



ISTITUTO ITALIANO
DI TECNOLOGIA

TITLE

Variable Stiffness Device and Method of Manufacturing the Same

INVENTORS

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DESCRIPTION

The solution describes a variable stiffness thread (VST) with self-healing capability (nearly 100% healing efficiency) that transitions from silicone-like to metallic-like mechanical properties and vice versa. Transition from soft to rigid state is controlled by electrical current. In its soft state the VST shows additional abilities of shape recovery. Being a thread, it can be knitted or easily embedded in different structures for enriching them with variable stiffness capability forenhanced adaptability, safety and controllability.

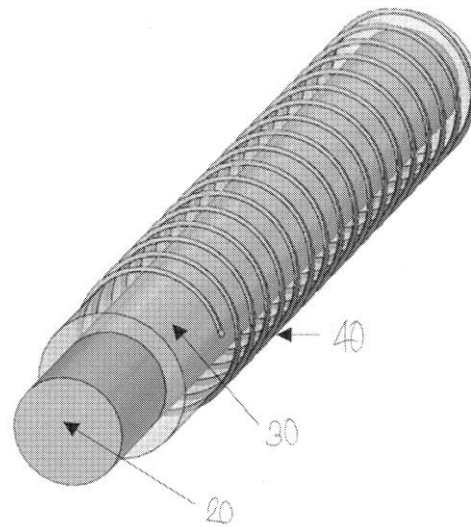


FIG. 1A

APPLICATIONS

Rehabilitation devices, bone injuries

KEYWORDS

Differential stiffness, fluidic actuators, variable stiffness thread, flexibility

BIBLIOGRAPHIC DATA

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Application Number US 15/093799

Priority Date April 8, 2016

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