

Improved Tool Life and Surface Finish

MACHINERY MANUFACTURING (USA)

Bearing Cage Manufacturing

Castrol Carecut® S 130

ANNUAL SAVINGS: \$95,000

THE SITUATION

A major bearing manufacturer had below expected carbide tool life when drilling cage holes. In addition, a significant amount of time was spent manually deburring parts that the tumbling process could not remove.

BEFORE

- Oil-rejecting synthetic coolant
- 150-200 holes per drill
- 32aa surface finish
- Large amount of manual deburring

AFTER

- Micro-emulsion coolant
- 500 holes per drill (\$20,000 savings)
- 16aa surface finish
- Lowered manual debur time by 3 min/part (\$75,000 savings)

THE SOLUTION

- The micro-emulsion chemistry of Carecut S 130 couples the benefits of a traditional synthetic with a very high level of lubricity, allowing for outstanding tool life and surface finish.
- Carecut S 130 produced exceptional tool life and surface finish, while reducing part cycle time and thus increasing production throughput.
- Through proper process review, Castrol and the customer were able to work together to choose the optimum coolant. As a result, process efficiencies were generated in the areas of cycle time, labor, and quality.



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RECOMMENDATIONS

Customer is drilling 44mm holes in 4340 steel cages using standard carbide twist drills. Tool life was increased by a minimum of 300 parts per drill equating to \$20,000 in annual drill savings. Manual debur time was reduced by 3 minutes per part totaling \$75,000 in burden labor savings (\$100/hr x 2.5 hrs/day x 6 days/wk x 50 wks) and increased production throughput.

CONCLUSION

Carecut S 130 generated \$95,000 in annual savings through 150% tool life increase and significant reduction in labor burden to manually debur parts.



OTHER POTENTIAL APPLICATIONS

Carecut S 130 is an ideal coolant for areas where high lubricity is required to achieve very stringent surface finish requirements.