Name

Mr. N. Ravi

Designation

Scientist 'E'

Qualification

M.Tech. (Ind. Met.)

Experience

23 Yrs. of R&D

Research Areas of Interest

Nanocomposite coatings

List of Journal Publications

1. K. Gopalakrishna, N. Ravi, and T.P. Bagchi, P/M Grade Sponge Iron Powders from Bule Dust: A Comparative Assessment, published in Transaction of PMAI, 21(1994) p. 42

2. N. Ravi, "Nickel-Graphite Abradable Seals for the Gas Turbines", published in 'Non-ferrous Materials News Letter' published by TIFAC, MRSI, and DMRL, Vol. 1(4), August 1994

3. J. Janardhan Reddy, N. Ravi, and M. Vijaykumar, "A Simple Model for Viscosity of Powder Injection Moulding Mixes with Binder Content above Powder Critical Binder Volume Concentration". published in Journal of European Ceramic Society 20 (2000) p. 2183

4. N. Ravi, I.G. Varshavskaya, V.L. Bukhovets, and G. Sundararajan, "Deposition of Diamond-like Carbon Films on Aluminium Substrates by RF-PECVD Technique: Influence of Process Parameters", Diamond and Related Materials, 16 (2007) p.90

5. P. Ramavath, N. Ravi, U.S. Harish, R. Johnson, N. Eswara Prasad, "Compression and Flextural Strength Properties of ZnS Optical Ceramics", Published in Transactions of Indian Institute of Metals, Vol. 63(6), Dec. 2010, p.847.

6. Nithin P. Wasekar, N. Ravi, P. Surech Babu, L. Ramakrishna, and G. Sundararajan, “High cycle fatigue behaviour of microarc oxidation coatings deposited on a 6061-T6 Al alloy”, published in Met. and Mat. Trans. A, 41A (2010), p 255

7. G. Sundararajan, Nithin P. Wasekar and N. Ravi, “The influence of the coating technique on the high cycle fatigue life of alumina coated Al6061 alloy”, published in Trans IIM, 63(1&2) (2010) p i42

8. S. Polaki, R. Ramaseshan, Feby Jose, S. Dash, N. Ravi and A.K. Tyagi, “Evaluation of structural and mechanical properties of TiN films on SS304LN”, published in International Journal of Applied Ceramic Technology, Vol. 1-6 (2012)

9. R. Papita, M. Buchi Suresh, N. Ravi, Dibakar Das and Roy Johnson, “Effect of low temperature thermal cycling on thermo-mechanical behaviour of Al_2TiO_5 ceramics” accepted for proceedings of Indian Ceramic Society.

10. P.N. Krishnan, S. Ganesh Sundararaman, S.D. Pathak, R. Gnanamoorthy, and N. Ravi, “Fretting wear studies on Diamond-like carbon coated Ti-6Al-4V”, Surface & Coatings Technology, 203(2009), p1205-1212

11. P.N. Krishnan, S. Ganesh Sundararaman, S.D. Pathak, R. Gnanamoorthy, and N. Ravi, “Relative performance of hydrogenated, argon-incorporated, and nitrogen incorporated DLC coated Ti-6Al-4V samples under Fretting Wear”, Thin Solid Films, 517 (2009), p4365-4371

12. Abhishek Choudhary, P. Ramavath, Papiya Biswas, N. Ravi and Roy Johnson, Experimental Investigation on Flowability and Compaction Behaviour of Spray Granulated Submicron Alumina Granules, In press, ISRN Ceramics

Publications in conference proceedings

1. A Materials Awareness Bulletin, “A Special Report on Processing Technologies for Advanced Ceramics and Composites”, was published during a seminar on ‘Processing Technologies for Advanced Materials’, conducted by TIFACLINE/MRSI and DMRL, December 11, 1991 at DMRL, Hyderabad

2. N. Ravi, TRB Sharma and SK Potay , “Materials Database – A Key Factor for Industrial ”, presented and published in a ‘National Seminar on Computer Control in Metallurgical Industries’, April 9-10, 1992 at DMRL, Hyderabad

3. TRB Sharma, N. Ravi, MS Prasad and SK Potay, " Advanced Resource Sharing in Modern Libraries", presented and published in a 'Workshop on Library Automation", September 12, 1992 at DMRL, Hyderabad

4. K. Gopala Krishna, N. Ravi, KP Rao and TP Bagchi, "Production of Sponge Iron Powder from Indian Blue Dust Concentrate", presented and published in 20th PMAI conference, March 3-4, 1994 at INSC, New Delhi

5. D. Srinivasa Rao, D.Sen, K.R.C.Somaraju, S.Ravi Kumar, N.Ravi and G.Sundararajan, "The influence of powder particle velocity and temperature on the property of Cr_3C_2-25NiCr coating obtained by detonation-gun", presented and published in the 15th International Thermal Spraying Conference, Nice, France, 1998.

6. N. Ravi, "Characterization Services at ARCI", presented and published in 'Surface Engineering '99', January 7-8, 1999 at Hyderabad

7. Y.N. Tolmochev, V.L. Bukhovets, I.G. Varshavaskaya, and N. Ravi, "Some Pecularities of Microhardness Testing of Thin DLC Films Deposited on Soft Substrates", presented and published in the Proceedings of 4th International Symposium on Diamond and Related Materials (ISDF-4), Karkov, Ukraine, 1999, p 207-208

Conference Presentations

1. N. Ravi, KP Rao, and TP Bagchi, "Sintered Bronze-Graphite Plate for Electronic Instrumentation", presented in 21st PMAI conference, April 27-28, 1995 at CGCRI, Kolkotta

2. N. Ravi, KP Rao, and TP Bagchi, "Thermal and Erosion Properties of Nickel-Graphite Abradable ", presented in 21st PMAI conference, April 27-28, 1995 at CGCRI, Kolkotta

3. D. Srinivasa Rao, D.Sen, K.R.C.Somaraju, N.Ravi and G.Sundararajan, "Characterisation and Application of Tungsten Carbide-Cobalt(92-8) Coatings Deposited by Electro-Spark Coating Technique", presented in Poster Session of 50th Annual Technical Meeting of IIM, November 14-17, 1996 at New Delhi.

4. D. Srinivasa Rao, D.Sen, K.R.C.Somaraju, N.Ravi, G.Krishna and G.Sundararajan, "Tribological Behaviour of Detonation Gun Coatings", presented at PM-97 International Conference on PM for Automotive Components, February 10-12, 1997 at New Delhi.

5. J. Janardhan Reddy, M. Vijaya Kumar, N. Ravi, TR Ram Mohan, and P. Rama Krishnan, “The Effect of Shear Rate on Viscosity of Powder Injection Moulding Mixes with Low Viscosity Binders”, presented at 25th PMAI Conference, March 23-25, 1999, Hyderabad

6. J. Janardhan Reddy, M. Vijaya Kumar, N. Ravi, TR Ram Mohan, and P. Rama Krishnan, “A Simple Correlation of Viscosity of Powder Injection Moulding Mixes with Binder Content/Powder Loading”, presented at PMAI Conference, March 23-25, 1999, Hyderabad

7. V.L. Bukhovets, I.G. Varshavskaya, N. Ravi, and G. Sundararajan, “Deposition of a-C:H Films on Non-Conducting Substrates by PECVD Techniques”, presented at International Conference on Carbon on Science for Materials in the Frontier of Centuries: Advantages and Challenges, 4-8th November 2002, Kiev, Ukrain

8. V.L. Bukhovets, I.G. Varshavskaya, N. Ravi, and G. Sundararajan, “Deposition of a-C:H Films on Non-Conducting Substrates”, presented at International Conference on Carbon I: Fundamental Problems of Science, Materials Science, Technology, 17-19th October, 2002, Moscow, Russia

9. N. Ravi, I.G. Varshavskaya, V.L. Bukhovets, and G. Sundararajan, “Deposition of Diamond-like Carbon Films on Aluminium substrates by RF-PECVD Technique: Influence of Process Parameters” , presented during International Conference on Metallurgical Coatings and Thin Films (ICMCTF 2003) held at San Diego, USA between April 28 –May 2, 2003

10. V.L. Bukhovets, I.G. Varshavskaya, N. Ravi, and G. Sundararajan, “Influence of Deposition Parameters on DLC Properties in RF Discharge”, presented at International Conference on Carbon II: Fundamental Problems of Science, Materials Science, Technology, 16-18th October, 2003, Moscow, Russia

11. N. Ravi, I.G. Varshavskaya, V.L. Bukhovets, and G. Sundararajan, “Deposition of Diamond-like Carbon Films on Aluminium Substrates by RF-PECVD Technique: Influence of Process Parameters”, presented during National Workshop on Thin Films Technologies and Applications held at PSG College of Arts and Science, Coimbattore during the period September 8-9, 2004

Instruments being Handled

Instrument / Features	*150 kN Universal Testing Machine*	*XRD Residual Stress Analyser*	*Depth Sensing Micro / Macro Hardness Tester*
Make	Instron, UK	Panalyitcal, The Netherlands	Nanovea, USA
Model	5584 (Electro-Mechanical)	X’pert Pro MRD	-

Specs.	Max. load: 150 kN; XHS: 0.001 to 750 mm/min	Target: Copper; 2θ scan range: 0 - 160^0; Ψ angles: -90^0 to $+90^0$; ϕ angles: 0^0, 45^0 and 90^0	Max. load 50N
Added Facilities	Mechanical extensometers of 25 and 50 mm GL, video extensometer up to 200 mm	Glancing angle incidence (GI)	200 N load cell, 3D-professional software for archiving the residual indentations
Tests	Uniaxial Tensile and compression, 3-point and 4-point bending (flexure)	Residual stresses, powder XRD, GI-XRD	Vickers, Knoop, Berkovich, and Spherical indentation tests
Properties evaluated	Tensile stress and strain, true stress, true strain, elastic modulus, yield strength, stress at fracture, compressive stress, flexural strength, compression strength	Phase analysis of polycrystalline bulk materials and thin films, and residual stresses by 'd vs $\sin^2\Psi$' method	Hardness and elastic modulus of bulk materials and thick coatings

Contact information

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