

CLAIMS

1. Method for removing a metallic deposit (2) disposed on a surface (5) in an enclosure (1), said method comprising the following steps:

5 a) a step of oxidizing the metallic deposit (2);

b) a step of injecting chemical species capable of volatilizing the oxidized metallic deposit, said step b) being implemented during at least a part of step a);

said removal method **being characterized in that** in step b), the chemical species are injected according to a sequence of pulses, and during the latest pulse of two successive pulses, the chemical species are injected in a sub-stoichiometric quantity with respect to the quantity of the oxidized metallic deposit between said two successive pulses so that the layer of the oxidized metallic deposit is not entirely volatilized.

2. Method according to claim 1, in which the sequence of pulses of the injected chemical species is periodic.

3. Method according to claim 2, in which the period of the sequence of pulses is less than 1 second.

4. Method according to one of claims 1 to 3, in which the enclosure (1) is maintained at a temperature comprised between 20 and 250°C, preferably between 20 and 150°C.

5. Method according to one of claims 1 to 4, in which step a) is carried out by injecting an oxidizing species comprising at least one of the following species: oxygen, ozone, nitrous oxide.

6. Method according to one of claims 1 to 5, in which the chemical species injected in step b) comprise hexafluoroacetylacetone.

7. Method according to one of claims 1 to 6, in which the metallic deposit (2) comprises at least one of the following elements: Copper, Titanium, Tantalum, Ruthenium, Zinc, Zirconium, Vanadium, Silver, Gold, Chromium.
- 5 8. Method according to one of claims 1 to 7, in which the first pulse of step b) is implemented after the start of step a).
9. Method according to one of claims 1 to 8, characterized in that it is implemented for cleaning off metallic residues (2) disposed on the inner walls of a deposition
10 chamber (1).
10. Method according to one of claims 1 to 8, characterized in that it is implemented for etching a metallic deposit (2) deposited in excess on a surface (5).
- 15 11. Method according to claim 10, characterized in that before steps a) and b), a mask (7) is affixed in a localized manner onto the metallic deposit (2).
12. Method according to claim 11, characterized in that it comprises the following steps:
 - the mask (7) is affixed over each region of the metallic deposit (2) to be
20 retained;
 - steps a) and b) are implemented in order to remove the excess metallic deposit (2) in each region not covered by the mask.
13. Method according to claim 11, characterized in that it comprises the following steps:
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 - the mask (7) is affixed over each region of the metallic deposit (2) to be etched;

- chemical species adapted to passivate the metallic deposit (2) in each region not covered by the mask are injected;
- the mask (7) is removed;
- 5 - steps a) and b) are implemented in order to remove the excess metallic deposit (2) in each region covered beforehand by the mask.

14. Method according to one of claims 10 to 13, characterized in that steps a) and b)
are repeated as many times as necessary in order to remove the excess metallic
10 deposit (2).