



CASE STUDY



Z & Z MACHINE PRODUCTS 50% INCREASED TOOL LIFE

Situation Summary

- Z & Z is a typical job shop supporting agriculture and automotive industries that produces parts that has a variety of machining applications, metals, and finishing requirements to meet their customer's needs. They are currently using a competitor's semi-synthetic CLC 4430 product at 8-9%. They have switched coolants twice in two years due to insufficient tool life. Oil contamination is high, leading to poor fluid condition and shorter sump life.
- Test Machine is a Daewoo Puma Lathe.
- Metals machined: 356 cast aluminum, c1020-c1030 steel, 8620 steel, grey iron, cast iron, stainless, and aluminumized bronze.

Customer Stated Goal

- Increase tool life
- Improve parts finish as needed for their customers
- Utilize a more environmentally safe product – no chlorine, DCHA (Dicyclohexylamine), or formaldehyde-release biocide

Steps To Solution

Benz recommended the use of **BENZ KOOL 1300** to accomplish the stated customer goals. **BENZ KOOL 1300** is a high performing semi-synthetic with multi-metal capabilities that is designed to provide optimal tool life and surface finish. Product is expected to overcome the tramp oil contamination and does not contain DCHA, chlorine or formaldehyde.

Results

BENZ KOOL 1300 provided improved performance on all metals tested. Ancillary benefits that support the plant and operators include low foam, tramp oil rejection, and no odor. The product exceeds expectations and will be expanded into other areas of the plant.

356 cast aluminum

- Competitive product at 8-9% achieved 21 parts per insert
- **BENZ KOOL 1300** at the same concentration achieved 60+ parts per insert, with life remaining on insert

C1020-C1030 Steel

- **BENZ KOOL 1300** provided improved surface finish

Cast Steel

- **BENZ KOOL 1300** achieved 50% increase in tool life

Grey Iron

- Competitive product at 8-9% - 2 inserts finished 6 parts
- **BENZ KOOL 1300** at the same concentration 2 inserts finished 84 parts

*"After almost 6 months of using **BENZ KOOL 1300**, we have seen a drastic increase in overall performance, through higher speeds and feeds, tool life, and finish. The fluid is odorless and doesn't aggravate the hands."*

– Shop Foreman, Z & Z Products
