

CPC**COOPERATIVE PATENT CLASSIFICATION****C22F****CHANGING THE PHYSICAL STRUCTURE OF NON-FERROUS METALS AND NON-FERROUS ALLOYS**

(surface treatment of metallic material involving at least one process provided for in class [C23](#) and at least one process covered by this subclass, [C23F 17/00](#))

C22F 1/00

Changing the physical structure of non-ferrous metals or alloys by heat treatment or by hot or cold working (apparatus for mechanical working of metal [B21](#), [B23](#), [B24](#))

[C22F 1/002](#)

. {by rapid cooling or quenching; cooling agents used therefor}

[C22F 1/004](#)

. {Heat treatment in fluid bed}

[C22F 1/006](#)

. {Resulting in heat recoverable alloys with a memory effect}

[C22F 1/008](#)

. {Using a protective surface layer}

[C22F 1/02](#)

. in inert or controlled atmosphere or vacuum (adjusting the composition of the atmosphere [C21D 1/76](#))

[C22F 1/04](#)

. of aluminium or alloys based thereon

[C22F 1/043](#)

.. of alloys with silicon as the next major constituent

[C22F 1/047](#)

.. of alloys with magnesium as the next major constituent

[C22F 1/05](#)

.. of alloys of the Al-Si-Mg type, i.e. containing silicon and magnesium in approximately equal proportions

[C22F 1/053](#)

.. of alloys with zinc as the next major constituent

[C22F 1/057](#)

.. of alloys with copper as the next major constituent

[C22F 1/06](#)

. of magnesium or alloys based thereon

[C22F 1/08](#)

. of copper or alloys based thereon

[C22F 1/10](#)

. of nickel or cobalt or alloys based thereon

[C22F 1/11](#)

. of chromium or alloys based thereon

[C22F 1/12](#)

. of lead or alloys based thereon

[C22F 1/14](#)

. of noble metals or alloys based thereon

[C22F 1/16](#)

. of other metals or alloys based thereon

[C22F 1/165](#)

.. {of zinc or cadmium or alloys based thereon}

[C22F 1/18](#)

.. high-melting or refractory metals or alloys based thereon

[C22F 1/183](#)

... {of titanium or alloys based thereon}

[C22F 1/186](#)

... {of zirconium or alloys based thereon}

C22F 3/00

Changing the physical structure of non-ferrous metals or alloys by special physical methods, e.g. treatment with neutrons

C22F 3/02

. by solidifying a melt controlled by supersonic waves or electric or magnetic fields