Title (en)

A METHOD FOR PROVIDING STRONG WIRE

Publication

EP 0003367 B1 19810826 (EN)

Application

EP 79100277 A 19790131

Priority

- US 87432678 A 19780201
- US 90256778 A 19780503

Abstract (en)

[origin: EP0003367A1] A process for improving the strength characteristics of a wire composed of an austenitic metal alloy selected from the group consisting of stainless steel alloys of the AISI 200 and 300 series and non-stainless steel alloys containing iron, manganese, chromium, and carbon, said alloy having an Md temperature of no higher than about 100 DEG C and an Ms temperature of no higher than about minus 100 DEG C, comprising the following steps: (a) deforming the wire at a strain of at least about 10 percent and at a temperature in the range of about Md minus 50 DEG C to about Md plus 50 DEG C, said Md temperature being that of the alloy undergoing deformation, in such a manner that the wire has a martensite phase of no greater than about 10 percent by volume and an austenite phase of at least about 90 percent by volume and a yield strength in the range of about 130,000 psi to about 230,000 psi; (b) cooling the wire to a temperature no higher than about minus 75 DEG C; and (c) drawing the cooled wire through a die under back-tension (i) wherein the back-tension on said wire just prior to the entry of the wire into the die is at least about 75,000 psi and (ii) whereby the cross-sectional area of the wire is reduced by a percentage in the range of about 7 percent to about 25 percent, in such a manner that the wire has a martensite phase of at least about 50 percent by volume and an austenite phase of at least about 10 percent by volume.

IPC 1-7

C21D 7/00; C21D 6/00

IPC 8 full level

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CPC (source: EP)

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Cited by

EP0017695A1; EP0028985A1; CN104128379A; EP0014086A1; CN110205451A

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