molding tool, the method comprising:

- providing the injection molding tool;
- providing a micro/nanometer structured imprinting device having a structure to be imprinted in said tool; and
- applying the imprinting device in, or on, the said active surface so as to transfer the micro/nanometer patterned structure to the tool while the imprinting device is, at least partly, within a cavity of the injection molding tool~~.~~, the imprinting device being removed before performing the molding process.

The invention is particularly, but not exclusively, advantageous for providing a method for micro/nano-meter patterning of injection molding tools that enables a simple and effective way of transferring the pattern. It is yet another advantage that the pattern is transferable on the active working site of tool i.e. the pattern may embedded immediately prior to molding opening without the need for extensive preparations or remounting of the tool before performing the molding process. This may facilitate applications and/or functionalities of molded part in various news and/or surprising fields, cf. Annex 1 and Annex 2 for lists of such fields.

In an embodiment, the active surface being imprinted with the micro/nanometer pattern may be non-planar on a macroscopic scale. The concept of a macroscopic scale may be defined as the length scale where objects and processes are measureable and observable with the naked eye of a person with normal vision. More specifically, the macroscopic scale may be defined tentatively as a length above approximately 1 millimeter (mm), cf. *Definition* paragraph below.

The concept of non-planar may be considered from a mathematical point of view as a deviation from the plane, but non-planar should further be considered in light of the macroscopic scale, i.e. around 1 mm. A more quantitative concept of non-planar is introduced below in the *Definition* paragraph. More specifically, the active surface being imprinted with the micro/nanometer pattern may be curved on a macroscopic scale, e.g. of an approximate cylindrical, conical, or circular shape.

AMENDED CLAIMS

1. A method for manufacturing a micro/nanometer-structured pattern in, or on, the active surface of an injection molding tool, the method comprising:

- providing the injection molding tool;
- providing a micro/nanometer structured imprinting device having a structure to be imprinted in said tool; and
- applying the imprinting device in, or on, the said active surface so as to transfer the micro/nanometer patterned structure to the tool while the imprinting device is, at least partly, within a cavity of the injection molding tool, the imprinting device being removed before performing the molding process.

2. The method according to claim 1, wherein the active surface being imprinted with the micro/nanometer pattern is non-planar on a macroscopic scale.

3. The method according to claim 1 or 2, wherein the active surface being imprinted with the micro/nanometer pattern is curved on a macroscopic scale.

4. The method according to claim 1, wherein the application of the imprinting device is performed when the injection molding tool is in an assembled form, said assembled form being ready, or substantially ready, for injection molding.

5. The method according to claim 1, wherein micro/nanometer patterned structure is permanently transferred to the tool.

6. The method according to claim 1, wherein the micro/nanometer pattern is imprinted directly in, or on, the tool.

7. The method according to claim 1, wherein the micro/nanometer pattern is initially imprinted in a preparation layer, the preparation layer subsequently being processed to form the desired pattern.

8. The method according to claim 1, wherein the imprinting device comprising a

first and a second cavity, the first and the second cavity being separated by a flexible intermediate member within the imprinting device, the intermediate member comprising a stamp with a micro/nanometer imprinting pattern.

9. The method according to claim 8, the method further comprising
- positioning the imprinting device on the tool so as to form a substantially air-tight enclosure within the second cavity, the enclosure being defined at least by the corresponding tool surface and the flexible intermediate member, and
- changing the relative pressure between the first and the second cavity so as to cause a decrease in the volume of the second cavity by displacing the flexible intermediate member towards the tool surface and thereby imprinting the micro/nano-meter pattern in, or on, the tool.

10. The method according to claim 9, wherein the imprinting device has a container-like form with an open end to be positioned on the tool, the open end defining said corresponding tool surface.

11. The method according to claim 8, wherein sealing means are provided on a portion of the imprinting device facing the tool to be imprinted, the sealing means being arranged for, in combination with the tool surface, to provide a substantially air-tight sealing of the said second cavity.

12. A method for manufacturing a micro/nano-meter patterned structure in, or on, the active surface of an injection molding tool, the method comprising:

- providing a tool;
- providing a base plate, the base plate having a micro/nanometer structured pattern positioned on an upper part,
- positioning the base plate on the active surface within the tool, the lower part of the base plate facing the tool, and
- securing the position of the base plate within the tool,

wherein the active surface receiving the base plate is non-planar on a macroscopic scale.

13. The method according to claim 12, wherein the active surface receiving the base plate is curved on a macroscopic scale.

14. The method according to claim 12, wherein the base plate is deformable according to the shape of active surface of the injection molding tool, preferably by plastic deformation.

15. The method according to claim 12, wherein the base plate comprises metal.

16. The method according to claim 12, wherein the positioning of the base plate is performed by a relative overpressure acting from the side of the upper part of base plate.

17. The method according to claim 16, wherein the overpressure is provided by an injection molding system working in cooperation with the injection molding tool, preferably as an injection molding process.

18. The method according to claim 12, wherein the positioning of the base plate is performed by a relative underpressure acting from the side of the lower part of base plate.

19. The method according to claim 12, wherein the positioning of the base plate is assisted by guiding means.

20. An injection molding tool comprising a micro/nano-meter patterned structure in, or on, the active surface of an injection molding tool, the structure being transferred according to the method of claim 1, or according to the method of claim 12.