

# FERRITE TESTING



**TOMTEC NDT MARINE  
SERVICES PTE LTD**

**FERRITE TESTING** is a non-destructive testing method which provides critical data for austenitic stainless steel and duplex materials. The delta ferrite percentage or number allows a technical assessment of material corrosion susceptibility, mechanical properties, service reliability. It is a fast, inexpensive, and accurate way to measure delta ferrite content in austenitic and duplex stainless steels. Proper ferrite content provides a balance between ductility, toughness, corrosion resistance and crack prevention.

Ferrite content is usually specified for a stainless-steel welding job, predicted using methods available and then actual value is measured by instruments after welding. Ferrite content is measured as a number and the common terminology to deal with this is Ferrite Number (FN).



The FERITSCOPE® FMP30 measures the ferrite content in austenitic and duplex steel according to the magnetic induction method. A magnetic field generated by a coil begins to interact with the magnetic portions of the specimen. The changes in the magnetic field induce a voltage proportional to the ferrite content in a second coil. This voltage is then evaluated. All magnetic portions in the otherwise non-magnetic structure are measured, i.e., in addition to delta ferrite and other ferritic portions also strain-induced martensite, for example.

TOMTEC Provides inspection ranges from

- ✓ Austenitic stainless steel/Duplex stainless steels
  - ❖ Welds (Tubing, etc.)
  - ❖ Normal constructions steel with Austenitic chrome alloyed steel, welded cladding (E.g. Boilers, Vessels, etc.)
- ✓ Weldments, Castings, Forgings, Weld Overlays, Wrought materials
- ✓ Weld materials
  - ❖ Butt/fillet welds
  - ❖ Category A – D welds
  - ❖ Stainless weld overlays on non – ferrous interfaces
- ✓ In-service and in-construction components



## Advantages

- ✓ Rapid and accurate analysis
- ✓ Highly portable digital technology
- ✓ Variable calibration in both Ferrite Number (FN) and % Ferrite (FN) using AWS standards
- ✓ Testing instruments meets all requirement of ASNI/AWS A4.2 and DIN EN ISO 8249
- ✓ Calibration is traceable to internationally approved IIV secondary calibration standards

**At TOMTEC**, our trained and qualified technicians use Fischer's FERITSCOPE® FMP30 to measure ferrite content in conformance with **AWS 4.2, ISO 13520, ISO 8249, BS EN ISO 17655**, as well as various other military, civilian, and customer specific standards and requirements.

🏠 48 Toh Guan Road East, #08-127, Enterprise Hub,  
Singapore 608586

☎ Tel: (65) 62624462 Fax: (65) 64681995

✉ Email: [tomtecmarine@tomtecdnt.com](mailto:tomtecmarine@tomtecdnt.com)

🌐 Website: <http://www.tomtecdnt.com>