



2024 Tank Inspection Guide

*Everything you need to know
before getting your tank inspected
by an API 653 certified inspector*



heartlandtankservices.com



2024 Tank Inspection Guide

*As a liquid storage tank owner,
you understand the need to
protect the investments you've
made for your organization.*

So do we.

*At Heartland Tank Services, our goal is to keep your
tanks up and running for generations to come.*

**Because your tanks don't represent just
hard-earned money well spent, they
represent food on the table for thousands.**

*Our Tank Inspection Guide will walk you through
the steps to take to prepare for your inspection;
set your expectations during the inspection; and
explain the results you will receive.*

Thank you *for trusting us with your
tank service needs. We look forward to
speaking with you soon.*



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When Should You Schedule an Inspection



*Heartland Tank Services adheres to The Fertilizer Institute's recommendation of a formal **API 653 tank inspection every 5 years.***

This schedule generally covers all state and insurance requirements. Heartland Tank Services keeps track of all state inspection requirements and will gladly help you determine when your state laws require an inspection be completed.

The API 653 Standard also requires routine monthly external in-service "Walk Around" Inspections.

These inspections are conducted by the tank owner, leaving the scheduling up to the needs and uniqueness of each tank operation.

If you own a tanks with an internal liners, Heartland Tank Services also recommends a weekly leak monitor check.



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Cleaning Your Tank Prior to an Inspection

Fertilizer product is corrosive and gradually eats away at the containment walls of a tank and slowly degrades a tank's structural integrity. It also leaves behind hardened scale deposits that often conceal corrosion damage beneath.

It is vital that damage and degradation is noticed during inspections. *To ensure this, it is crucial that a tank is properly cleaned prior to an inspector coming on site. In addition, cleaning disrupts the corrosion environment, buying more time in your tank's life by causing the corrosion process to reset and restart.*

Do it yourself cleanings are used to keep costs down. *The drawback to this approach is the tank may not be cleaned to the specifications required for an inspection. The tank may be cleaner than before, but not clean enough to inspect. This may also cause unnecessary tension between the inspection team and tank owner if the inspector is unable to perform an inspection.*

Professional cleanings are the standard recommended by Heartland Tank Services. *These teams have the knowledge and specialized skill to thoroughly clean a tank for an effective inspection. While the cost is significant, it is less than the cost of unplanned downtime. Small expenses don't immediately explode into large expenses*



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What Does a Clean Tank Look Like?



To give tank owners a stronger idea of what constitutes a tank that is properly cleaned, we've included examples from past inspections.

Thoroughly cleaned tanks have been included as well as tanks that are not considered properly cleaned for inspection.

Examples of Clean Tanks

These tanks are properly cleaned and ready for inspection





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What Does an Improperly Cleaned Tank Look Like?

Examples of Improper or Incomplete Cleaning

*These tanks are not ready for inspection.
Crucial flaws and failures may not be located.*

Remember, if we can't see it, we can't diagnose it!



An example of a tank that is generally not cleaned properly.



Liquid still present in the weld seams.



Product residue still present on top of floor plates



Product still remaining in floor sump



Excessive scale build up along the inside chime well. This is considered a critical zone of the tank due to it being the highest pressure area inside the tank.



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What the Inspection Team Will Look For

To keep your tank in strong working condition, the inspection team will examine the tank and foundation for the following:

Evidence of leaks

Shell distortions

Signs of settlement

Corrosion

Condition of the foundation,

Condition of the paint coatings

Condition of any insulation systems

Condition of appurtenances

Performing these inspections will save tank owners money. They detect issues in their infancy when repairs are smaller, easier, and less expensive to remedy.

The earlier the problem is caught, the less time the tank needs to be out of service to perform the repair.

Diligence and organization are critical in maintaining a routine inspection schedule, but the effort is rewarded with lower repair and operation costs.



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Components of a Formal Inspection

For a Formal Out-Of-Service Inspection, the basic components to the inspection should include:

Internal and External Visual Inspection of All Welds, Plates, Appurtenances, and Coatings

Ultrasonic Thickness (U.T.) Testing of Shell Courses, Floor, and Roof

Vacuum Testing of All Floor Weld Seams, Unless Epoxy Coated

Settlement Survey to Check for Planar Tilt and Floor Bulges/Depressions

Inspection of Repairs to Verify Compliance with API Specifications

Calculations for Safe and Maximum Fill Height



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What to Expect from Your Inspection Result

At the conclusion of such inspections, the inspector should provide you with an inspection report that includes:

Executive Summary Describing the Activities Performed with Summary Conclusions

Tank Data Page, Including Maximum and Recommended Fill Heights

Detailed Discussion of Observations and Recommendations for Foundations, Shell, Roof, Floor, Appurtenances, and Ancillary Equipment

Overall Recommendations on Repairs

Engineering Calculations for Remaining Shell Life, Settlement Survey, and Remaining Thickness for Floor and Roof

Log and Mapping of All U.T. Readings

Pictures of Tank and Areas in Need of Repair or Monitoring

Non-Destructive Examination and API-653 Certifications



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Do You Have Questions?

*Are you preparing for an inspection?
Do you wonder if your tank is clean and
ready for our team to come on site?*

Do you need help scheduling a professional cleaning?

*Have you received a report and have
questions on your next steps?*

*Contact our Inspections Team with any and all questions.
Rick and Jennifer are ready to help!*



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