CLAIMS

1 A process for treating a target region of a component (104) surface with a treatment fluid, comprising:

a) determining an amount of treatment fluid required to treat the target region;

b) feeding the determined amount of treatment fluid to a treatment device (102);

c) continuously circulating the treatment fluid through an applicator of the treatment device whilst applying the applicator to the target region; and

d) discarding the treatment fluid once the target region of the component surface has been treated.

2 A process as claimed in claim 1, wherein step (c) further comprises mixing the treatment fluid as it is circulated.

3 A process as claimed in claim 1 or claim 2, wherein the treatment fluid is a material removal fluid.

4 A process as claimed in any one of the preceding claims, wherein the treatment fluid is a chemical etchant fluid.

5 A process as claimed in any one of the preceding claims, wherein step (a) comprises calculating a theoretical amount of treatment fluid required and adjusting the theoretical amount to allow for imperfect application conditions.

6 A process as claimed in any one of the preceding claims, wherein step (a) further comprises determining an amount of time required for the determined amount of treatment fluid to treat the target region of the component and wherein the target region of the component surface is judged to have been treated when treatment fluid has been applied to the target region for the amount of time determined in step (a).

7 A process as claimed in any one of the preceding claims, further comprising monitoring the progress of the treatment while circulating the treatment fluid and supplying progress data to a process control unit.

8 A process as claimed in any one of the preceding claims, wherein the treatment fluid is delivered at a target temperature, further comprising pre-treating the target region of the component with a pre treatment fluid at the target temperature.

9 An apparatus for treating a target region of a component surface with a treatment fluid, comprising:
a treatment fluid reservoir (200);
a treatment device (102), operable to receive treatment fluid from the treatment fluid reservoir and to apply treatment fluid to the component;
a holding fixture (310) for supporting the component; and
a sealable enclosure (300) containing the treatment fluid reservoir, the treatment device and the holding fixture.

10 An apparatus as claimed in claim 9, wherein the treatment fluid comprises a material removal fluid.

11 An apparatus as claimed in claim 9 or 10, wherein the treatment fluid comprises a chemical etchant fluid.

12 An apparatus as claimed in any one of claims 9 to 11, further comprising a plurality of treatment fluid reservoirs, each operable to receive a different treatment fluid.

13 An apparatus as claimed in any one of claims 9 to 12, further comprising a plurality of treatment devices.

14 An apparatus as claimed in any one of claims 9 to 13, further comprising at least one pump, operable to pump treatment fluid around the apparatus.

15 An apparatus as claimed in claim 14, wherein the pump is a reduced pressure pump.

CLAIMS

1 A process for treating a target region of a component (104) surface with a treatment fluid, comprising:

a) determining an amount of treatment fluid required to treat the target region;

b) feeding the determined amount of treatment fluid to a treatment device (102);

c) continuously circulating the treatment fluid through an applicator of the treatment device whilst applying the applicator to the target region; and

d) discarding the treatment fluid once the target region of the component surface has been treated.

2 A process as claimed in claim 1, wherein step (c) further comprises mixing the treatment fluid as it is circulated.

3 A process as claimed in claim 1 or claim 2, wherein the treatment fluid is a material removal fluid.

4 A process as claimed in any one of the preceding claims, wherein the treatment fluid is a chemical etchant fluid.

5 A process as claimed in any one of the preceding claims, wherein step (a) comprises calculating a theoretical amount of treatment fluid required and adjusting the theoretical amount to allow for imperfect application conditions.

6 A process as claimed in any one of the preceding claims, wherein step (a) further comprises determining an amount of time required for the determined amount of treatment fluid to treat the target region of the component and wherein the target region of the component surface is judged to have been treated when treatment fluid has been applied to the target region for the amount of time determined in step (a).

7 A process as claimed in any one of the preceding claims, further comprising monitoring the progress of the treatment while circulating the treatment fluid and supplying progress data to a process control unit.

8 A process as claimed in any one of the preceding claims, wherein the treatment fluid is delivered at a target temperature, further comprising pre-treating the target region of the component with a pre treatment fluid at the target temperature.