~~Patent~~ Claims:

1. A wafer-level method for applying $N \geq 2$ first elements to a first side of a substrate, the substrate providing at the first side a first surface, the method comprising

a) ~~providing the substrate, wherein~~replicating at least N barrier members and an initial first element on the first surface of the substrate by an embossing-type or molding-type process, wherein the initial element and at least one of the at least N barrier members are simultaneously and integrally formed,~~are present at the first side,~~ and wherein each of the N barrier members is associated with one of the N first elements;

~~the method comprising for each of the N first elements~~

b) bringing a respective first amount of a hardenable material in a flowable state in contact with the first surface, the respective first amount of hardenable material being subsequently used to form ~~associated with the~~a respective one of the N first elements~~first element~~;

c) performing an embossing-type replication technique that includes pressing a replication tool into the first amount of the hardenable material;

~~e~~d) controlling a flow of the respective associated first amount of hardenable material on the first surface, during the embossing-type replication technique, by means of ~~the~~a respective ~~associated~~ barrier member integrally formed with the initial first element;

~~d~~e) hardening the respective associated first amount of hardenable material to form the respective one of the N first elements.~~;~~

~~wherein for each of the N first elements, in step d), an interconnection between the first surface and the respective first element is created.~~

~~2. The method of claim 1, wherein the method is a wafer-level method for applying the N ≥ 2 first elements to the first side of a substrate in a respective target position each, and wherein for each of the N first elements~~

- ~~during step b), the respective first element is in a position different from the respective target position; and~~
- ~~in step d), the interconnection between the first surface and the respective first element in the respective target position is created.~~

~~3~~2. The method according to claim 1~~ or claim 2~~, wherein a contact angle for the hardenable material on the barrier member amounts to at most 90°~~, and in particular to at most 45°, and more particularly to at most 30°~~.

~~4~~3. The method according to ~~one of~~ claims 1~~ to 3~~, wherein the hardenable material is hardenable via the introduction of energy.~~, in particular hardenable by one or both of heating it and irradiating it with electromagnetic radiation.~~

~~5. The method according to one of claims 1 to 4, wherein for each of the N first elements, step c) is carried out in such a way that at the end of step d), at least 60%, in particular at least 80% of a top surface area of the respective first element is free from material of the respective first amount of hardenable material.~~

~~6. The method according to one of claims 1 to 5, wherein each of the at least N barrier members is or is provided by one or more of~~

- ~~a replicated structure replicated at the first surface before step b) is carried out, in particular wherein the replicated structure is replicated using an embossing-type process, and more specifically wherein the replicated structure comprises an optical element and, in addition, a surrounding portion at least partially surrounding the optical element;~~
- ~~a surrounding portion of a replicated structure replicated in the first surface before step b) is carried out, the replicated structure comprising, in addition to the surrounding portion, an element, in particular an optical element, the surrounding portion at least partially laterally surrounding the element, in particular wherein the replicated structure is replicated using an embossing-type process;~~
- ~~a protrusion protruding beyond an average level described by the first surface;~~
- ~~a depression in the first side of the substrate extending below an average level described by the first surface;~~
- ~~a structure formed on the first surface using a replication method, in particular an embossing-type process;~~
- ~~a structure formed on the first surface using a dispensing method, in particular using a dispenser;~~
- ~~an item bonded to the first surface, in particular a pre-fabricated item bonded to the first surface, in particular bonded to the first surface using a bonding material;~~
- ~~a structure formed at the first surface by removing material from the substrate, in particular using a laser beam for removing material from the substrate, more particularly laser ablation;~~
- ~~a structure formed at the first surface using a photolithographic method with an etching step or lift-off step, in particular using a laser lithographic method;~~

- ~~a structure formed at the first surface using machining, in particular milling, e.g. using a milling machine;~~
- ~~a structure formed at the first surface using a saw, in particularly a dicing saw;~~
- ~~a structural feature at the first substrate being integrally formed with the at least a predominant part of the rest of the substrate, in particular wherein the substrate is manufactured using a replication technique, in particular an embossing-type or molding-type replication technique;~~

~~7~~4. The method according to ~~one of claims 1 to 6~~claim 1, wherein each of the N first elements is or comprises one or more of

- a replicated structure replicated at the first surface comprising steps b), c) and d)~~, in particular wherein the replicated structure is replicated using an embossing-type process, and more specifically wherein the replicated structure comprises an optical element and, in addition, a surrounding portion at least partially surrounding the optical element~~;
- an item to be bonded to the first surface~~, in particular a pre-fabricated item to be bonded to the first surface, in particular bonded to the first surface using a bonding material, e.g., a pre-fabricated bulk optical component~~;
- a micro-optical component~~, in particular a transparent micro-optical component~~;
- a passive optical component~~, in particular a lens element~~;
- an active optical component;
- an electronic component;
- a light emitting element~~, in particular an LED, an OLED, a laser diode~~;
- a light-detecting element~~, in particular a photo-diode or a light detector array~~;

— a micro-mechanical component;

— a micro-fluidic component;

— a portion of a wafer~~, in particular at least one contact standoff of a spacer wafer~~.

~~8. The method according to one of claims 1 to 7, the method comprising for each of the N first elements~~

~~r) producing the first element at the first surface by means of an embossing-type replication method;~~

~~step r) comprising~~

~~r1) using a replication tool for shaping at least a portion of the first amount of hardenable material;~~

~~r2) removing the replication tool from the first amount of hardenable material during or after step h).~~

~~9~~5. The method according to ~~one of claims 1 to 8~~claim 1, wherein each of the N barrier members comprises a protrusion protruding beyond an average level described by the first surface, the respective protrusion comprising a first partial surface, said first partial surface is at least oen of:

- facing towards the respective first element in its position at the end of step d) and~~/or~~ being horizontally aligned within ±35°, and a second partial surface facing away from the respective first element in its position at the end of step d),

wherein the first partial surface is, at the end of step d), at least partially covered by hardenable material of the respective associated first amount of hardenable material, and

wherein the second partial surface is, at the end of step d), free from hardenable material of the respective associated first amount of hardenable material~~, in particular wherein the first and second partial surface are adjoining at an edge and the first partial surface is, at the end of step d), covered by hardenable material of the respective associated first amount of hardenable material up to the edge~~.

~~10. The method according to one of claims 1 to 8, wherein each of the N barrier members comprises a depression at the first side of the substrate extending below an average level described by the first surface, the respective depression comprising a first partial surface facing away from the respective first element in its position at the end of step d) and a second partial surface, wherein the first partial surface is, at the end of step d), free from or at most partially covered by hardenable material of the respective associated first amount of hardenable material, and wherein the second partial surface is, at the end of step d), free from hardenable material of the respective associated first amount of hardenable material, in particular wherein the first partial surface has a boundary at which an edge is present, wherein at the end of step d), material of the first amount of hardenable material extends up to the edge, but the first partial surface is free from hardenable material of the respective associated first amount of hardenable material, wherein it may in particular be provided that the second partial surface is horizontally aligned within ±35° and/or faces towards the respective first element in its position at the end of step d).~~

~~11~~6. The method according to ~~one of claims 1 to 10~~claim 1, wherein each of the N barrier members forms ~~at least one of~~

~~–~~a protrusion protruding beyond an average level described by the first surface by at least 2 µm ~~and/~~or by at most 150 µm or by both, at least 2 µm and at most 150 µm~~in particular by between 4 µm and 100 µm; and~~

~~— a depression in the first side of the substrate extending below an average level described by the first surface by at least 2 µm and/or by at most 150 µm, in particular by between 4 µm and 100 µm.~~

~~12. A method for manufacturing a device comprising a substrate section on which a specific first element is present, the method comprising applying, according to one of claims 1 to 11, N ≥ 2 first elements to a first side of the substrate, the N ≥ 2 first elements comprising the specific first element and the substrate comprising the substrate section.~~

7. The method according to claim 1, wherein a contact angle for the hardenable material on the barrier member amounts to at most 45°.

8. The method according to claim 1, wherein the hardenable material is hardenable by one or both of heating it and irradiating it with electromagnetic radiation.

9. The method according to claim 1, wherein each of the N first elements is an optical element.

10. The method according to claim 5, wherein the first and second partial surface are adjoining at an edge and the first partial surface is, at the end of step e), covered by hardenable material of the respective associated first amount of hardenable material up to the edge.

11. The method of claim 1 including hardening the respective associated first amount of hardenable material to form the respective one of the first elements surrounded laterally by the associated one of the barrier members.