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The invention relates to the production of magnetic elements used in the identification marks, markers, labels applied in different fields for protection from counterfeits, identification of producers of goods, confirmation of genuineness of objects, particularly documents, for inventory etc.

The magnetic element for the identification mark comprises at least a microwire segment consisted of a conductor of ferromagnetic alloy covered with glass casing, at the same time the microwire segment is made with heat-treated and ground ends, and its length L is determined by the relation:

$0{,}1d \times 10^3/(d^2/D^2) \le L \le 0{,}5d \times 10^3/(d^2/D^2)$,

where:

d – diameter of the microwire thread,

D – diameter of the microwire glass casing.

The process for manufacturing the magnetic element for the identification mark consists in casting a microwire from the melt, consisting of a conductor of ferromagnetic alloy covered with glass casing, and microwire cutting into segments. The obtained segments are cabled and fixed, then the cable assembly is cut into segments, concomitantly the ends of these segments are subjected to thermal treatment and grinding at a temperature by 20…100°C higher than the crystallization temperature for alloys with amorphous-crystalline and microcrystalline microstructure, at the same time cutting, thermal treatment and grinding of segments of the microwire cable assemblies is carried out with the help of a cutting tool in the process of a technological operation, the regimes of which are determined by the equations:

$T=k \cdot V \cdot \sum$,

$V=\pi \cdot D_1 \cdot N$,

$\sum=P/S$,

where:

T – microwire ends heating temperature at cutting;

k – heat generation coefficient at cutting;

V – cutting speed;

Σ – specific cutting force;

$D_1$ – diameter of the cutting tool;

N – rotation frequency of the cutting tool;

P – effort applied to the cutting tool;

S – area of contact of the cutting tool with the microwire cable assembly.

Claims: 5

Fig.: 1