

Performance Bio NC Lite Eliminates Odor Issues

AEROSPACE (USA)

Aerospace Fasteners

Castrol Performance Bio[®] NC Lite*

Mist Reduced and Offensive Odors Eliminated



THE SITUATION

An aerospace fastener manufacturer was having issues with a sulfurized cutting oil in their swiss-style machining centers (Tornos, Star CNC, Davenport). The small parts require workers to be in very close proximity to the machining operations. The odors and mist from the sulfurized oil were offensive, causing poor worker acceptance.

BEFORE

- Sulfurized mineral oil in use
- Offensive odor from the cutting fluid
- Mist during high speed cutting
- Some parts too hot to handle easily

AFTER

- NC Lite formulated with plant-based oils in use
- Sulfur odor eliminated
- Less misting
- Cooler running parts make it easier for part handling

THE SOLUTION

- This aerospace fastener facility produces parts from stainless steel, Inconel and titanium.
- The machining operations are difficult and normally require heavy, sulfur-containing cutting fluids.
- This customers has restrictions on the use of chlorine and wanted to reduce the use of sulfur.
- Performance Bio NC Lite eliminated the need for sulfur and chlorine due to the high lubricity of its natural base oils.
- The odors were eliminated and misting greatly reduced, leading to very high acceptance from the operators working closely with the fluid.
- Production rates and tool life were maintained while eliminating the need for sulfur or chlorine.

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RECOMMENDATIONS

NC Lite is an excellent fluid to use in swiss-style machining centers running medium to small parts. Recycling can be utilized because the NC Lite can be filtered down to 1 micron. This is important in keeping the fluid clean for the cutting operations.

*Typical machine center
for aerospace parts*



CONCLUSION

Performance Bio NC Lite was implemented to eliminate odor issues and other environmental issues that were present with conventional mineral oil. The high performance from the NC Lite does not require customers to sacrifice production rates or tooling costs to become more environmentally responsible and operator friendly.

***“Workers no longer complain
about the oil odors and some
of our operations no longer
run hot.”
- Customer quote***



OTHER POTENTIAL APPLICATIONS

Castrol Performance Bio NC series fluids are part of Castrol’s “environmentally responsible” offer. They are based on renewable plant-based lubricants with very high flash points, low VOCs, high lubricity, low mist, and high viscosity index. With multiple viscosities available, they can cover a wide range of neat cutting oil operations.

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