

CASE STUDY 42

(A VERSATILE SEMI-SYNTHETIC COOLANT FOR BLADE GRINDING)



CUSTOMER DETAILS :

A manufacturer in Hyderabad, producing shaving blades, cleavers and choppers for metal cutlery.



OBJECTIVES FOR CONDUCTING THE TRIAL

1. To achieve the required finish.
2. No EHS Issues - Operator & Environmental Friendly.
3. To reduce the cost of oil.
4. To meet the wheel life
5. No mist or smoke formation.



OPERATING / APPLICATION DETAILS:

1. Machine - Spm grinding machine
2. Tank capacity - 5000ltrs (centralized)
3. Part - Shaving Blades
4. Part thickness -1 mm
5. Material -Steel
6. Operation - Angular Grinding
7. Stages -6 stages
8. Rpm - 3000-4000
9. Dressing frequency (~50 lakh blades grinding).

10. Depth of cut - 0.025 MM each side
11. Grinding WHEEL- CBN.
12. Filtration - Paper filter (50micron), Magnetic roller and bag filter.
13. Conc - 3% in Brix
14. Present competitor sump life - 6 months
15. Water used - RO water
16. Coolant flow - flooding type with 2.5 bar pressure.
17. Trial Period – 2 months
18. Castrol Hysol T15



COMPONENT VIEW



PRODUCT RECOMMENDED: HICUT 6080B

TRIAL RESULTS



Achieved better than required finish (Ra-0.2)



Wheel life & Dressing Frequency – Similar to the existing product



No EHS issues observed – No skin / eye irritation.



Machine is clean – Good flush ability



Consumption cost reduced by 15%