



Aluminum Idler Roll: Sample part sent to Ultrasonic Power Corporation to test clean in their lab. The complementary service will determine if ultrasonic cleaning is suitable for an application. Images courtesy of Ultrasonic Power Corporation.

Case Study

## Ultrasonics to The Rescue

STEVE MYERS

Ultrasonic Power Corporation's BT 90H, 40 kHz, 750 W cleans Componex's grooved pattern aluminum idler roll effectively and efficiently, even in the deepest grooves.

In Summer 2007, Ultrasonic Power Corporation (UPCORP) (Freeport, IL) was called upon by Componex (Edgerton, WI), a company that manufactures high performance aluminum idler rolls, to help them clean the inside and outside of aluminum tubes used for dead shaft idler applications. The challenge that Componex had was getting dirt, oil and metal chips out of a grooved pattern on the surface of the idler and they were looking for a process improvement.

After exploring other options such as hand scrubbing and power washing, Componex decided to go with ultrasonic cleaning and Ultrasonic Power Corporation's Custom, 40 kHz, 2000 Watt, heated ultrasonic cleaning system along with the Brulin 815GD, water-based biodegradable alkaline detergent. The major factor was UPCORP's ability to test the part in their lab and provide a total solution to their cleaning application.

Ultrasonic Power Corporation provides complete ultrasonic cleaning systems and components to build ultrasonic cleaning equipment for thousands of precision cleaning applications around the world. Manufacturing the most electrically efficient ultrasonic generators and transducers available today using Vibra-bar® transducer technology and providing Simultaneous Multifrequency™ for superior performance, their systems feature heavy duty all stainless steel construction. One through 90 gallon systems are available in-stock and they design and manufacture custom ultrasonic cleaning systems for unique applications.

### The Process

A new technology and application process for Componex, they found that it was much more efficient than the way the aluminum tubes were cleaned before—by hand. "The old

**Componex has been using Ultrasonic Power Corporation's machine for eight months** and have recently inquired about a 15-foot long system to clean their line of longer idler rolls.



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Aluminum Idler Roll before cleaning.



Aluminum Idler Roll after five minute test cleaning using a BT 90H and Brulin 815GD at a 10 percent mixture and a temperature of 140° F.

way was extremely limiting and now with the ultrasonic process, we save on labor and the time it takes to clean the parts," says Cal Couillard, Senior Design Engineer.

Although there was some preparation, it was minimal compared to the demonstrated ROI and measurable results Componex achieved from using the BT 90H, 9 gallon, 500W system. Parts were individually placed in a basket and washed for five minutes using Brulin 815GD at a 10 percent mixture and at a temperature of 140°F. Then, parts were rinsed in deionized (DI) water at 120° F and air-blown dry.

"The parts appeared to be very clean. Brulin 815GD has an additive that brightens aluminum and did a nice job on these parts," says Couillard. "The product that we created with the surface grooves in it was being cleaned very poorly with our previous cleaning process. Ultrasonic cleaning does the job much better."

## Success

Componex has been using Ultrasonic Power Corporation's machine for eight months and have recently inquired about a 15-foot long system to clean their line of longer idler rolls.

Couillard explains, "The ultimate value of using Ultrasonic Power Corporation's Custom, 75 inch, 40 kHz, 2000 Watt with the Brulin 815GD, water-based biodegradable alkaline detergent is that our grooved pattern aluminum idler roll arrives at our customer's facility completely free of contamination, even in the deepest grooves. I can't think of a better way to do it than ultrasonics." **pcm**

*Steve Myers is the manager of North American Sales at Ultrasonic Power Corporation (Freeport, IL). He can be reached at (800) 575-0168 or via e-mail at smyers@upcorp.com.*

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