CLAIMS
~~(amended claims)~~

1. A process for manufacturing a metallic porous body, by powder metallurgy, ~~and having open primary and secondary pores (I, II), characterized in that it~~ wherein said process comprises the steps of: mixing, homogeneously and in predetermined quantities, a load of oxide ceramic material particles ~~(10)~~, reducible by a reducing agent selected from carbon and hydrogen, ~~with said oxide presenting low free energy of formation,~~ with a load of space holder particles ~~(20)~~, defined by graphite ~~particles~~; compacting said mixture formed by ~~oxide~~ ceramic material particles ~~(10)~~ and space holder particles ~~(20)~~, in order to form a compact body ~~(E)~~ (green piece) to be sintered and having the primary pores ~~(I)~~; and sintering said compact body ~~(E)~~, so that the ~~oxide~~ ceramic material particles ~~(10)~~ form sintering contacts with each other, wherein the sintering of the compact body is carried out in atmospheric air flow at temperatures from 600°C to 900°C, causing the reaction of the carbon of the space holder particles ~~(20) reacting~~ with the oxygen available at the atmosphere reigning in the sintering medium, ~~eliminating~~ producing the elimination of the space holder particles ~~(20)~~ from the compact body being sintered, with the formation of ~~and forming the~~ open secondary pores ~~(II)~~,.

~~2.The process, as set forth in claim 1, characterized in that the sintering of the compact body (E) is carried out in atmospheric air flow at temperatures from 600°C to 900°C, causing the reaction of the carbon of the space holder particles (20) with the oxygen available at the atmosphere reigning in the sintering medium, producing the elimination of the space holder particles (20) from the compact body (E) being sintered, forming an oxide ceramic porous skeleton with the open secondary pores (II),~~ said process further including the subsequent step of submitting

the sintered body to an oxi-reduction in a medium, which contains ~~the oxide ceramic porous skeleton to a thermochemical treatment in~~ a gaseous reducing agent~~gas~~ and which is maintained at a temperature defined between 570°C and 1100°C, so as to reduce ~~transform~~ the oxide ceramic material particles to metal. ~~porous skeleton into a porous metallic body.~~

2~~3~~. The process, as set forth in claim 1~~2~~, ~~characterized in that~~wherein the ~~thermochemical treatment of the oxide ceramic~~

~~porous skeleton~~oxi-reduction of the sintered body is carried out with a gaseous reducing agent selected from carbon and hydrogen.

34. The process, as set forth in ~~any of~~ claim~~s~~ 1 or~~to~~ 2~~3~~, ~~characterized in that~~wherein the space holder ~~graphite~~ particles ~~(20)~~ are coated with a polymer coating ~~(30)~~, before being mixed to the ~~oxide~~ ceramic material particles ~~(10)~~, so as to cause the reduction of the deformation and the spreading of said space holder particles, during any of the steps of mixing with the ceramic material particles and of compacting for formation of the porous body to be sintered. ~~avoiding the shearing of the space holder graphite particles (20) and keeping the original shape thereof during the steps of mixing and compacting said space holder graphite particles (20) and the oxide ceramic particles (10).~~

45. The process, as set forth in any of claims 1 to 34, ~~characterized in that~~ wherein the ~~oxide~~ ceramic material particles ~~(10)~~ are obtained from any of the oxides of Fe, Ni, Cu, Sn, Zn, Mo, W, and mixtures thereof.

56. The process, as set forth in any of claims 1 to 45, ~~characterized in that~~wherein the ~~oxide~~ ceramic material particles ~~(10)~~ present a dimension between 0.01µm and 15 µm (micrometers) and in that the space holder ~~graphite~~ particles ~~(20)~~ present a dimension from 15 µm to 150 µm (micrometers).

67. The process, as set forth in any of claims 1 to 56, ~~characterized in that~~wherein the porous body ~~(E)~~ defines an acoustic muffling element.