CASE STUDY 90

(POLYMER QUENCHING OF INNER RINGS WITH HIQUENCH P50)

CUSTOMER DETAILS :

Customer Background: A leading Commercial Heat Treater in Mumbai having 5 units and an established supplier of forging, flanges and rings.

OBJECTIVES FOR CONDUCTING THE TRIAL

1. Impact at 20° C > 50 Joules
2. Hardness required at surface – above 420 HB
3. No cracks on the job
4. No distortion
5. Uniform hardness all over surface
6. Reduced consumption

OPERATING / APPLICATION DETAILS:

1. Material Grade: 42CRMO4 EN19
2. Material Dimensions: 45 cm Height, 75 cm Diameter, 8 cm thickness
3. Concentration: 12.75 percent
4. Hardening temperature: 910°C
5. Hardening Soaking time: 3 hours
6. Job Transfer time: 102 seconds
7. Polymer Bath temperature: Room Temperature
8. Quenching Time: 30 mins full deep
9. Tempering Temperature: 610°C for 10 hours
10. Polymer Tank for Trial: 2000 Litres Tank

COMPONENT VIEW

PRODUCT RECOMMENDED: HIQUENCH P 50

TRIAL RESULTS

- No Cracks observed on surface
- No distortion observed
- Hardness achieved from 440 HB to 490 HB
- Consumption requirement achieved
- All Impact tests and Hardness test were achieved
- Impact at 20 Deg C > 70 Joules achieved