CASE STUDY 76

(ISOMAX 169-TO ACHIEVE MIN 35% CARBIDE IN HILLED GREY CAST IRON ON QUENCHING.)

PROFILE OF COMPANY:

They are the Manufacturers of Cam Shaft, Balancer Shaft and Valve Tappets and serves automotive, truck, tractor, marine, power generation, industrial and agricultural industries in India and abroad.

TRIAL CRITERIA

1. To Achieve Required hardness with Min 35% carbide on quenching.
2. No smoke during quenching
3. Minimum distortion in thin wall parts
4. Consistent in cooling rate
5. Cost reduction

OPERATING/ APPLICATION DETAILS :

1. Furnace: Dongwoo MBF 1.0 MT
2. Hardening Temparature: 850 Deg C
3. Soaking Time: 25 Min
4. Tempering 180 Deg C: 200 Deg C
5. Hardness at Chilled area: 58 – 63 HRC
6. Other Areas: 45 – 47 HRC
7. Micro Structure: 35 – 45 % Carbides in Martensitic matrix with a maximum of 5 % Graphite. Ferrite, Pearlite and retained Austenite are not permitted
8. Material Grade:
   1. 10173D Grade 1
   2. Hardenable chilled Grey cast Iron
   3. 10173D
   4. Special Cast Iron (ES – T50010)

COMPONENT DETAILS

PRODUCT RECOMMENDED: ISOMAX 169

TRIAL CONCLUSION

Hardness achieved with in the Limit

Micro Checked at ELCA Lab Pune & found meeting the specification microstructure & % carbide more than 35%

Received the order for 12500 Ltrs for ISOMAX 169 and supplied.

The results were submitted to the Customer along with our commercial offer