

Title (en)

IRON-BASED SHAPE MEMORY AND VIBRATION DAMPING ALLOYS CONTAINING NITROGEN

Title (de)

STICKSTOFF ENTHALTENDE MEMORY UND VIBRATIONSDÄMPFENDE LEGIERUNGEN

Title (fr)

ALLIAGES FERREUX A MEMOIRE DE FORME ET AMORTISSEMENT DE VIBRATIONS, CONTENANT DE L'AZOTE

Publication

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Application

**EP 96922913 A 19960711**

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Abstract (en)

[origin: WO9703215A1] The invention concerns a steel composition, in which, in addition to iron and manganese, there is possibly silicon, and in which nitrogen is an essential part. The composition may also include such conventional elements that are used in metallurgy to improve the desired properties. The composition contains, in addition to iron, (in percentages by weight) Mn 5.0-50.0 %, Si 0-8.0 % and N 0.01-0.8 %, as well as, if desired, one or more of the following elements: Cr 0.1-20.0 %, Ni 0.1-20.0 %, Co 0.1-20.0 %, Cu 0.1-3.0 %, V 0.1-1.0 %, Nb 0.1-1.0 %, Mo 0.1-3.0 %, C 0.001-1.0 %, rare earth metals (e.g. Sc, Y, La, Ce) 0.0005-0.02 %, and that it fulfils the following equation:  $Ni + Co + 0.5Mn + 0.3Cu + 20N + 25C \geq 0.3 \times (Cr + 2Si + 5V + 1.5Nb + 1.5Mo)$ . The composition has good shape memory and damping properties, as well as mechanical and corrosion resistance properties.

IPC 1-7

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IPC 8 full level

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