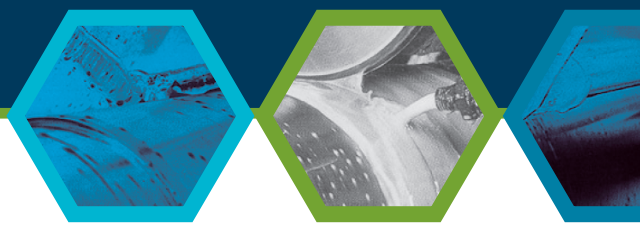
APPLICATION CASE STUDY #11



NuSOL® ALUMAX 89EU

METAL WORKING FLUID

CUSTOMER: INTERNATIONAL ENGINE MANUFACTURER

PRODUCT

NuSol® Alumax is a non-chlorinated technology for the machining of non-ferrous metals and exotic alloys. NuSol® Alumax is formulated for all machining operations on all metals but is specifically designed to machine today's tougher non-ferrous and aluminum alloys. NuSol® Alumax is manufactured using a proprietary blending process that incorporates many unique characteristics into he product that will promote high productivity rates and minimal down-time for the end user.

NuSol® Alumax is formulated using a blend of unique preformed emulsions that possess a very small particle size and which demonstrate outstanding boundary lubrication. This small particle size provides a very durable and uniform lubricant film, enhanced wetting and coverage, a very clean running fluid, and exceptional hard water stability for enhanced machining performance on non-ferrous and aluminum alloys. NuSol® Alumax preformed emulsions are further complemented with the presence of a surfactant package, offering enhanced boundary lubrication and fluid detergency and cleanliness.

PROCESS AND EQUIPMENT

Industry/Market	Industrial
Product Type	Metal Working Fluid
Product Number	27023R0000
Machinery Involved	Heller, Asquith, Anayak, Correa Machine Tools
Description of Environment	Used to machine cast iron cylinder heads, cast iron and SGI crank cases and SGI con rods.
Volume Used	20,000 litres
Date of Use	2015 to present
Documented Cost Savings	£54,927.92

▷ DESCRIPTION OF PROBLEM

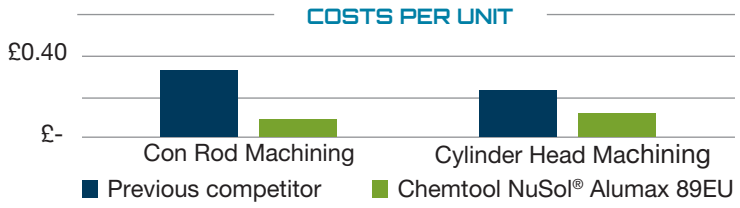
The previous metal working fluid was leaving sticky residues on parts and the machine causing valves to stick on component clamping leading to a lot of down-time for maintenance to clean and free the valves. There was also a build up of soap scum on the sides of the coolant tanks and in the sumps. The usage of the product increased dramatically due to large drag out on the swarf metal. The reclamation units were becoming blocked by the product solidifying and causing blockages of the fluid and contributing to more required maintenance.

▷ SOLUTION

By replacing the product with NuSol® Alumax 89EU the machine and machined components did not have the sticky residue present therefore there have been no stoppages of production caused by the product. The build up of soap scum in and on the tanks was also removed and the product does not cause the blockages in the pipes like the competitor product. The usage has been reduced, largely due to the low drag out, with NuSol® Alumax 89EU on the swarf metal. The total process cost per component (CPU) was reduced from £0.35 to £0.07 showing an annual saving of £54,927.92.

▷ CUSTOMER TESTIMONIAL

The engineers, maintenance engineers and machinists have all noted the benefits by changing from the competitors product.



CHEMTOOL INCORPORATED
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A Subsidiary of Lubrizol

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