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The invention relates to a process for hydrogen electrolytic obtaining that may be used in different fields of engineering, namely in the power, metallurgy, pharmaceutical, electronic industries.

The process is carried out by electrolysis of an alkaline solution in electrolyte flow with the volumetric rate of 5...7 L/dm²·h at the current overall cathodic density of 50...100 A/dm² and concomitant application of ultrasound in precavitational regime with the intensity of 2...3 W/cm², at the same time as cathode is used a flowing volume-porous electrode of carbon-fibrous material, having the porosity factor of 0,95... 0,97 and the layer thickness of 5...6 mm, with its porous surface modified by a nickel-boron layer.

Moreover, there are used cathodes with porous surface modified by palladic catalytic activation with subsequent flow deposition of the nickel-boron layer from a solution, containing, in g/L:

nickel chloride	25...30
ethylenediamine	50...60
sodium hydroxide	35...40
sodium borohydride	0,6...1,0
thallium acetate	0,05...0,10,

at the temperature of 85...90°C during 20... 30 min, and as alkaline solution is used 15...30% sodium or potassium hydroxide solution in the presence of 1,5...2,5 g/L of potassium bichromate.

Claims: 3