

SPEAKERS



MR. B. R. GALGALI: Consulting Metallurgist and Chairman of ASM Pune chapter. Former Quality Head at CVBU, Tata Motors LTD., Pune. He has completed B.E. in Metallurgy from VNIT, Nagpur and also has M.E. by Research. Throughout career worked as metallurgist and successfully handled areas like metallurgical & materials engineering - raw materials, forging, casting, failure analysis, heat treatment, surface treatments, induction hardening. The significant contribution was in steel development specifically a micro-alloyed steels for critical applications like crankshafts, connecting rods etc. Also he has contributed in the development of HSS & AHSS for auto body light weighting. Failure analysis & steel development have been the main focus areas in his career. He has over 36 years of experience.



MR. K. C. GOGATE : Consulting Metallurgist and Chairman - Educational Activities of ASM Pune Chapter. Expert in Forging and Heat-Treatment. Former secretary of India National Council. Have done PG from College of Engg. Pune. He has over 5 decades of experience. His area of specialization are Heat Treatment and Forging Process.



MR. RAHUL GUPTA : Secretary of ASM International Pune Chapter and Partner in N D Gupta Enterprises. He has completed M.E. in Metallurgy, from College of Engg, Pune. Worked in Mukand Iron & Steel and Noduron Foundry (Now Maval Foundry). Practicing Metallurgist for Steel making, Heat-Treatment, Surface Treatment, and Foundry. He has over 30 Years of experience.



MR. S. G. KULKARNI: Consulting Metallurgist. Presently Working as a Director – Technical at SHRID Metals Industries and Chairman - Technical Program Committee of ASM Pune Chapter. Graduate in Metallurgy and Expert in Forging and Heat Treatment. He has over 4 decades of experience.



DR. K. C. VORA : Sr. Dy. Director & Head of Academy, ARAI, Pune. He has his Ph.D. from IIT-Bombay. He has a vast industrial & academic experience of 30 years. He has specialized in the field of Automotive Education, Technology Development, Knowledge Management, Engine R&D and Emission Controls.



MR. UDAYAN PATHAK: Chairman- Public Relations Committee, ASM Pune Chapter and Assistant General Manager- Materials Engineering in Engineering Research Centre, Tata Motors Limited, Pune. He has completed B. E (Metallurgy) from Visvesvaraya Regional College of Engineering (Now VNIT), Member of Institution of Engineers (India) and He has 1 International & 4 National Patents to his credit. Previously worked with John Deere, DGP Hinoday, Spicer India, Bharat Forge. Expert in Material forming and Heat-Treatment, Materials Selection & Testing, Technology Strategist. He has over 25+ Years of professional experience.



MR. N. A. SAKLE: Manager in ARAI, He was instrumental in establishment of ARAI Academy at Kothrud initially and presently is responsible for Training Centre at ARAI-Forging Industry Division at Chakan. He has completed his B.E. and M.E. in Mechanical engineering. He has worked as a senior lecturer in Engineering College in Pune University for 8 years. He has over 17 Years of professional experience.



3 Day Proficiency Improvement Programme on Failure Analysis : Including Engine Components at ARAI-Forging Industry Division from 13th to 15th December 2017 (Wednesday to Friday)

REGISTRATION FORM

Name, Designation, Dept., Office No., Mobile No. & Email ID :	
Delegate - 1	
Delegate - 2	
Delegate - 3	
Company Name & Address	
Co-ordinator's Name, Designation, Contact No., Email ID	
100% Advance Payment Details	

Please email/post duly filled-in registration form on or before 09th December 2017 to:

Dr. K. C. Vora, Sr. Dy. Director & Head, ARAI Academy

ARAI-Forging Industry Division, Chakan

B-16/1, MIDC Chakan, Taluka Khed, Dist Pune 410 501 (INDIA)

Contact No: 02135 396 660/ 661/ 666

Email : nadeshmukh.fid@araiindia.com; sakle.fid@araiindia.com; training.fid@araiindia.com;



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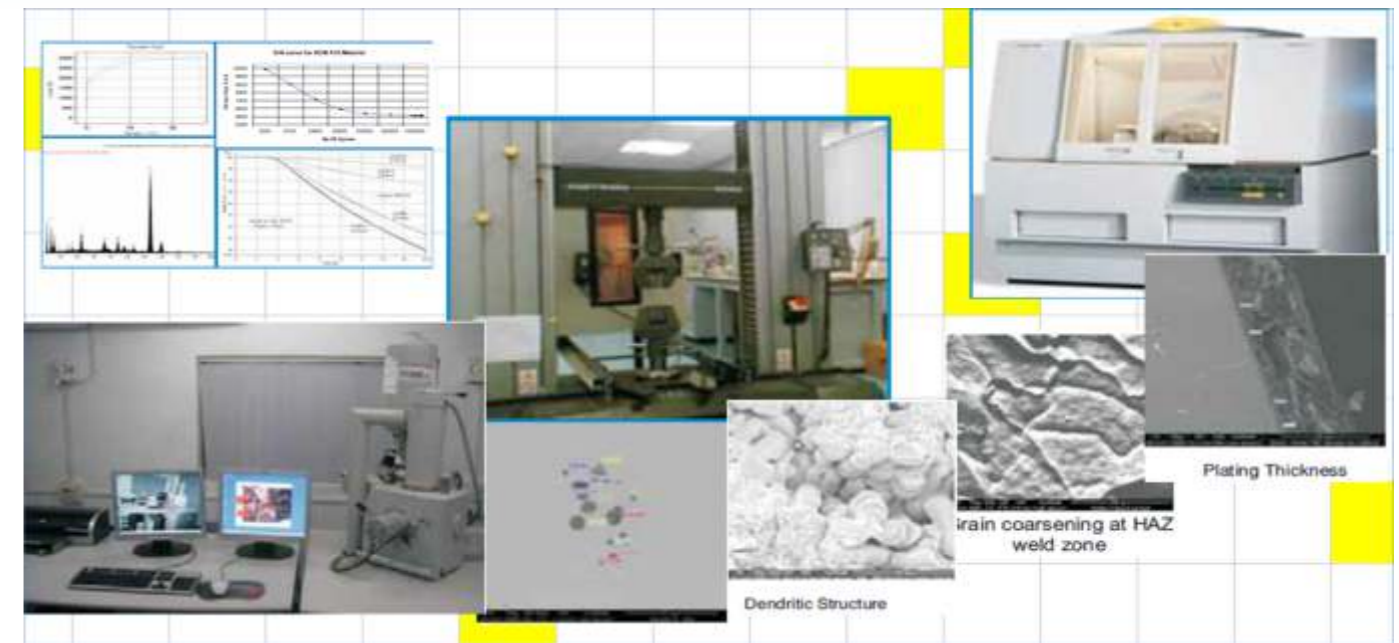
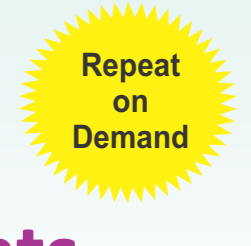


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3 Day Proficiency Improvement Programme on

Failure Analysis : Including Engine Components



at

ARAI-Forging Industry Division,

(The Automotive Research Association of India)

Plot No.B-16/1, MIDC, Chakan, Taluka: Khed, Dist: Pune 410 501.

from 13th to 15th December 2017 (Wednesday to Friday)

Jointly Organized by



BACKGROUND & OBJECTIVES

Failure of Components is a disastrous experience for user as well as to manufacturer and efforts are always on to avoid such Failures in future. Hence, it is necessary to understand cause of failures. Only a systematic & painstaking analysis can lead to the real "culprit" responsible for failure. Understanding theoretical aspects of stress, failure modes, fracture mechanisms and applying this knowledge to number of failures can build the expertise over a period of time. The present training programme is designed to cover the theory as well as practical aspects of Failure Analysis.

The course will cover three principal topics of interest viz Procedure analysis, Failure mechanisms, and forms of failure in product & components. Causes of failures will be explained with easy to understand discussion on stress application and distribution. Various case studies of failure and their elimination will be discussed. Participants are requested to bring along the failure cases (resolved or unresolved) for discussion.

The faculty members selected for each topic are experts in that field and bring along a rich experience of theory and application of this theory to systematically resolve failures. So this is most comprehensive course on Failure Analysis.

The course is designed for participants having no prior metallurgical training & has basic understanding of simple chemistry and physics.

INTENDED LEARNING OUTCOMES

On the completion of program, participants will be able to implement techniques & standard practices related to their work and will be able to:

- Understand importance & application of Iron Cementite diagram (Iron Carbon Equilibrium Diagram) and its application.
- Understand general procedures, techniques and precautions in failure investigation.
- Learn how to identify design related failure.
- Be able to analyse the factors that cause failure.
- Learn how stress systems relate to fracture of ductile and brittle materials.
- Learn about typical fatigue characteristics.
- Understand the basic fracture modes and their characteristics, including factors affecting ductile-brittle relationships.
- Learn how to 'read' fatigue fractures.
- Grasp many inter-related factors involved in examining fractures.
- Demonstrate independent learning ability that is necessary for seeking personal development.
- Become self-disciplined, demonstrating personal responsibility in the pursuit of studies and professional practice.

PROGRAMME

Day 1

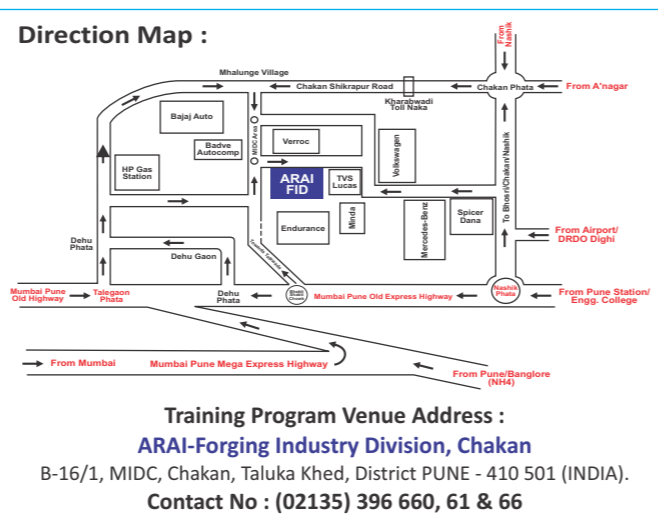
- 08.30 - Registration
- 09.00 - Inauguration
- 9.30 - General Procedures for Failure Analysis
- 11.00 - Tea
- 11.15 - Types of Failures and Stress
- 13.00 - Lunch
- 14.00 - Ductile and Brittle Fracture
- 15.30 - Tea
- 15.45 - Wear Failures
- 17.00 - Conclusion

Day 2

- 09.00 - Corrosion Failures
- 11.00 - Tea
- 11.15 - Fatigue Failures
- 13.15 - Lunch
- 13.15 - Failures of Shafts & Gears
- 15.30 - Tea
- 15.45 - Failures of Bearings
- 17.00 - Conclusion

Day 3

- 09.00 - Engine Failures
- 11.15 - Tea
- 11.30 - Failures of springs, Fasteners & Tools
- 13.15 - Lunch Break
- 14.00 - Assessment All Participants
- 14.30 - Discussion on Failure samples brought by Delegates
- 15.45 - Tea Break
- 16.00 - Certificate Distribution & Valedictory Function
- 17.00 - Conclusion



Note : ARAI reserves the right to change the dates, schedule, contents, speakers, venue etc. for the programme without any notice.

WHO SHOULD ATTEND ?

This training is useful for all industry professionals, who needs to have comprehensive understanding of Failure Analysis and working in area of :

- Design Dept., Product Design & Development, R&D, Service Engineers, Inspection, Testing, Quality Control, Assurance & Improvement, CAE and Metallurgy & techno commercial activity will benefit by attending this program.
- Manufacturing Shop Floor, Shift engineer / manager
- Sales, Business Development & Marketing
- Purchase, Vendor development & Supply chain
- Also working engineers / managers working as Supervisors, Engineers, Technicians, Graduate / Diploma Engineers and Executives, who need to work & analyse materials data & quality issues

MODE OF PAYMENT

At Par / Multicity cheque or demand draft in favour of

The Automotive Research Association of India
 payable at Pune.

ARAI, over five decades, has provided its design and development expertise to the Indian automotive industry, focusing on the testing and evaluation of components and systems to meet national and international standards. ARAI strives to achieve international recognition in these areas. In keeping with the globalization of economy and business, ARAI continues to enlarge its scope of services to meet the requirements of automotive industries around the world. In addition to utilizing state-of-the-art technology, laboratories and highly-trained personnel, ARAI recognizes the need to develop a new generation of engineers to meet the demands of the automotive industry, not just in India but across the globe.

ARAI ACADEMY is classified into three divisions:

LEARNING CENTRE has embarked upon a programme of building up human resources by commencing educational programme (Graduate, Post graduate & Doctoral) with specialization in Automotive Engineering. It has tied up with VIT University (Vellore), Veltech University (Chennai), College of Engineering (Pune), Christ University (Bangalore), University of Alabama (USA), Tennessee Tech University (USA), Loughborough University (UK) and University of Braunschweig (Germany).

KNOWLEDGE CENTRE It has collection of around 23,000 books, standards, project reports, seminar/conference proceedings and around 75,000 SAE technical papers. It also has 237 eBooks. It subscribes to 40 national and international journals. It regularly publishes a monthly magazine 'Automotive Abstracts'. It also conducts literature / patent search for customer's projects.

REGISTRATION FEES

Category	Registration Fees (Rs.) (per participant)	Total Fees including Tax of 18% (Rs.) (per participant)
Engineers & Professionals	8,000.00	9,440.00
Teaching Faculty	6,000.00	7,080.00
Engineering College Students	4,000.00	4,720.00

Registration fees include:

- Breakfast
- Lunch
- Delegate Kit

TRAINING CENTRE: In line with Post Graduate and Doctoral Programs conducted by various universities abroad, ARAI Academy has devised various Proficiency Improvement Programmes (PIPs), to be taught by ARAI, Academia & Industry Experts. PIP gives engineers, faculty and student's knowledge and technical expertise in a wide range of automotive disciplines. It helps in understanding system's view point for automotive design and manufacture, with specific skills in formulating automotive engineering solutions in terms of their function and performance, through optional modules. Based on the present system in universities, credits are proposed for each module, so that the graduate engineers can attend various modules and sum-up the credits required for Master's or Doctoral Programs. Participants also get chance to visit related laboratories of ARAI and get hands on experience. Certificates are issued on the basis of attendance & written test conducted at the end of the programme. We also conduct Training Programmes through WEBEX and Domain Training Programmes for Automotive Industry.

Please visit www.araiindia.com for more information.

About ASM As an engineering and scientific society, ASM International is led by members, guided by member needs and fueled by member participation, ASM members share information through international conferences and expositions, and local Chapter meetings, through publications like Advanced Materials & Processing and the Renowned ASM Handbook series, and online through the ASM Community website.

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