claim 13, further comprising a negative fluid pressure source to apply the negative fluid pressure to the superstrate through the superstrate chuck.

20. The chucking system of Claim 13, wherein

the superstrate chuck is configured to retain the superstrate such that the superstrate includes an overhanging portion; and

the source of force is configured to apply force to the overhanging portion of the superstrate to create the crack.

21. A method of manufacturing an article, comprising:

forming a cured material stacked between a substrate and a superstrate;

creating at least one crack at a point at an edge between a substrate and a superstrate;

propagating the crack along the periphery; and

separating the superstrate from the cured material.

22. The method of Claim 1, further comprising pushing the superstrate towards a direction away from the substrate at the point at the edge to create the separation crack.