

9. The arrangement of claim 1, wherein the at least one foil comprises a compensation foil configured to evenly distribute a pressure exerted by the second part over the joining stack.

10. The arrangement of claim 9, wherein the compensation foil comprises silicone heat-resistant rubbery or rubber material, or an elastomer that is resistant to heat at least up to temperatures between 150° C. and 250° C.

11. The arrangement of claim 1, wherein the at least one foil comprises a protective foil configured to prevent contaminants from contaminating the joining members.

12. The arrangement of claim 11, wherein the protective foil comprises an inert polymer or a polyimide.

13. The arrangement of claim 1, further comprising holding elements configured to be arranged on the first part, wherein when the first carrier element is arranged in a final resting position on the first part, the holding elements are configured to be arranged between the first carrier element and the first part.

14. The arrangement of claim 13, wherein the holding elements are configured to hold down the first joining member on the support surface in the vertical direction.

15. The arrangement of claim 1, further comprising a first robotic unit configured to pick up the at least one foil and assemble the at least one foil on the first carrier element.

16. The arrangement of claim 15, further comprising a second robotic unit configured to transfer the first carrier element with the at least one foil arranged thereon to a process chamber.

17. The arrangement of claim 16, further comprising a third robotic unit configured to transfer the joining stack to the process chamber.

18. A method, comprising:

arranging a first joining member, an electrically conductive connection layer, and a second joining member on a support surface of a first part to form a joining stack, wherein the electrically conductive connection layer is arranged between the first joining member and the second joining member;

arranging at least one foil on a first carrier element;

using a transportation unit to arrange the first carrier element such that the at least one foil is arranged above the support surface of the first part in a vertical direction; and

exerting pressure to the joining stack by a second part,

wherein when the at least one foil is arranged above the support surface and pressure is exerted to the joining stack by the second part, the at least one foil is arranged between the second part and the joining stack and is pressed onto the joining stack, and the joining stack is pressed onto the first part, thereby compressing the connection layer and forming a substance-to-substance bond between the first joining member and the second joining member.

19. The method of claim 18, wherein forming the substance-to-substance bond between the first joining member and the second joining member is performed in a process chamber comprising one or more sub-chambers, and wherein either the joining stack and the first carrier element with the at least one foil are both assembled and transferred into a first sub-chamber, wherein a defined atmosphere is generated in the first sub-chamber and the joining stack and the foil stack are subsequently transferred to a second sub-chamber, and wherein the joining process is performed in the second sub-chamber.

20. The method of claim 18, wherein the joining stack is assembled and transferred into a first sub-chamber, wherein a defined atmosphere is generated in the first sub-chamber, wherein the first carrier element with the at least one foil is assembled in a third sub-chamber, wherein the joining stack and the first carrier element with the at least one foil arranged thereon are subsequently transferred to a second sub-chamber, and wherein the joining process is performed in the second sub-chamber.

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