

NC Plus Doubles Feeds and Eliminates Smoke

MACHINERY MANUFACTURE (USA)

Oil & Gas Industry

Castrol Performance Bio[®] NC Plus*

Double feed rate and no smoke!

THE SITUATION

A huge gear manufacturing company for the oil and gas industry was having 4 key issues with their gear cutting oil: smoke, slow cutting speeds, poor operator acceptance, and contamination from lube oil. In addition, the oil was chlorinated which was an HSSE concern.

As Castrol was doing business elsewhere within the facility, we were asked for a solution to these problems.

BEFORE

- Mineral-based neat oil with chlorine
- Severe smoking
- Slow feed rate to deal with smoke
- Odor was disliked by operators
- Lube oil contamination

AFTER

- **NC Plus** plant-based neat oil with no chlorine or heavy metals
- Smoke nearly eliminated
- Feed rate doubled
- Pleasant odor
- Lube oil and cutting oil are the same so no compatibility issues

THE SOLUTION

- Castrol and their distributor had a good existing relationship with the customer.
- After reviewing the issues, we recognized quickly, based on other successes, that the Performance Bio line was a great fit.
- The customer was so impressed after only 5 weeks of testing that they began converting the entire shop to the NC Plus.
- Operator acceptance was very high, production was substantially increased, and the operation no longer smoked.
- Service from the Castrol distributor in supporting the conversions was noted as an additional advantage.



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RECOMMENDATIONS

The customer was running many old gear shaping machines in this facility using mineral oil as the lubricant to machine carbon steel gearing. NC Plus has the advantage of plant-based oils that provide high lubricity, high flash point, and high viscosity index. These qualities allowed for the feed to be doubled while still eliminating the smoke from the cutting operation. In addition, it is suitable on the lube side of these machines, eliminating the problems previously associated with lube oil leaking into the cutting oil.

*Performance Bio NC Plus
running well in gear
shapers...no smoke and
double the feed rate!*

CONCLUSION

The high performance and “green” nature of the NC Plus delivered substantial increase in production, high operator acceptance (low odor), and greatly reduced smoke in the plant environment. This performance was accomplished without the use of chlorine which helped the plant improve HSSE.



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, and high viscosity index. With multiple viscosities available, they can cover a wide range of neat cutting oil operations.

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