

WE 213 - Optimising Fan Reliability Course

Recommended for

Service, maintenance, machine repair, or plant/facility engineering staff of an industrial plant, OEM facility, institution, public utility or commercial building which uses Fans in their industries. Individuals should have direct involvement or responsibility for industrial fans installation and maintenance.

Course objective

To provide attendees with a thorough knowledge of the design, function and maintenance requirements of the industrial fans. Additionally, the course describes the preferred methods for installing, starting up and run-in of industrial fans. Troubleshooting and solutions for common industrial fans problems are covered. Knowledge of these areas allows the attendee to be better prepared to maximize the service life and reliability of fans in their facility.

Pre-requisites

Participants should have an understanding of industrial safety. A fundamental knowledge of and ability to use basic hand tools is required.

Course description

The course curriculum is centered around industrial fans maintenance and includes the theory behind the function of the fan and its components. Topics are addressed in a series of lectures, discussions, and hands-on workshops.

Industrial Fan Classification and Function

- Different types of industrial fans
- Basic concepts of industrial fan function
- Theory and design of industrial fans
- Basic information on fans performance curves etc

Bearing Selection and Internal Dynamics

- Bearing selection for radial and thrust positions
- Behaviors of angular contact bearings under application conditions
- Selections of clearance or preload
- Appropriate contact angle and cage style
- Fundamentals of lubrication of industrial fans bearings
- Seal Design and Function
- Mechanical and lip seal design and application
- Seal selection and troubleshooting

Industrial Fan-Installation and Operation

- Proper methods of installing, leveling and grouting a fan
- Start-up procedures
- Alignment, impeller clearance, duct strain Maintenance and troubleshooting
- Routine maintenance concerns plus bearing and seal installations
- Lubrication systems
- Hands-on bearing failure
- Indicators of industrial fans malfunction
- Troubleshooting hints and suggestions

Course length

2 days