

Advanced Engineering Consulting Courses by TCR Arabia (1/2)

Failure & Root Cause Analysis: Guide & Techniques

The training module aims to integrate mechanical design, manufacturing processes, mechanical behaviour and microstructural analysis. In the interactive and modular course, the participants learn to determine the root causes of metallurgical failures. The participants are explained how to perform nondestructive, mechanical, metallurgical, and chemical tests by both portable and laboratory metallographic techniques. Optical and scanning electron micrographs and fractographs will be studied. The multi disciplinary nature of failure analysis benefits participants by integrating many subjects and requiring the use of modern equipments.

This training program provides an extensive analysis into the different types of material and component failures observed in industrial enterprises. Take this opportunity to also discuss solutions to manufacturing problems and get advice from the workshop leaders and your peers towards selecting the appropriate materials to improve overall product quality, reduce costs, and enhance customer satisfaction. You will also have time to discuss welding problems and hear solutions to improve the weld process.

In this workshop, you will address and resolve:

- Typical root cause metallurgical failure mechanisms
- Boiler, heat exchanger and pressure vessel failure
- Pipeline failure
- Lifting equipment and fastener failures
- Gear, shaft and weld failure analysis

Advanced Engineering Consulting Courses by TCR Arabia (2/2)

Failure & Root Cause Analysis: Guide & Techniques

- Root cause analysis through metallurgical approach
- Analysis procedure
- Preventing reoccurrence of the failure by in-situ metallography approach

By attending this training program, you will benefit by:

- Developing in-house solutions to your manufacturing problems
- Improving overall product quality through appropriate materials selection
- Quickly recognizing the different types of failure for particular units

The duration of this course is for 1 day and it is conducted by failure analysis experts from TCR Arabia. Students will be given a course completion certificate at the end of this course.

All courses, unless specified in advanced with the client, will be conducted at the training facility located at: **TCR Arabia Limited | Gas Gardens, King Abdulaziz Seaport, Dammam, Saudi Arabia**