

What is claimed is:

1. A reticle processing system comprising:
a support assembly including a plate coupled to a frame; and
a carrier base assembly configured to be positioned on the support assembly, the carrier
5 base assembly comprising a carrier base comprising top surface and a wall extending from the
carrier base defining a containment region, the containment region sized and shaped to contain
an EUV reticle.
2. The reticle processing system of claim 1, wherein the carrier base assembly does not
10 include a carrier top shield configured to surround the reticle.
3. The reticle processing system of claim 2, further comprising a set of reticle pins
extending from the top surface of the plate through a openings in the carrier base, the set of
reticle pins in contact with the reticle to support the reticle over the carrier base.
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4. The reticle processing system of claim 2, further comprising a set of carrier base pins
extending from the top surface of the plate, the set of carrier base pins configured to support
the carrier base over the plate.
- 20 5. The reticle processing system of claim 4, the containment region further comprising
resting pins to support the reticle when placed in the containment region.
6. The reticle processing system of claim 5, wherein the resting pins comprise a domed
surface which contacts a bottom surface of the reticle.
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7. The reticle processing system of claim 6, wherein the resting pins, the domed surface
and the reticle pins comprise a carbon filled PEEK material.
8. The reticle processing system of claim 1, further comprising a sensor system positioned
30 above the support assembly and configured to align the carrier assembly to the support
assembly.

9. The reticle processing system of claim 1, wherein the wall has a height and a top surface that extends beyond a top surface of a reticle when the reticle is placed in the containment region.
- 5 10. A carrier base assembly comprising
a carrier base comprising top surface and a wall extending from carrier base defining a containment region, the containment region sized and shaped to contain an EUV reticle; and
an EUV reticle contained within the containment region.
- 10 11. The carrier base assembly of claim 10, further comprising resting pins extending from a bottom surface of the containment region configured to support the reticle at a distance away from the bottom surface of the carrier base.
12. The carrier base assembly of claim 11, wherein the wall defines a height such that the
15 wall has a top surface that extends above a top surface of the reticle when the reticle is placed upon the resting pins.
13. The carrier base assembly of claim 12, wherein the carrier base assembly does not include a top shield which surrounds the reticle.
- 20 14. The carrier base assembly of claim 13, wherein the resting pins comprise domed surfaces made from carbon filled PEEK material.
15. A method of processing an EUV reticle blank, the method comprising:
25 providing a carrier base assembly including a carrier base and a reticle blank, the carrier base comprising top surface and a wall extending from carrier base defining a containment region, the containment region sized and shaped to contain the EUV reticle;
placing the carrier base atop a support assembly, the support assembly including a plate coupled to a frame;
30 depositing the reticle blank within containment region of the carrier base; and
removing the carrier base assembly from the support assembly.

16. The method according to claim 15, further comprising depositing the carrier base assembly atop a plurality of pins extending from a top surface of the plate, the plurality of pins supporting the carrier assembly so the carrier base is vertically separated from the plate by a first gap, and the reticle blank is vertically separated from the carrier base by a second gap.
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17. The method according to claim 16, further comprising:
positioning a robot within the first gap; and
lifting, using the robot, the carrier assembly from the support assembly to cause the carrier base and the reticle blank to engage one another.
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18. The method according to claim 15, further comprising:
identifying a position of the carrier base assembly using a sensor system positioned above the support assembly; and
- 15 depositing the carrier base assembly atop the support assembly according to the identified position of the carrier base assembly.
19. The method according to claim 15, further comprising:
placing the carrier base atop a set of reticle pins extending from the top surface of the
- 20 plate through a set of openings in the carrier base, wherein the set of reticle pins supports the reticle over the carrier base; and
placing the carrier base atop a set of carrier base pins extending from the top surface of the plate, wherein the set of carrier base pins supports the carrier base over the plate.
- 25 20. The method according to claim 19, further comprising moving the carrier base assembly from the support assembly to a physical vapor deposition chamber.