CLAIMS

1. A method, comprising:

i) applying a resin onto a substrate;

ii) positioning the substrate over a chuck of a base of a fixture;

iii) hingably coupling the support and the base of the fixture;

iv) changing a hinge point between the support and the base between a first position and a second position;

v) securing a mold within a mold support and coupling the mold support to a support of the fixture;

vi) moving the mold into engagement with the resin;

vii) curing the resin;

viii) detaching the mold and the resin; and

ix) while detaching the mold and the resin, determining a detachment force applied as a function of a distance of detachment between the mold and the resin.

2. The method of claim 1, wherein changing the hinge point includes spacing the hinge point from a plane defined by the mold or the mold support.

3. The method of claim 1 or claim 2, further comprising coupling the support and a load cell and wherein detaching the mold and the resin includes detaching the mold and the resin while the support is coupled to the load cell.

4. The method of claim 3, wherein coupling the support and the load cell comprises clamping a strap at an end of the support and coupling the strap to the load cell.

5. The method of claim 4, wherein clamping the strap comprises closing a clamp at an end of the support.

6. The method of claim 4 or claim 5, wherein the strap comprises a zip tie.

7. The method of any one of claims 1 to 6, wherein engaging the mold and the resin comprises rotating the mold support toward the base of the fixture.

8. The method of any one of the preceding claims, further comprising drawing the substrate toward the chuck using a vacuum.

9. An apparatus, comprising:

a fixture including 1) a base having a chuck and 2) a support hingably coupled to the base and including a mold support receptacle;

wherein the support includes support brackets and the base includes base brackets hingably coupled with the support brackets, wherein each of the support brackets and the base brackets comprise an L-shaped bracket;

wherein hinge points between the support brackets and the base brackets are spaced from a plane defined by the support; wherein the base brackets comprise a plurality of coupling apertures to allow a hinge point between the support and the base to change between a first position and a second position; and

wherein the support is couplable to a load cell.

10. The apparatus of claim 9 wherein the support is rectangular and includes a corner support in each corner of the support.

11. The apparatus of claim 9 or claim 10, wherein the base includes a port fluidically coupled to the chuck.

12. The apparatus of any one of claims 9 to 11, wherein an end of the support includes a clamp couplable to the load cell via a strap.

13. The apparatus of any one of claims 9 to 12, further comprising:

a load cell; and

a mold support received within the mold support receptacle.

14. The apparatus of claim 13, further comprising an unpatterned foil coupled within the mold support, and a master template positioned on the chuck and a resin disposed on the master template.

15. The apparatus of claim 13, further comprising a mold coupled within the mold support, and a substrate positioned on the chuck and a resin disposed on the substrate.

16. The apparatus of claim 15, wherein the mold is movable into engagement with the resin and curable and the load cell is coupled to the support to determine a detachment force as the mold and the resin detach.

17. The apparatus of claim 16, wherein the load cell determines a force applied to the support and the system determines the force applied to the support as a function of a distance of detachment between the mold and the resin.

18. The apparatus of any one of claims 13 to 17, further comprising set screws coupling the mold support within the mold support receptacle.

19. The apparatus of any one of claims 13 to 18, wherein the chuck is a vacuum chuck.