

Title (en)

NITINOL BALL BEARING ELEMENT AND PROCESS FOR MAKING

Title (de)

KUGELLAGERTEIL AUS NITINOL UND VERFAHREN ZU DESSEN HERSTELLUNG

Title (fr)

ELEMENT DE ROULEMENT A BILLES EN NITINOL ET SON PROCEDE DE FABRICATION

Publication

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Application

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Abstract (en)

[origin: WO0112359A1] Bearing elements made of Type 60 Nitinol produced by an investment casting process include providing a ceramic mold (30) having a series of spherical cavities, pouring molten Nitinol into the mold cavities, cooling the mold and the Nitinol in the cavities producing solidified Nitinol balls (40), and breaking the mold away from the Nitinol balls. Nitinol rods (80) for roller bearings can be made by conventional casting. The bars are hot machined or hot rotary swaged and then centerless ground in a ball grinding machine (42) and laser cut to length, or are first cut to length and then centerless ground individually for crowned roller elements. The balls are broken or cut from the risers, leaving the gates attached, and are consolidated by heating under pressure in a hot isostatic press (43), then ground to the desired size. The balls or rollers are polished, treated to create an integral ceramic finish and repolished to produce an extremely smooth finish.

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B21K 1/05

IPC 8 full level

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