Acoustic Emission (AE) testing has proven to be a method of preference for detecting the presence of defects quickly and reliably. AE testing uses sensors to identify high frequency signals resulting from structural defects performing under stress.

**Structural Defect Detection**

AE testing method applications:

- Metal pressure vessels and piping
- FRP vessels and pipings
- Reactors and hot circuit piping
- Heat exchangers
- Deaerators, etc.
- Tank bottom for storage tanks
- Full structural test on storage tanks

Common defects detected:

- Material crack growths
- Active corrosion
- Rubbing
- Leaks
- Stress corrosion
- Fatigue

**AE Testing v. Seismic Testing**

- Seismic industry uses low frequencies between 0-10 Hz, while AE testing uses higher frequencies between 20-400 Hz. Higher frequencies are more effective for noisy environments.
- Seismic industry places sensors miles away from the source, while AE testing places sensors approximately every 10-15 feet.

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