Tohoku Univ. Technology

Fe-based alloys

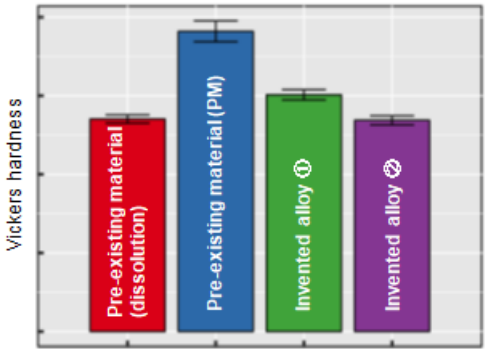
High wear and corrosion resistance for molding super engineering plastics!

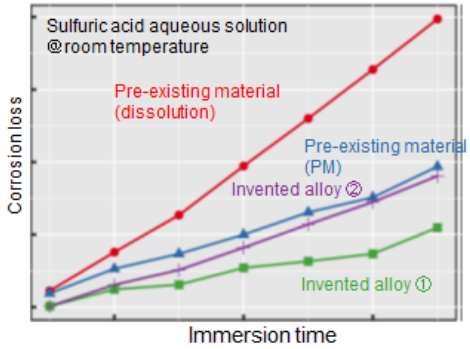
Low cost mass production deployment is possible since powder metallurgy technology is not used

Overview

This invention overcomes the corrosion resistance decrease with a unique alloy design, which has been an issue for high-hardness alloys with dispersed carbides, and provides an Fe-based alloy with an excellent balance between hardness and corrosion resistance. The alloy of this invention can be manufactured using ordinary melting and processing equipment, and can reduce material cost by replacing existing powdered metallurgy materials. It is expected to have a wide range of applications such as a component of a screw, etc. used in the molding of super engineering plastics like a PPS resin or such as a mold material used in corrosive environments.

Hardness and corrosion resistance





Product Application

- High hardness and wear resistance
- High corrosion resistance (Sulfurous acid gas and sulfuric acid aqueous solution)
- Molding component and mold for super engineering plastics

Related Works

[1] Chen Zhang, Kenta Yamanaka et al. , Corrosion-resistant carbide-reinforced martensitic steel by Cu modification

IP Data

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