

Difficult Tapping Without Chlorinated Paraffin

AUTOMOTIVE (USA)

PARTS MANUFACTURING

Castrol Variocut® C Moly Dee*

Chlorine Eliminated Without Sacrificing Performance



THE SITUATION

An automotive components manufacturer was using a chlorinated oil for tapping brackets. The oil worked well for the customer, but they had concerns about the use of chlorinated paraffin. They wanted to get away from the chlorinated oil without giving up performance.

Castrol offered a chlorine-free option for them to test.

BEFORE

- Chlorinated straight oil
- Excellent thread quality
- Tap life of 2000 parts per tap
- Parts cleaned in alkaline washer

AFTER

- Chlorine-free straight oil
- Thread quality equal to the chlorinated oil
- Tap life equal to the chlorinated oil (2000 parts per tap)
- Variocut C Moly Dee cleaned easily in the existing alkaline washer

THE SOLUTION

- Variocut C Moly Dee was used to produce cut threads in 4105 hardened steel brackets.
- The taps were brushed with Variocut C Moly Dee before each part was tapped.
- Tap life was equal to the performance of the chlorinated fluid.
- The thread quality remained excellent, just as it was with the previous oil.
- With removal of chlorinated paraffins, there is less chance for corrosion of the parts before the cleaning operation.
- The elimination of the chlorinated paraffin reduced the health concerns in the plant.

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RECOMMENDATIONS

Variocut C Moly Dee was used to successfully cut threads into 4105 hardened steel. The holes being tapped were 0.375" with a length of 0.525". The Variocut C Moly Dee was applied in the same manner as the chlorinated oil (by brushing the fluid onto the tap).

Chlorinated paraffin is well known for its excellent EP characteristics in difficult cutting operations such as this one. Variocut C Moly Dee was able to match this performance using Castrol's proprietary chlorine-free, EP technology.

**"The new Moly Dee CF
(Variocut C Moly Dee)
seems to work just as
good as the old one"
– Machine Operator**

*Typical taps
used in cut
tapping
applications*



CONCLUSION

The Variocut C Moly Dee performance matched the performance of the chlorinated fluid in a cut tapping operation. The customer was pleased to remove chlorinated paraffin from their facility without sacrificing performance.



OTHER POTENTIAL APPLICATIONS

Variocut C Moly Dee is a tapping fluid that can be used in thread forming or cutting operations. It is typically hand applied and used in small quantities. The Moly Dee brand name is well recognized as a performance leader in the tapping industry.

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