United States Patent [19]

Hede

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[54] **METHOD OF MANUFACTURING STAINLESS FERRITIC-AUSTENITIC STEEL**

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[30] **Foreign Application Priority Data**

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[51] **Int. Cl.**[3] **B22F 3/16**

[52] **U.S. Cl.** ..... **148/11.5 P**; 75/0.5 C; 75/200; 75/244; 75/246

[58] **Field of Search** ..... 148/11.5 P; 75/0.5 C, 75/244, 243, 245, 246, 200, 205

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[57] **ABSTRACT**

A method of manufacturing stainless ferritic-austenitic steel having good corrosion properties, above all a good resistance to intercrystalline corrosion, a high yield strength and good hot-workability, which contains up to 0.10 percent of C, up to 4.0 percent of Si, up to 2.0 percent of Mn, from 20 to 30 percent of Cr, from 3 to 8 percent of Ni, from 1.0 to 6.0 percent of Mo, up to 0.5 percent of V and up to 4.0 percent of Cu, the remainder being iron and unavoidable impurities in unimportant amounts. The method includes the steps of preparing a melt of the steel with a nitrogen content higher than about 0.10 percent, preferably from about 0.15 to about 0.80 percent, and an austenite content not less than about 20 percent, preferably from about 20 percent to about 50 percent, gas atomizing said melt to form a powder, compacting said powder into a body, preferably employing an isostatic or semiisostatic compaction procedure, heat-treating said body at a temperature of from about 950° to about 1250° C., and cooling the heat-treated body in water, oil or air.

6 Claims, No Drawings