

Claims:

1. A substrate holder (1) for bonding substrates (5, 5'), particularly for fusion bonding or hybrid bonding, at least having:
 - a substrate holder surface (8),
 - a central elevation (2) arranged on the substrate holder surface (8), in particular centrally on the substrate holder surface (8), with a first mounting surface (6) and
 - at least one support elevation (2', 2'') arranged on the substrate holder surface (8) with a second mounting surface (6', 6''),wherein a substrate (5) can be arranged on the first mounting surface (6) of the central elevation (2) and on the second mounting surface (6', 6'') of the at least one support elevation (2', 2''), and
~~wherein the first mounting surface (6) is larger than the second mounting surface (6', 6'').~~
~~wherein the substrate holder (1) has at least three, preferably at least four, most preferably eight or more support elevations (2', 2''), and~~
~~wherein in each case at least two, preferably at least three, most preferably at least four or more support elevations (2', 2'') are arranged at a radial position (x', x'') around a central point (7) of the central elevation (2)~~
~~characterized in that at least one radial position (x', x''), preferably all radial positions (x', x'') are flush with a vibration amplitude of the substrate (5), preferably a vibration amplitude in the direction of the substrate holder surface (8) of the substrate (5)~~
wherein the first mounting surface (6) is larger than the second mounting surface (6', 6'').
2. The substrate holder (1) according to Claim 1, wherein the substrate holder (1) has at least three, preferably at least four, most preferably eight or more support elevations (2', 2'').

- [23.](#) The substrate holder (1) according [claim 1 to at least one of the preceding claims](#), wherein the first mounting surface (6) of the central elevation (2) is at least 1.1-times, preferably at least 1.2-times, more preferably at least 1.5-times, most preferably at least 2-times, most preferably of all at least 3-times larger than the respective second mounting surface (6', 6'') of the at least one support elevation (2', 2'').
- [34.](#) The substrate holder (1) according to at least one of the preceding claims, wherein the first mounting surface (6) of the central elevation (2) is of circular construction.
- [5.](#) [The substrate holder \(1\) according to Claim 2, wherein in each case at least two, preferably at least three, most preferably at least four or more support elevations \(2', 2''\) are arranged at a radial position \(x', x''\) around a central point \(7\) of the central elevation \(2\).](#)
- [46.](#) The substrate holder (1) according to Claim [45](#), wherein the support elevations (2', 2'') arranged at a radial position (x', x'') have the same distance from one another along a circle defined by the respective radial position (x', x'').
- [57.](#) The substrate holder (1) according to at least one of the preceding Claims [45](#) or [46](#), wherein the second mounting surfaces (6', 6'') of the respective support elevations (2', 2'') arranged at a radial position (x', x'') are constructed identically.
- [68.](#) The substrate holder (1) according to at least one of the preceding Claims [45](#) to [57](#), wherein, the respective second mounting surfaces (6') of the support elevations (2') of a first radial position (x') are larger than the respective second mounting surfaces (6'') of the support

elevations (2'') of a second radial position (x''), wherein the first radial position (x') has a smaller distance from the central point (7) of the central elevation (2) than the second radial position (x'').

9. The substrate holder (1) according to at least one of the preceding claims, wherein at least one radial position (x', x''), preferably all radial positions (x', x'') are flush with a vibration amplitude of the substrate (5), preferably a vibration amplitude in the direction of the substrate holder surface (8) of the substrate (5).

~~7~~10. A bonding device for bonding substrates (5, 5'), ~~characterized in that~~ wherein the bonding device has at least one substrate holder (1) according to one of the preceding Claims 1 to 9.

~~8~~11. A method for producing a substrate holder (1) for bonding substrates (5, 5'), having at least the following steps:

- i) providing a substrate holder (1) with a substrate holder surface (8),
- ii) creating a central elevation (2) with a first mounting surface (6),
- iii) creating at least one support elevation (2', 2'') with a second mounting surface (6', 6''),

wherein the first mounting surface (6) is larger than the second mounting surface (6', 6'')

~~characterized in that the method additionally has the following steps:~~

- ~~a) determining a vibration behaviour of a substrate (5),~~
- ~~b) determining positions of the vibration amplitudes in the direction of the substrate holder (1) of the substrate (5) during bonding,~~

~~wherein the creation of the at least one support elevation (2', 2'') in step iii) takes place at one of the positions determined according to step b).~~

12. The method for producing a substrate holder (1) according to Claim 11, wherein the method additionally has the following steps:

a) determining a vibration behaviour of a substrate (5),

b) determining positions of the vibration amplitudes in the direction of the substrate holder (1) of the substrate (5) during bonding,

wherein the creation of the at least one support elevation (2', 2'') in step iii) takes place at one of the positions determined according to step b).

913. The method for producing a substrate holder (1) according to ~~claim 8~~ at least one of the preceding claims, wherein the method additionally has the following steps:

iv) bonding the substrate (5) with a further substrate (5') to form a substrate stack,

v) determining a bond error of the substrate stack,

vi) determining positions of the vibration amplitudes of the substrate (5) during bonding on the basis of the bond error,

vii) arranging the at least one support elevation (2', 2'') at a position determined in step vi).

~~10~~14. A method for bonding substrates (5, 5') using a bonding device according to Claim ~~7~~10, having the following method steps:

- i) providing a substrate (5) on a substrate holder (1) according to one of Claims 1 to ~~7~~9,
- ii) providing a further substrate (5') on a further substrate holder,
- iii) bonding the substrate (5) with the further substrate (5') to form a substrate stack,

wherein the substrate (5) and/or the substrate stack is supported by the first mounting surface (6) of the central elevation (2) during the bonding in step iii).

~~11~~15. The method for bonding according to Claim ~~10~~14,

wherein the first substrate (5) and/or the substrate stack is additionally supported during the bonding in step iii) by the at least one support elevation (2', 2'') at a position of a vibration amplitude of the substrate (5) in the direction of the substrate holder (1).