

P/M Aluminium Automobile Parts in Sumitomo Electric Ind. Ltd.

Sumitomo Electric Industries Ltd., Kiyooki AKECHI

Rapidly-solidified P/M aluminium alloys for automobile and home appliance industries were developed. Rapidly-solidification made it possible to refine microstructures and to expand the range of alloy composition. For example, Al-Si alloys containing transition metal have lower thermal expansion coefficient, more excellent wear resistance, higher strength, and better machinability than those of conventional aluminium alloys.

Therefore, in Japan, the technologies on powder-extrusion and powder-forging of aluminium alloy powders are developed for fifteen years, and applied to several parts, such as cylinder liners of motor cycle engines, rotors and vanes of compressors for car air conditioner, oil pump rotor for racing car, and so on.

In this presentation, applications for automobile are mentioned. In particular, cylinder liners made of particle-dispersed composites with fine alumina and graphite are in detail described.