

CASE STUDY 41

(MACHINING OF ENGINE VALVES WITH LOW VISCOSITY NEAT OIL)



CUSTOMER DETAILS :

A renowned manufacturer in Hyderabad that produces Steering and Suspension systems, Friction materials, Valve train components and safety systems.



OBJECTIVES FOR CONDUCTING THE TRIAL

1. To achieve the required finish: Seat Surface (RA 0.6 Max), Stem (RA 0.2 Max), and Seat Roundness (10).
2. Reduction in consumption cost
3. No EHS Issues (Skin & eye irritation)



OPERATING / APPLICATION DETAILS:

1. Machine : Microsmatic Grinding
2. Operation : Groove Grinding, Finish Grinding Stem
3. Tank capacity : 420 Ltrs & 700 Ltrs
4. Filtration : Paper Filter /Magnetic Roller
5. Chiller : Available , Maintained at 30 Deg C
6. Material : Low Carbon steel ,Martensitic & Austenitic grades of valve steels and super alloys

7. Component : Engine Valves
8. Dimension Of Valves : Stem Dia 4.5 – 42 mm / Head Dia 18 – 200 mm /Length 50 – 1000 mm
9. Cycle time : 20 Secs
10. Castrol Magna PR 40



COMPONENT VIEW



PRODUCT RECOMMENDED: HICUT N-CBN

TRIAL RESULTS



Achieved better than the required finish:
Seat Surface (RA 0.4 Max), Stem
(RA 0.15 Max) and Seat Roundness (4).



No EHS Issues observed



Good Flushability observed



Consumption cost reduced by 20%
compared to an existing product