CLAIMS

1. A method for preparing a metal powder (1) intended for an additive manufacturing process, of the type that involves scanning a bed of powder (2) by a near-infrared laser beam (3), characterized in that the method comprises:

   - an initial step for selecting a powder (1), that has an optical reflectivity of more than 70% for a wavelength ranging between 800 and 1500 nm; then
   - a step for treating said powder (1), which is different from grafting particles, and which induces a physical and/or chemical surface modification of the grains (4) of said powder (1), making it possible to lower its optical reflectivity, at the given wavelength, the grains (4) having, after treatment, a median grain size d50 of between 5 and 50 µm;

   wherein the step of treating excludes treating via oxidation.

2. A method according to Claim 1, characterized in that in the initial step, the powder (1) selected comprises at least support particles (10) of a first material, having a first optical reflectivity at the given wavelength, and in that the treatment step comprises at least partial functionalization of the surface (11) of the support particles (10) of the first material, by diffusion, by germination-growth or by precipitation, without resulting in deposition of nanoparticles, by forming a surface layer (20) of at least one second material having a second optical reflectivity, lower than the first optical reflectivity, thus lowering the optical reflectivity of the powder (1), at the given wavelength.

3. A method according to Claim 1, characterized in that in the initial step, the powder (1) selected comprises at least particles (10) of a first material, having a first optical reflectivity at the given wavelength, and in that the treatment step comprises physical and/or chemical etching causing an increase in the surface roughness of the particles (10), thus lowering the optical reflectivity of the powder (1), at the given wavelength.

4. A method according to Claim 2, characterized in that the treatment step comprises functionalization, after which the powder (1) consists of functionalized particles (10+20) each comprising a support particle (10) of the first material and a surface layer (20) consisting of at least a second material, then a second treatment comprising physical and/or chemical etching causing an increase in the surface roughness of the functionalized particles (10+20), thus lowering the optical reflectivity of the powder (1), at the given wavelength.

5. A method according to any one of Claims 2 or 4, characterized in that functionalization comprises diffusion of at least one second material selected from the families of metals, metalloids and heteroatoms.

6. A method according to any one of Claims 2 or 4, characterized in that functionalization comprises germination-growth of a deposit of at least one second material on the particles of the first material.

7. A method according to any one of Claims 2, 4 or 5, characterized in that functionalization comprises precipitation of at least one second material, in the form of a compound ensuring the role of flux during the lasing operation.

8. A method according to any one of Claims 2, 4, 5, 6 or 7, characterized in that functionalization does not modify the composition of the grains (4) by more than 10% by mass.

9. A method according to any one of Claims 2, 4, 5, 6, 7 or 8, characterized in that the functionalization surface layer consisting of at least the second material has a maximum thickness of 1 µm on each grain.

10. A method according to any one of Claims 1 to 9, characterized in that treatment does not modify the composition of the grains by more than 10% by mass.

11. A method according to any one of Claims 1 to 10, characterized in that surface modification affects a maximum thickness of 1 µm of each grain.

12. A method according to Claim 2, characterized in that the particles (10) of the first material are chosen from the families of copper and its alloys, aluminum and its alloys, or precious metals and their alloys.

13. A method according to Claim 2, characterized in that, after treatment, surface modification covers between 10 and 100% of the surface of each particle (10) of the first material.

14. Use of the metal powder for an additive manufacturing operation, said metal powder having:
   - an optical reflectivity of more than 70% for a wavelength ranging between 800 and 1500 nm;

- been treated by a treatment which is different from grafting particles, and which induces a physical and/or chemical surface modification of the grains of said powder, making it possible to lower its optical reflectivity, at the given wavelength, said treatment excluding treatment via oxidation;
- grains which, after treatment, have a median grain size d50 of between 5 and 50 µm.