



Case Study: SECO/Warwick and ABB Instrument Transformers

By Jessica Warren, Mike Bricker, Eric Schreiber, Mike Schmidt

SECO/Warwick commissioned a roller hearth furnace system to ABB, an instrument transformer facility in Pinetops, North Carolina. ABB is a leading supplier of voltage and current transformers providing to utility and OEM customers.

Instrument transformers are a precision device designed to accurately meter either current or voltage on an electrical circuit. They also provide a means to protect the metering instrumentation from the power available in the circuit. The ABB Pinetops plant is considered by ABB as its “Worldwide Center of Excellence” for instrument transformers. The ABB Pinetops plant occupies 160,000 square feet and employs over 300 people. ABB Pinetops is widely

recognized as an industry leader in delivering quality products and dedicated to providing superior customer responsiveness.

PROJECT GOALS

SECO/Warwick partnered with ABB to develop a system to increase capacity, provide business continuity, improve employee safety, and improve product quality by replacing three batch pit-style vacuum

furnaces with a high efficiency, fully automated continuous operating system.

RESULTS

ABB engineers Mike Bricker and Jessica Warren led the project and commented, “The purchase and installation process of the roller hearth furnace was a success through hard work and strong communication between both companies. The furnace’s control system includes new tech-



“The new system also includes safety devices that provides a safe work environment for operators and ergonomically friendly.”



nologies allowing us to track the furnace temperature throughout the annealing cycle and detect problems the moment they occur. This information and control system provides ABB the ability to produce a stable anneal, which is critical to the electrical performance of our products.

The new furnace has more than doubled our annealing capacity. The installation of the new furnace gives ABB the ability to offer lower lead times to OEM customers. The furnace and conveyor orientation was custom designed to fit in ABB’s operational space. This new layout has positively changed the flow process in the annealing area by reducing work in process and transportation time. The new system also includes safety devices that provides a safe work environment for operators and ergonomically friendly. Altogether the new roller hearth furnace has positively affected the business in Pinetops and met our needs and goals.”

The furnace is designed for continuous operation with a net capacity of 2,080 pounds/hour of wound transformer cores based on loading trays 48” wide x 48” long. The system is designed to achieve furnace optimum temperature and atmosphere control with an automated material handling system that integrates with other plant production processes. For more information on ABB instrument transformers, please visit www.abb.com and search for instrument transformers. 

ABOUT THE AUTHOR:

Jessica Warren and Mike Bricker are manufacturing engineers at ABB, Pinetops. Eric Schreiber is a technical director and Mike Schmidt is a project engineer, both with SECO Corp.

The SECO/Warwick Group provides industrial metal heat treatment furnaces used in a variety of processes for material finishing and component manufacturing applications. We supply furnaces to customers involved

The SECO/Warwick Group produces vacuum furnaces, atmosphere furnaces, controlled atmosphere aluminum brazing furnaces (CAB), aluminum process furnaces and vacuum metallurgy equipment in manufacturing sites in Poland (SECO/Warwick Europe), the United States (SECO/Warwick Corp., RETECH Systems LLC), India (SECO/Warwick Allied Ltd.), China (SECO/Warwick RETECH Mfg. Tianjin Co., Ltd.) and Brazil (SECO/Warwick do Brazil Ltda.). Sales, service, and spare parts offices in Germany (SECO/Warwick Services GmbH) and Russia (SECO/Warwick Russia) complete the worldwide customer care network. Visit www.secowarwick.com for more information.