

Title (en)

METHOD FOR PRODUCING MASSIVE-AMORPHOUS LAYERS ON MASSIVE METALLIC SHAPED BODIES

Title (de)

VERFAHREN ZUR HERSTELLUNG MASSIV AMORPHER SCHICHTEN AN MASSIVEN METALLISCHEN FORMKÖRPERN

Title (fr)

PROCEDE DE REALISATION DE COUCHES AMORPHES MASSIVES SUR DES CORPS FA ONNES METALLIQUES MASSIFS

Publication

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Application

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Abstract (en)

[origin: US6652925B1] The aim of the invention is to develop a method for producing massive-amorphous layers on massive metallic shaped bodies. According to the method, amorphous layers having a thickness of >20 µm can be produced in only one procedure step. To this end, alloys which can be used for producing massive metallic glasses under quick solidification conditions or alloy elements which can be used for producing massive metallic glasses together with the elements of the shaped body material and under quick solidification conditions are molten by means of high-energy radiation are directly applied onto the massive metallic shaped body for producing an amorphous layer that is >20 µm up to several millimeter thick or are alloyed into the surface of the shaped bodies. The melt is quickly solidified by means of natural cooling and/or forced air cooling of the shaped body. The inventive method enables to coat metallic shaped bodies with massive metallic glasses which improve the surface characteristics. Such layers can be used for increasing the anticorrosion or wear and tear properties of shaped bodies for instance.

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