

**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