

# Case History

## Multiple Strip Annealing Line

### Objective

Process three strips simultaneously from 3 individual coils through an annealing oven at a controlled speed, under controlled tension, and rewind.

### Case Specifications

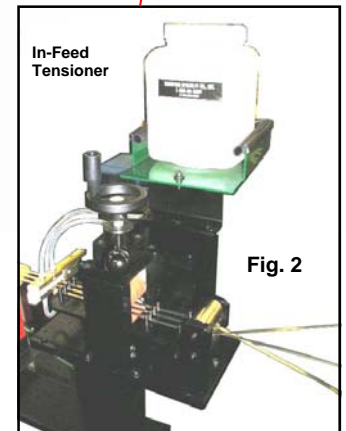
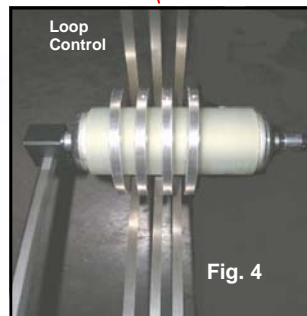
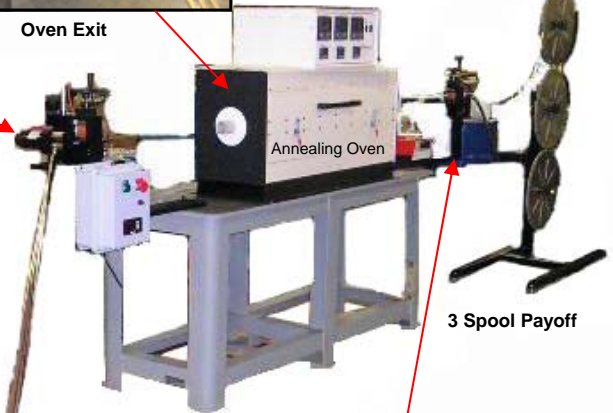
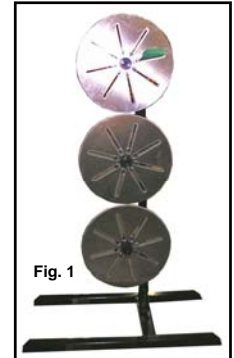
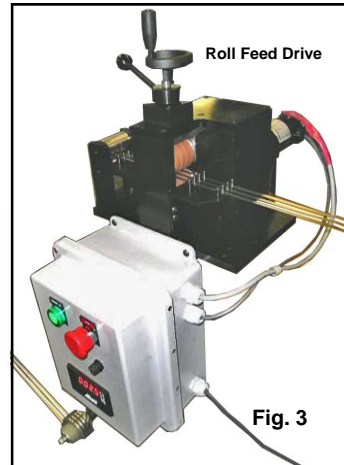
- 187" wide X .010" thick nickel
- Processing rate at 15 feet per minute
- Maintain 20 lbs tension through oven
- Maintain constant spacing between strips throughout the process

### Solution

Using a customer supplied 3 zone annealing oven, a custom three coil non-powered payoff (fig.1) was designed to pay out the strips to the first station. Here the 3 strips were guided to the required line height and proper center line spacing. (fig. 2) This station also employed an adjustable electromagnetic brake control to provide the required tension on the strips, and a cleaner/wiper device to insure that no foreign materials remained on the strip prior to entry into the oven.

Upon exiting the oven, the strips entered a motor driven adjustable speed roll station that provided the pull on the strips necessary through the oven while maintaining the proper spacing between the strips. (fig. 3) From there the 3 strips passed through a loop control arm guide roll assembly (fig. 4) to maintain a constant tension on the 3 strips as they were rewound on a special motorized take-up spool.

All of these systems tied into a main controller, and in the event of a malfunction, the entire system would shut down, alert the operator and identify the process fault.



You can view this system in operation at the following link:

<http://www.novoprecision.com/video-gallery/special-continous-3-strip-annealing-line/>