

Title (en)

HIGH DAMPING CAPACITY, TWO-PHASE FE-MN-AL-C ALLOY

Publication

EP 0380630 A4 19901227 (EN)

Application

EP 89908610 A 19890706

Priority

- US 8902950 W 19890706
- US 21869588 A 19880708
- US 34111789 A 19890420

Abstract (en)

[origin: WO9000629A1] Carbon steels and other hot-and cold-workable ferrous alloys generally have poor damping capacity as compared to that cast iron (gray cast iron, malleable cast iron and ductile cast iron). This is because the graphite in cast irons helps to absorb the damping force and depresses the damping wave. But cast iron can not be rolled into strip of sheet. By controlling the correlated concentrations of manganese, aluminum and carbon, Fe-Mn-Al-C based alloys are made to be alpha + gamma two-phase alloy steel with different alpha and gamma volume fractions. With particular ferrite volumes, workable Fe-Mn-Al-C based alloys have equivalent and better damping capacity than that of cast irons especially in the high frequency side. Such alloys suppress the vibration noise that comes from machine rooms, motors, air conditioners, and etc. Chromium and other minor amount of elements can be added to this alloy system to improve the corrosion resistance.

IPC 1-7

C22C 38/04; **C22C 38/06**; **C22C 38/38**

IPC 8 full level

C22C 38/00 (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/38** (2006.01)

CPC (source: EP)

C22C 38/04 (2013.01); **C22C 38/06** (2013.01)

Citation (search report)

- [X] GB 949786 A 19640219 - UNITED STATES STEEL CORP
- See references of WO 9000629A1

Designated contracting state (EPC)

AT BE CH DE FR GB IT LI LU NL SE

DOCDB simple family (publication)

WO 9000629 A1 19900125; AT E114736 T1 19941215; AU 3981589 A 19900205; AU 610429 B2 19910516; CA 1336364 C 19950725; DE 68919672 D1 19950112; DE 68919672 T2 19950406; EP 0380630 A1 19900808; EP 0380630 A4 19901227; EP 0380630 B1 19941130; JP H03500305 A 19910124

DOCDB simple family (application)

US 8902950 W 19890706; AT 89908610 T 19890706; AU 3981589 A 19890706; CA 605033 A 19890707; DE 68919672 T 19890706; EP 89908610 A 19890706; JP 50805089 A 19890706