



GOLDEN RESEARCH THOUGHTS

International Recognition Multidisciplinary Research Journal

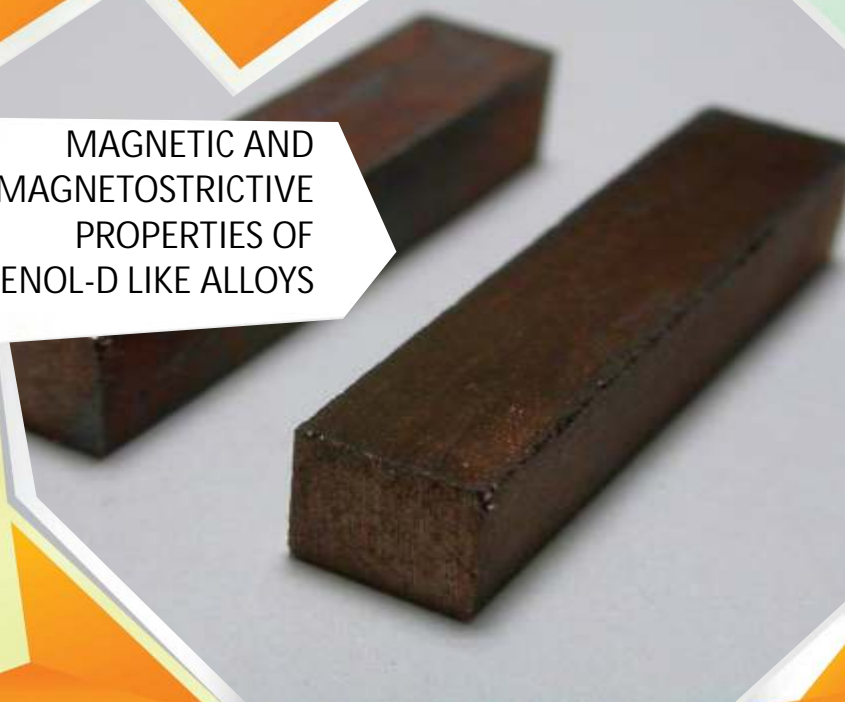
ISSN: 2231-5063 Impact Factor:3.4052(UIF)

ORIGINAL ARTICLE

Published:
1st Aug. 2015

Vol. -V,
Issue -II, Aug. 2015

MAGNETIC AND
MAGNETOSTRICTIVE
PROPERTIES OF
TERFENOL-D LIKE ALLOYS



Your Article
QR Code



See your article on Mobile

ABSTRACT

It was observed that RFe compounds exhibits large Magnetostriction effects (1,2) at room temperature, and Terfenol-D which is a composition of Tb0.3 Dy0.7 Fe1.97 exhibits maximum Magnetostriction of 1450 micro strain at room temperature in polycrystalline form. The change in the magnetic and magnetostrictive properties has been studied by changing its composition. The Iron is replaced by Cobalt which is another d block ferromagnetic element in first case and in second sample Dysprosium is replaced by Gadolinium which is another rare earth element in lanthanide series.

Article Indexed in



Correspondence to Jitendra Pendharkar and Manohar Nyayate.
Designation:-¹K J Somaiya College of Science and Commerce, Vidyavihar,
Mumbai.

²B N Bandodkar College of Science , Thane.

REVIEW OF THE ARTICLE

Magnetic And Magnetostrictive Properties Of
Terfenol-d Like Alloys

Jitendra Pendharkar and Manohar Nyayate.

Abstract and Introduction:

The Iron is replaced by Cobalt which is another d block ferromagnetic element in first case and in second sample Dysprosium is replaced by Gadolinium which is another rare earth element in lanthanide series. The abstract was complete and essential details were presented. Introduction was justifying. Importance of the area under study mentioned clearly in Introduction.

Methodology:

Author mentioned details regarding the study in sufficient manner. The samples with respective elements were prepared with desired compositions and alloys are formed under high vacuum in Furnace. No weight loss is observed after alloy formation. The XRD confirms the formation of alloys without any impurity and structure is found to be cubic which is similar to Terfenol-D sample. Author described methodology in detail.

Presentation of Results:

The amount of data presented was sufficient and appropriate. Tables, graphs, or figures were used judiciously and agree with the text. The combinations of Iron and rare earth elements made in Terfenol-D are found to be giving maximum Magnetostriction. But replacement of Gadolinium instead of Dysprosium is also one of the options as Net Magnetostriction at room temperature is of several micro strains.

Scientific Conduct:

There are no instances of plagiarism. Ideas and materials of others are correctly attributed.

Relevance:

The study was relevant to the mission of the journal or its audience. The study was worth doing.

References:

Author mentioned references according to the need of the study. Add some more references.

SUMMARY OF ARTICLE

No.		Very High	High	Average	Low	Very Low
1.	Interest of the topic to the readers	✓				
2.	Originally & Novelty of the ideas		✓			
3.	Importance of the proposed ideas	✓				
4.	Timelines		✓			
5.	Sufficient information to support the assertions made & conclusion drawn			✓		
6.	Quality of writing (Organization, Clarity, Accuracy Grammer)		✓			
7.	References & Citation (Up-to-date, Appropriate Sufficient)		✓			

FUTURE RESEARCH SCOPE:

1. Magnetostrictive properties of titanate coupling agent treated Terfenol-D composites.
2. The Magnetolectric Effects Of Terfenol-d/pzt/terfenol-d Laminated Structures.
3. Magnetization and Magnetostriction in Highly Magnetostrictive Materials.
4. Development of a Novel Linear Magnetostrictive Actuator.
5. Properties Of The Magnetostrictive Composite Materials With The Polyurethane Matrix Reinforced With Terfenol-d Particles.

HOW TO INCREASE API**Services for Associate Professor to Professor**

Thesis convert into book. Publish in USA	50 API Marks
15 Articles from your Ph.D thesis	150 API Marks
UGC Minor Research Project	10 API Marks
UGC Major Research Project	15 API Marks
Call for Book Chapter	25 API Marks
5 Seminar Paper presentation (we organize)	50 API Marks

CERTIFICATE OF PUBLICATION

This is to certify our Editorial, Advisory and Review Board accepted research paper of **Jitendra Pendharkar and Manohar Nyayate**. Topic:- **Magnetic And Magnetostrictive Properties Of Terfenol-D Like Alloys** College:- **K J Somaiya College of Science and Commerce, Vidyavihar, Mumbai**. The research paper is Original & Innovation it is done Double Blind Peer Reviewed. Your article is published in the month of **Aug**. Year 2015.



Authorized Signature

T. N. Shinde
T. N. Shinde
Editor-in-Chief

CERTIFICATE OF EXCELLENCE IN REVIEWING

This is to certify our Editorial, Advisory and Review Board accepted research paper of **Jitendra Pendharkar and Manohar Nyayate**. Topic:- **Magnetic And Magnetostrictive Properties Of Terfenol-D Like Alloys** College:- **K J Somaiya College of Science and Commerce, Vidyavihar, Mumbai**. The research paper is Original & Innovation it is done Double Blind Peer Reviewed. Your article is published in the month of **Aug**. Year 2015.



Authorized Signature

T. N. Shinde
T. N. Shinde
Editor-in-Chief

Reviewed By :-

Mrs. Pallavi Rahul Chincholkar

M.Sc, M.Ed, SET, NET

M.S (Guidance & Counseling)

Email : chincholkarpr@gmail.com

Mob : 09421044094

**LAXMI BOOK
PUBLICATION**

Ph.: 0217-2372010 /
+91-9595-359-435

Email.: ayisrj2011@gmail.com

Website: www.isrj.org