

CASE STUDY 59

(A SEMI-SYNTHETIC COOLANT FOR GENERAL MACHINING)



CUSTOMER DETAILS :

A renowned company in Karnataka, manufacturing hydraulic cylinders for international OEMs.



OBJECTIVES FOR CONDUCTING THE TRIAL

1. Need to achieve the required finish .Required Ra-0.8
2. No EHS Issues - Operator & Environmental Friendly.
3. To reduce the cost of oil.
4. No Foaming
5. Heating of component



OPERATING / APPLICATION DETAILS:

1. Machine : Hyndai WIA/ACME
2. Tank Capacity : 300/1500 Litres
3. Part : Pistons and Shafts
4. Material : Steel, SAE 4135, C45
5. Application : Turning, Drilling, boring, Tapping, Grinding-ACME Machine
6. Cycle time : 10minutes
7. Tool : Carbide Inserts
8. Filtration : Magnetic Conveyor
9. Initial Loading : 300 Litres and 13000Litres
10. Ra : 0.8 to 1.6 Max
11. Sump Life : 1 Year
12. Trial Evaluation : 2 months



COMPONENT VIEW



PRODUCT RECOMMENDED: HICUT BIO 120

TRIAL RESULTS



Achieved excellent surface finish -
Ra 0.45



No EHS Issues observed - Operator &
Environmental Friendly.



Direct cost savings - 12%



Rust not observed



No overheating on component at
concentration 4%-5%