

New cleaner provides cleaning and brightening in one step



Image 1: Brass nozzle before on left. Nozzle on right is a reject due to pitting from the Nitric brite dip process

Aquaease 2289

- ❖ Superior Oil Splitting Abilities- Extended Bath Life, Reclaim Oil with BTU Value
- ❖ Forms Highly Soluble Metal Salts - Reduced Scale and Sludge in Washer
- ❖ Low Odor - No Toxic Fumes
- ❖ Non-Chelated - Simplifies Waste Treatment
- ❖ Low Corrosion—Rates Minimizes Over Etching
- ❖ Removes Oxides and Scales - Eliminates Multi-Stage Cleaning Operations
- ❖ Phosphate Free—Reduces wastewater charges
- ❖ One step cleaner, deoxidizer & brightener - Reduces stages, time, equipment and space needed for desired finish.

As a leader in industrial and oil heating nozzles, this company provide significant reductions in combustion pollutants for cleaner air and contribute to the reduction of carbon and soot helping to retain set up efficiencies and extend maintenance cycles.

This facility runs machined brass and assembles various brass parts into nozzles for gas furnaces. The brass they run is a low lead, approximately 20% zinc. They also run some bismuth brass and a very small part of nozzle is stainless steel.

Current process includes the following:

1. The brass nozzles are washed in a vapor degreaser using a reclaimed mineral spirits-based solvent system.
2. The Stainless-Steel degreaser is cleaned and made up with fresh solvent every 3 months.
3. The parts coming out of this washer are cleaned and dried after being vapor degreased.
4. Most of the nozzles are clean and bright however all are processed through a nitric acid based bright dip to further polish and remove any black staining.
 - a. 15% rejection rate from nitric brightener causing pitting (see image 1 above)
5. The bright dip puts a slight dulling on the smooth shiny brass nozzle heads, followed by several rinses, and then a chromate seal to prevent tarnish.

This large company was determined to remove the hazards associated with the use of the vapor degreaser and replace the dangerous nitric acid mixture required to clean and polish the nozzles.

The technical team at Hubbard-Hall recommended the following:

1. Replace the concentrated acid bright dip with a safer alternative, in this case we suggested Aquaease 2289.
2. Replace chromate sealer with alternative chemistry to prevent tarnish. We suggested Laserguard HFP.
3. The process changes could potentially offer a clean and brightening (remove staining) in one step.

We processed three different parts in a 10% solution with Aquaease 2289 for a 3-minute cycle at 145 F. All the parts looked better (higher shine) than any of the finished parts from the current system.

By using Hubbard-Hall chemistry, the company no longer needs to bright dip in nitric acid and follow with a chromate sealer to protect the nozzles from oxidizing after bright dip. Parts are now processed in Aquaease 2289 and sealed with Laser HFP, resulting in brighter nozzles that are pit-free (see Image 2). The company has switched over to a better, safer, and faster process.



Image 2: Brass nozzle before on left. Nozzle on right processed with Aquaease 2289 and sealed with Laserguard HFP.