WHAT IS CLAIMED IS:

1. A method of fabricating a wafer-scale spacer/optics structure, the method comprising:

providing a replication tool having optical element replication sections and spacer replication sections;

using the replication tool to form negatives of the optical element replication sections on a wafer so as to provide replicated optical elements of a first material; and

injecting a liquid, viscous or plastically deformable material into the spacer replication sections of the replication tool to form negatives of the spacer replication sections on the wafer so as to provide replicated spacer elements of a second material different from the first material.

2. The method of claim 1 wherein using the replication tool to form negatives of the optical element replication sections on the wafer includes:

providing a first liquid, viscous or plastically deformable material onto the optical element replication sections of the replication tool;

bringing the wafer into contact with the replication tool so that the first liquid, viscous or plastically deformable material is pressed between a surface of the wafer and the optical element replication sections; and

causing the first liquid, viscous or plastically deformable material to transform into a solid state.

3. The method of claim 2 wherein causing the first liquid, viscous or plastically deformable material to transform into a solid state includes an optical or thermal curing step.

4. The method of claim 2 including bringing the wafer into contact with the replication tool so as to emboss the optical element replication sections of the replication tool onto the wafer.

5. The method of claim 1 including:

bringing the wafer into contact with the replication tool so as to replicate the optical element replication sections of the replication tool onto a front side of the wafer;

while the wafer remains in contact with the replication tool, providing the liquid, viscous or plastically deformable material in areas corresponding to locations for the replicated spacer elements; and

causing the liquid, viscous or plastically deformable material to harden so as to form the replicated spacer elements.

6. The method of claim 5 including:

bringing a vacuum sealing chuck into contact with a backside of the wafer while the wafer is in contact with the replication tool; and

injecting the liquid, viscous or plastically deformable material through an inlet of the vacuum sealing chuck so as to substantially fill the locations for the replicated spacer elements.

7. The method of claim 6 wherein causing the liquid, viscous or plastically deformable material to harden includes an optical or thermal curing step.

8. The method of claim 1:

wherein using the replication tool to form negatives of the optical element replication sections on the wafer includes:

providing a first liquid, viscous or plastically deformable material onto the optical element replication sections of the replication tool;

bringing the wafer into contact with the replication tool so that the first liquid, viscous or plastically deformable material is pressed between a surface of the wafer and the optical element replication sections; and

causing the first liquid, viscous or plastically deformable material to transform into a solid state;

the method including:

while the wafer remains in contact with the replication tool, providing a second liquid, viscous or plastically deformable material in areas corresponding to locations for the replicated spacer elements; and

causing the second liquid, viscous or plastically deformable material to transform into a solid state.

9. The method of claim 8 including:

bringing a vacuum sealing chuck into contact with a backside of the wafer while the wafer is in contact with the replication tool; and

injecting the second liquid, viscous or plastically deformable material through an inlet of the vacuum sealing chuck so as to substantially fill the locations for the replicated spacer elements.

10. The method of claim 1 wherein the optical elements include lens structures and wherein the spacer elements are substantially non-transparent.

11. A method of fabricating a wafer-scale spacer/optics structure, the method comprising:

providing a replication tool having optical element replication sections and spacer replication sections;

providing a first liquid, viscous or plastically deformable material onto the optical element replication sections of the replication tool;

bringing a wafer into contact with the replication tool so that the first liquid, viscous or plastically deformable material is pressed between a surface of the wafer and the optical element replication sections;

hardening the first liquid, viscous or plastically deformable material to form replicated optical elements on a surface of the wafer;

bringing a vacuum sealing chuck into contact with a backside of the wafer while the wafer remains in contact with the replication tool;

injecting a second liquid, viscous or plastically deformable material through an inlet of the vacuum sealing chuck so as to substantially fill locations for replicated spacer elements; and

hardening the second liquid, viscous or plastically deformable material to form the replicated spacer elements on the surface of the wafer.

12. The method of claim 11 wherein the first and second liquid, viscous or plastically deformable materials are different from one another.

13. The method of claim 11 including releasing the wafer, having the replicated optical elements and the replicated spacer elements formed thereon, from the replication tool and the vacuum sealing chuck.

14. The method of claim 11 wherein at least portions of the replicated optical elements are in direct contact with the replicated spacer elements.