

Claims

1. A shield body system (10) for a process fluid for chemical and/or electrolytic surface
5 treatment of a substrate (1),
wherein the shield body system (10) comprises a shield body (2) and an agitation unit,
wherein the shield body (2) comprises a plurality of openings (2a) to direct a process
fluid flow and/or a current density distribution towards the substrate (1) to be treated,
and wherein the agitation unit is configured to move the shield body (2) together with
10 the substrate (1) vertically and/or horizontally relative to a distribution body (3) and/or
relative to a deposition chamber for chemical and/or electrolytic surface treatment.
2. Shield body system (10) according to claim 1, wherein the shield body (2) is
15 positioned and/or dimensioned so that the openings (2a) of the shield body (2)
correspond to surface elements (1a) of the substrate (1), which are to be deposited.
3. Shield body system (10) according to one of the preceding claims, further comprising
a rotation unit configured to rotate the shield body (2) together with the substrate (1)
20 on an axis relative to a distribution body (3) and/or relative to a deposition chamber
for chemical and/or electrolytic surface treatment.
4. Shield body system (10) according to one of the preceding claims, further comprising
a distribution body (3) with a plurality of openings (3a) to direct the process fluid flow
and/or the current density distribution towards the shield body (2), wherein the shield
25 body (2) is arranged next to the distribution body (3) with a distance of 50 μm to 12
mm.
5. Shield body system (10) according to one of the preceding claims, wherein the shield
body (2) comprises at least a return aperture configured to direct a return flow of the
30 process fluid in an opposite direction to the direction towards the substrate (1).
6. Shield body system (10) according to the preceding claim, wherein the at least one
return aperture has an aperture surface, which is smaller than a combined openings
surface of the plurality of openings (3a) of the shield body (2).

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7. Shield body system (10) according to one of the preceding claims, further comprising an attachment unit configured to attach the shield body (2) to the substrate (1) or a substrate holder holding the substrate (1).
- 5 8. Shield body system (10) according to one of the preceding claims, further comprising an alignment unit configured to align the shield body (2) relative the substrate (1).
9. Use of a shield body system (10) according to one of the preceding claims for depositing surface elements (1a) on a substrate (1).
- 10 10. Use according to the preceding claim, wherein surface elements (1a) of the substrate (1) at least partially have a thickness of 0.1 μm to 12 μm .
11. Use according to claim 9 or 10, wherein the surface elements (1a) are line shaped, and
15 wherein adjacent surface elements (1a) have a distance between each other of 0.1 μm to 12 μm .
12. Use according to one of the claims 9 or 10, wherein the surface elements (1a) are pillar shaped, and wherein adjacent surface elements (1a) have a distance between each
20 other of 5 μm to 80 μm .
13. Use according to one of the claims 9 to 12, wherein a shield body (2) of the shield body system has a size essentially equal to a size of the substrate (1).
- 25 14. A method for a chemical and/or electrolytic surface treatment of a substrate (1) in a process fluid, comprising:
- providing a shield body (2), wherein the shield body (2) comprises a plurality of openings (2a),
 - providing an agitation unit, wherein the agitation unit is configured to move the
30 shield body (2) together with the substrate (1) vertically and/or horizontally relative to a distribution body (3) and/or relative to a deposition chamber for chemical and/or electrolytic surface treatment,
 - directing a process fluid flow and/or a current density distribution out of the shield body (2) towards the substrate (1), and

- chemically and/or electrolytically treating the surface elements (1a) of the substrate (1).
15. Method according to the preceding claim, further comprising a moving of the shield
5 body (2) together with the substrate (1) vertically and/or horizontally relative to a distribution body (3) and/or relative to a deposition chamber for chemical and/or electrolytic surface treatment.