5. The process according to any one of claims 1 to 4, wherein the moisture content of the wood is from 1 to 4% by weight.

6. The process according to any one of the preceding claims, wherein the acetylation fluid comprises from 70% to 100% by volume of acetic anhydride and from 0% to 30% by volume of acetic acid.

7. The process according to any one of the preceding claims, wherein in step (a) the reactor is filled under continuous vacuum.

8. The process according to any one of the preceding claims, wherein the inert fluid in step (d) is selected from gaseous nitrogen, gaseous carbon dioxide or flue gas.

9. The process according to any one of the preceding claims, wherein the inert fluid is partially or fully saturated with acetic anhydride and/or acetic acid.

10. The process according to any one of the preceding claims, wherein the wood is acetylated to an acetyl content of at least 20% by weight at its geometrical centre.

11. The process according to any one of the preceding claims, for the acetylation of wood pieces having a width of from 2 cm to 30 cm a thickness of from 2 cm to 16 cm and a length of from 1.5 m to 6.0 m.

12. Acetylated wood having an ovendry density between 550 and 800 kg/m^3, having an acetyl content of at least 22% by weight at its geometrical center and a residual acetic acid content of less than 1% by weight.

13. Acetylated wood according to claim 12, being Southern Yellow Pine or Scots pine.

14. Acetylated wood according to claim 12 or 13, having a residual acid content of less than 0.5% by weight.

15. An acetylated wood piece according to any one of claims 12 to 14, having a width of 2 cm to 30 cm a thickness of 2 cm to 16 cm and a length of from 1.5 m to 6.0 m.