

Gathering Evidence for Cases Involving Failure Analysis

Our Failure Analysis experts provide legal and insurance clients with conclusions about the reasons for failure in a wide variety of machines, components and products. They deploy a comprehensive skill set, from traditional mechanical aptitude to the latest in digital metallurgical microscopy, but their analysis starts with evidence.

This guide describes basic principles for good evidence preservation for anyone who attends the scene of a loss, failure or injury.



Guide to Gathering Evidence

Isolate/Identify the failure

- Locate area of origin or initial point of failure for a sequence of events.
- Document specific point of failure, malfunction, fracture, or defect.
- Consider multiple failures or causes. It might be remote from the location of the worst damage.

Photograph the scene and all evidence liberally

- Secure the scene if feasible.
- Set camera to the correct date and time.
- Include scale markers in photos to indicate size.
- Photograph as-found conditions before evidence is moved, if feasible.
- Obtain overall site photographs and close-up photographs.
- Check your photos closely. Ensure your camera settings are allowing you to capture good images clearly showing the evidence.

Avoid Spoilation

- Document location as-found, along with the condition of each item.
- Document the extraction process (use notes, video recordings, sequential photographs).
- Do not alter evidence during extraction.
- Do not press fracture surfaces together.
- Do not unthread connections.

Gather important site information

- Record the time of incident and any pertinent site or evidence conditions pre- and post-incident (changes or adjustments in usage, settings, lighting, weather).
- Gather information regarding incident circumstances (e.g. how an incident occurred or how a device was last used).
- Record the dates of construction, installation, inspections, and maintenance.
- Request site photographs, videos, or logs.
- Obtain exemplar non-failed components for comparison.
- Record the product manufacturer, model and serial number.
- Gather user or installation/service manuals, as well as maintenance/service records.
- Gather invoices for purchase, installation, service, and even any post-incident repairs.

Secure Evidence

- Preserve failed parts, or full assembly if possible.
- Store evidence in clear, labeled plastic bags.
- Record the chain of custody (who, what, when, where).