



# How A New Autoclave Increased Annual Production Output By 35%

---

## Case Study

---



# Table of Contents

1. The Challenge
2. The Solution
3. The Results
4. About





AmeriTies supplies treated wood products including cross ties, switch ties and bridge timbers for railroads. American owned and operated, AmeriTies started in 1922 with a facility in The Dalles, Oregon. In 2008, a Hope, Arkansas location was added.

They now supply railroads' needs from both the AmeriTies South and AmeriTies West facilities

## The Challenge

In 2007, AmeriTies Holding, LLC contacted Tank Fab for help. They were building a new facility to treat railroad ties for their client, Union Pacific Railroad. AmeriTies wanted an outside engineering firm to help design the facility's in-house equipment. Their greatest need was project management and the creation of equipment specifications.

AmeriTies had a number of desires that wanted to fill with this new facility. Some of those included:

- Creation of detailed specifications for the equipment needed to preserve railroad ties for submittal to equipment manufacturers.
- Minimization of yard contamination from newly treated crossties and/or the equipment used to preserve the crossties.
- Increase the company's current preserved crosstie output by 100,000 ties per year.

# The Solution

Tank Fab was given the contract to design, manufacture and install all of the equipment AmeriTies needed to preserve crossties for their Union Pacific project.

Here's a look at the specifics of what we did for AmeriTies.

**Financial assistance.** We helped AmeriTies obtain financing for the facility's wood preservation equipment. We assisted AmeriTies key stakeholders when financial institutions needed information about the equipment AmeriTies required for the new facility.

**Design.** We created design specifications for the following wood preservation equipment:

- Treated cross ties material handling system. This includes the cars for carrying the railroad crossties into and out of the autoclaves, drip bays for storage of recently treated crossties, and a transfer deck for movement of the loaded cars between the autoclaves, drip bays, and load/unload areas.
- Storage tanks.
- Heat exchangers.
- Pump equipment.
- Cooling equipment (including condensers and cooling towers).
- An air-filtration system.
- Two 8' diameter by 156' long autoclaves.
- A computer system and instrumentation that would be needed to automate the facility's autoclaves, storage tanks, pumps, condensers, cooling towers, heat exchangers, and boilers.
- Piping that would connect the autoclaves to the storage tanks, pumps, condensers, cooling towers, heat exchangers, and boilers.

**Approvals.** We assisted AmeriTies in getting the necessary approvals for construction to begin.

**Manufacturing:** After AmeriTies received the specifications for the wood crosstie preservation equipment, they were released to a number of manufacturers, including us. We were awarded the contract for production of the following equipment:

- Autoclaves, storage tanks, heat exchangers
- Pump equipment
- Cooling equipment
- Material Handling System
- Piping
- Computer Automation System

**Installation.** All the equipment we manufactured we also installed at the new facility.







# The Results

The new facility, known as AmeriTies South, LLC was placed into production in 2010.

Since then, it has operated on a 24-hour per day schedule, with minimal downtime for maintenance-related issues.

As a direct result of the autoclaves and additional wood preservation equipment Tank Fab designed, manufactured and installed, AmeriTies was able to:

## **Increase production by 35%.**

AmeriTies met their increased production goal of 100,000 ties per year with additional room for increased capacity if needed.

## **Reduce turnaround.**

We achieve a turnaround time of less than 3 minutes for unloading and reloading each autoclave. This decreased the turnaround time by **over 85%** compared to their existing operations.

## **Ensure compliance.**

The facility meets the Class 1 railroad requirements and the AWPA standards for the wood treatment of crossties.

## **Ensure environmental friendliness.**

The autoclave safely contains and reuses any preservative drippage that may leak from the crosstie after it has been preserved. In addition, any drippage from the pump equipment is contained and re-used.

**A photo showing the completed facility's material handling system, our Transfer Deck System.**

**When the transfer deck, shown on the left of the photo, is fully loaded with preserved ties, it's carrying capacity is in excess of 1 million pounds.**







What would a 35% increase in annual production output do for your business? Get in touch to talk about how we can help you solve your company's lagging output.

## Get A Custom Quote

Call us at (910) 356-9988

### About Tank Fab

With specialized industry knowledge and 98 combined years of experience, Tank Fab helps customers increase production and reduce costs through specialized equipment.