CLAIMS

1. A process for removing metallic support structures, sinter cakes and/or discharge lugs on an additively manufactured metal component, in which, during the process, the metal component is treated electrolytically in an acidic electrolyte, the metal component being operated as an anode for a defined period of time, characterized in that, during the defined period of time, a higher voltage and then a lower voltage or a higher current density and then a lower current density are alternately applied to the metal component multiple times, in which the lower voltage is not more than 30 V, preferably not more than 10 V, and, respectively, the lower current density is 7 A/dm², preferably not more than 4 A/dm², in which the higher voltage is not more than 60 V, preferably not more than 40 V, and, respectively, the higher current density is 15 A/dm², preferably not more than 10 A/dm².

2. A process according to Claim 1, characterized in that the entire duration lasts from 10 to 120 minutes, preferably from 20 to 70 minutes.

3. A process according to Claim 1 or 2, characterized in that the higher voltage or current density is applied for a period of time of not more than 30 s, preferably not more than 5 s.

4. A process according to Claim 1, 2 or 3, characterized in that the acidic electrolyte contains Cl^- and/or F^-, which, in case of F^-, is preferably in the form of dissolved NH_4HF_2.

5. A process according to any preceding claim, characterized in that the acidic electrolyte contains a sulfate or sulfonate.

6. A process according to any preceding claim, characterized in that the metal component and the metallic support structures, the sinter cake and the discharge lug are made of titanium or a titanium alloy, an aluminium alloy, a nickel-based alloy or an iron alloy.

7. An electrolytic cell comprising an acidic electrolyte in which an additively manufactured metal component with metallic support structures, a sinter cake and/or discharge lugs is located and forms the anode, in which a control device is provided by means of which a higher voltage and then a lower voltage or a higher current density and then a lower current density are alternately applied to the anode multiple times for a defined period of time.

8. An electrolytic cell according to Claim 7, characterized in that the electrolytic cell can be connected to a voltage source, with the control device being programmed such that the voltage applied to the anode is alternately increased and then reduced at the anode multiple times for a defined period of time or the current density is increased and then reduced.