



## STI SP001 Inspections of Above Ground Storage Tanks

### OVERVIEW

The Steel Tank Institute (STI), in collaboration with the Steel Plate Fabricators Association (SPFA) and the Environmental Protection Agency (EPA), developed the SP001 Standard for the Inspection of Aboveground Storage Tanks (ASTs). The code was devised to standardize inspections for shop-built and small field-erected tanks that are not large enough to be governed by API 653 codes, but nonetheless require regular inspection and maintenance. The STI SP001 standard offers inspection guidelines for petroleum storage tanks up to 50,000 gallons (189,271 liters), including tanks that are:

- shop-built
- field-erected
- portable
- skid-mounted
- liner-equipped
- double-walled
- partially buried

### MISTRAS ABOVEGROUND STORAGE TANK INSPECTIONS

As a one-source provider of asset protection solutions, MISTRAS is well-equipped to offer STI SP001 inspections for the power generation and chemical industries, in addition to any potential client with a backup diesel storage tank, such as hospitals and grocery stores. MISTRAS manages tanks throughout all phases of their operational lives, encompassing their construction,

inspection, and maintenance. Our inspections help tank operators identify signs of damage, including corrosion, leakage, cracking, and wall thinning. To ensure STI SP001 compliance, our STI inspectors use a variety of traditional and advanced nondestructive testing (NDT) technologies and techniques, including:

- Ultrasonic Testing (UT)
- Radiographic Testing (RT)
- Acoustic Emission Testing (AE)
- Penetrant Testing (PT)
- Magnetic Particle Testing (MT)
- Pulsed Eddy Current (PEC)

MISTRAS provides inspections to ensure STI SP001-compliance, with benefits including increased safety, asset reliability, and tank life extension. The code also enables tank operators to meet federal and state regulatory standards and guidelines, specifically those in the Spill Prevention Controls and Countermeasures Program (SPCC).

### STI SP001 TANK CLASSIFICATIONS

The STI SP001 standard determines inspection intervals by dividing ASTs into three categories based on their leak detection and management properties. A category 1 tank, which must

contain spill control and a continuous release detection method (CRDM), is judged to be the safest, and requires the fewest amount of inspections. Category 2 (spill control, no CRDM) and Category 3 (no spill control, no CRDM) require progressively more inspections.

Though these categorizations provide a basis for inspection intervals, some states require a different inspection schedule based on local jurisdictions. Check with your local MISTRAS service provider to ensure your tanks are in compliance with local and state mandates.

INSPECTION STANDARD DIFFERENCES	API 653	STI SP001
Tank size	Over 50' tall or 30' wide	55 – 50,000 gallons
Tank construction	Steel and large field-erected	Shop-built, small field-erected, horizontal, and portable
Emphasis on leak detection	Moderate	Primary
Inspection schedule	Monthly and yearly intervals	Risk-based intervals

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