Alternating current field measurement (ACFM) is a nondestructive evaluation technique originally developed in the 1980s and first introduced into commercial use in the oil and gas industry in 1991 for the inspection of welded joints on off-shore platforms and processing plants. ACFM combines the advantages of the alternating current potential drop (ACPDP) technique, which allows the measurement of size without calibration, with those of eddy current techniques that measure the magnetic fields above a specimen surface instead of the surface voltages. As such, ACFM is a safe and reliable technique for detecting and sizing cracks in metallic components, even through surface paint and other coatings.

The advantages of ACFM include:
- Does not require cleaning to bright metal—The ACFM technique is capable of examining surfaces through non-conductive coating and scale with thicknesses of 5mm or greater.
- Crack depth measurement—In addition to measuring crack length, the ACFM technique is capable of measuring crack depth with a +20% accuracy.
- High temperature applications—Specialized ACFM probes are designed for use at temperatures up to 500°C, making it possible to conduct online measurements of systems and components that operate at elevated temperatures.
- Supports record retention efforts—ACFM provides a permanent electronic record of inspection results that can be stored, replayed and reviewed as necessary, or reproduced in hard copy for reporting purposes.

TÜV SÜD’s technicians are fully trained and independently certified to conduct ACFM and all other nondestructive evaluation techniques. TÜV SÜD’s ACFM equipment and technique approvals have been approved by ABS, Lloyds, DNV and OCB Germanisher Lloyd.

**Services from TÜV SÜD**
TÜV SÜD has made significant investment in the development and testing of new advance inspection technologies to meet the diverse needs of the chemical, oil and gas industries. In
of the most demanding testing and inspection issues in the energy and chemical industries.

TÜV SÜD America, Chemical, Oil and Gas is a part of the global network of TÜV SÜD AG, and has access to a complete range of product testing, certification and audit services. From unbundled risk evaluations to management systems and product testing, TÜV SÜD Chemical, Oil and Gas delivers what other inspection companies can not.

Your business benefits
Working with TÜV SÜD America, Chemical, Oil and Gas can offer your organization the following benefits:

- Stay ahead of developments—Work with technical experts who are at the forefront of the chemical, oil and gas industries.
- Benefit from a single source provider—TÜV SÜD provides a full range of testing and inspection services anywhere in the world.
- Gain customer confidence—Leverage TÜV SÜD’s reputation as a preferred third-party testing and inspection partner.
- Save time and money—Efficient, accurate and reliable testing and inspection services speed R&D and production activities, while improving worker safety and increasing quality.

Why choose TÜV SÜD?
TÜV SÜD America, Chemical, Oil and Gas is a leading provider of advanced nondestructive testing services, including AFCM. Today, our laboratories and testing facilities utilize a variety of advance of equipment capable of performing quality inspections on almost any form of ferrous material, component or product assembly.

TÜV SÜD America, Chemical, Oil and Gas NDT inspectors are certified to the American Society of Nondestructive Testing (ASNT) Level III and Level II requirements. TÜV SÜD is also one of the largest employers of API-certified and API-qualified inspectors in the U.S. Combined with the global resources of TÜV SÜD, TÜV SÜD Chemical, Oil and Gas has the knowledge and experience to address the requirements addition to AFCM, our comprehensive range of advanced nondestructive testing services include:

- Liquid penetrant testing
- Wet fluorescent magnetic particle testing
- Surface eddy current and surface array eddy current testing
- Digital/computed radiography
- Real-time radiography (RTR)
- Guided wave ultrasonic inspection
- Tubular inspection
- Electromagnetic acoustic transducers (EMAT)
- Phased array ultrasonic inspection
- Laser scanning
- Automated ultrasonic testing (AUT)
- Rope access technology
- Eddy current testing
- Ultrasonic B-scan imaging
- Ultrasonic flaw detection and sizing

Choose certainty. Add value.
TÜV SÜD is a premium quality, safety and sustainability solutions provider that specializes in testing, inspection, auditing, certification, training and knowledge services. Represented in over 800 locations worldwide, we hold accreditations in Europe, the Americas, the Middle East and Asia. By delivering objective solutions to our customers, we add tangible value to businesses, consumers and the environment.

Related services
TÜV SÜD provides the following related services:
- Infrared Inspection and Risk Control Programs
- Jurisdictional Inspection Service