Title: Highly Biocompatible Porous NiTi Alloys

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Keywords: Synthesis of porous NITi, Biocompatible, Corrosion Resistance

I. Abstract

There are a wide range of applications of biocompatible Porous NiTi alloys in the areas of interbody fusion devices, synthetic bone grafting, etc. Although it cannot be denied of the possibility of high corrosion factor of Porous NiTi alloys as compared to solid Nitinol due to greater surface area in contact with the body fluids. Such cases include definite surface preparation to cater the need of increased biocompatibility. This paper includes the synthesis of porous NiTi alloys through sintering process along with a check of effects of surface treatments on the corrosion properties of Porous NiTi alloys. The Alloys were subjected to different treatments like dry heating, boiling in water and passivation. The corrosion resistance after and before the treatments, were evaluated.

II Image:

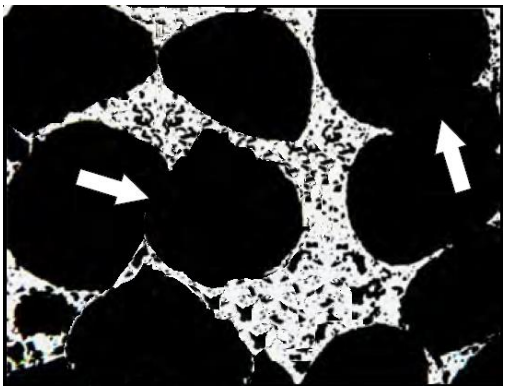


Figure 1: Porous NiTi sample with spherical pores

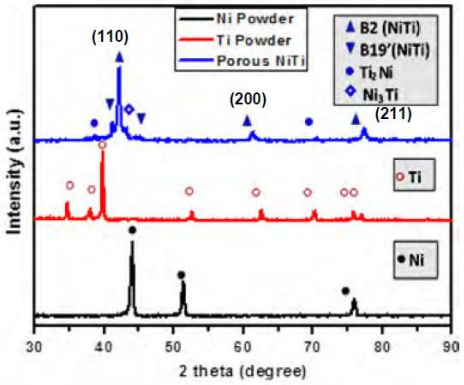


Figure 2: XRD pattern of the Ni and Ti powde and porous NiTi

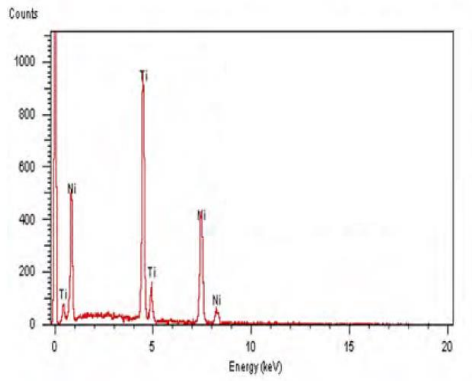


Figure 3: EDS graph of porous NiTi alloys

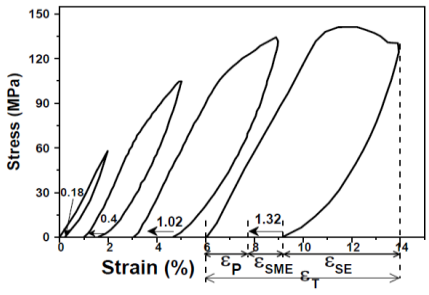


Figure 4: Cyclic loading–unloading curves at ε strain of porous NiTi

III. References

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2. **Date of Birth** : 01-06-1967, **Sex**: Male

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8. **Research area** : **CRYSTAL GROWTH CHARACTERIZATION AND IT’S APPLICATION**

9. **Teaching Experience:**

1. Institution	2. Position	**Duration** From To
P.G. Department of Physics Veer Narmad South Gujarat Univers SURAT-7	Lecturer	2-12-1991 to 6-9-1998
---- Do ----	Sr. Lecturer	7-9-1998 to 1-12-2002
---- Do ----	Reader	2-12-2002 to 2-12-2007
---- Do ----	Sr. Reader	2-12-2007 to 1-1-2006
---- Do ----	Associate Professor	1-1-2006 to 1-1-2009
---- Do ----	Professor	1-1-2009 to onward

10. PATENT: 02

1. **Process for preparation of new thiourea-Zinc complex crystals (ZATS & ZMTS) adopting a gel technique**
2. **Star Manipulator Fuel less SMA Engine**

11. PUBLICATION:

	JOURNAL	CONFERENCES / SEMINARS
INTER NATIONAL	23	26
NATIONAL	12	21
STATE	--	02
REGIONAL/UNIVERSITY	05	--
TOTAL	**40**	**49**
TOTAL PUBLICATION		**89**

12. PARTICIPATION:

	CONFERE-NCE	SEMINAR	WORKSH-OPE	SCHOOL	ORIENTA-TIO COURS	REFRESH-ER COURS
INTERNATIONA	05	--	05	02	--	--
NATIONAL	07	05	02	01	01	02
STATE	04	05	02	--	--	01
REGIONAL	--	02	--	--	---	--
TOTAL	**16**	**12**	**09**	**03**	**01**	**03**
TOTAL PARTICIPATION						**44**

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1.	**U.G.C.**	**01**	**---**	**1996--98**	**CO-INVESTIG-AT**	COMPLITED
2.	**U.G.C.**	**01**	**---**	**1999-2000**	**PRI. –INVEST ATOR**	COMPLITED

14. TOTAL RESEARCH STUDENT UNDER MY SUPERVISION:

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				Thesis	Synopses
Ph. D	09	05	14	--	--
M.Phil.	04	00	04	--	---
TOTAL	**13**	**05**	**18**	**--**	**--**

15 **MEMBERSHIP:**

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3. Life Member of Indian Association of Physics Teachers **(IAPT-L2835)**

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5. Life Member of Indian Liquid Crystal Society (**ILCS- L-366)**

6.Life Member of ACTA Ciancia Indica, Journal of Physics. (**LM**:)

7.Life Member of Lamination Society of Indian **(LSI- LM:675/771)**

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9. Member of College Development Council (2009-2012)

10. Member of Physics World, Institute of Physics, London**. (**1999-2005**)**

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