

# Wear Particle Analysis - Ferrography

*A cost - effective technique for detecting abnormal wear of lubricated components*

## Benefits

Ferrography provides early detection of abnormal wear of the lubricated critical internal components of mechanical systems. Analyzes the debris in system lubricants. Shows particle size, shape and colour as well as quantity. Reveals which system component is wearing, and to what degree, and pinpoints the cause of the wear.

## Technique

**Use of Ferrography to diagnose equipment problems and predict equipment failure before it occurs**

## Keywords

**Preventive Maintenance, Wear Particle Analysis, Reduced Maintenance**

In today's modern power generation, manufacturing, refining, transportation, mining and military operations, the cost of equipment maintenance, service, and lubricants are increasing. Parts, labor, equipment downtime, lubricant prices and disposal costs are a primary concern in a well-run maintenance management program. Machine condition monitoring based on oil analysis has become an important part of comprehensive maintenance programs. Spectro Lab plays a key role in such programs. It separates and concentrates wear and contaminant particles for microscopic examination. Particle size, surface characteristics and composition are then used to determine wear modes inside a machine so that maintenance recommendations can be made.

## Advantages

Determination of the condition of used Lubricants and equipment components, over a period. A trend of Wear Particle Concentration typically presents the opportunity for Maintenance programs from breakdown to be proactive.



## Particles which is harmful for machine and lubrication system

There are six basic wear particle types generated through the wear process. These include metallic particles that comprise of Normal Rubbing Wear, Cutting Wear Particles, Spherical Particles, Severe Sliding particles, Bearing Wear Particle (Fatigue Spall Particles, Laminar Particles) and Gear Wear (Pitch Line Fatigue Particles, Scuffing or Scoring Particles). There do also exist sand and dirt particles responsible to generate wear particles in the system.

Our Machine Condition Monitoring (MCM) testing helps customers with valuable engines and related machinery minimize down time and repair problem caused from equipments related issues.



CIN : U74220DL1998PL C092698

## Central Lab & Head Office

E-41 Okhla Industrial Area  
Phase-II  
New Delhi-110020  
Ph:- 91 11 40522000, 41611000  
E-mail: care@spectro.in  
URL:- www.spectrogroup.com  
www.spectro.in

## Main Laboratory

S-1 GNEPIP, Surajpur Industrial Area  
Kasna, Greater Noida, Phase-V  
Gautam Budha Nagar (U.P.)  
Pin Code: 201308  
Ph:- 0120-2341251/52  
E-mail:- care@spectrogroup.com  
URL:- www.spectrogroup.com