

# Manufacturing Industry

## CASE STUDY

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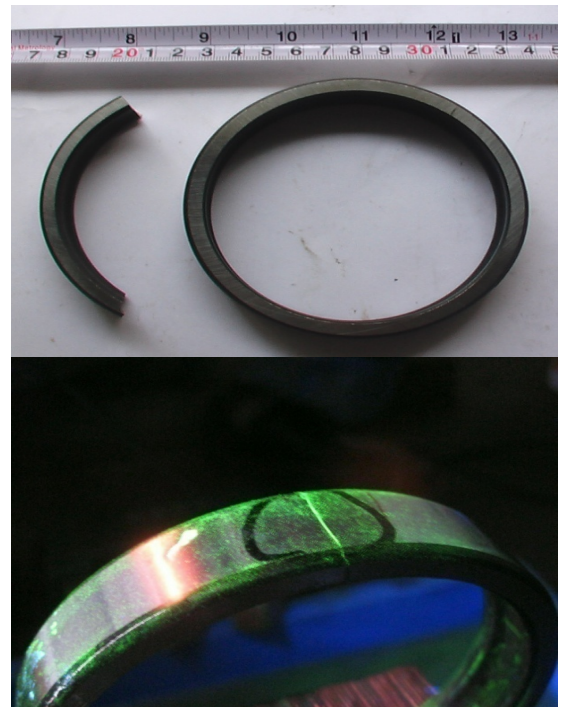
### Key Facts

Sector Manufacturing Industry

Category Investigation of Bearing Ring

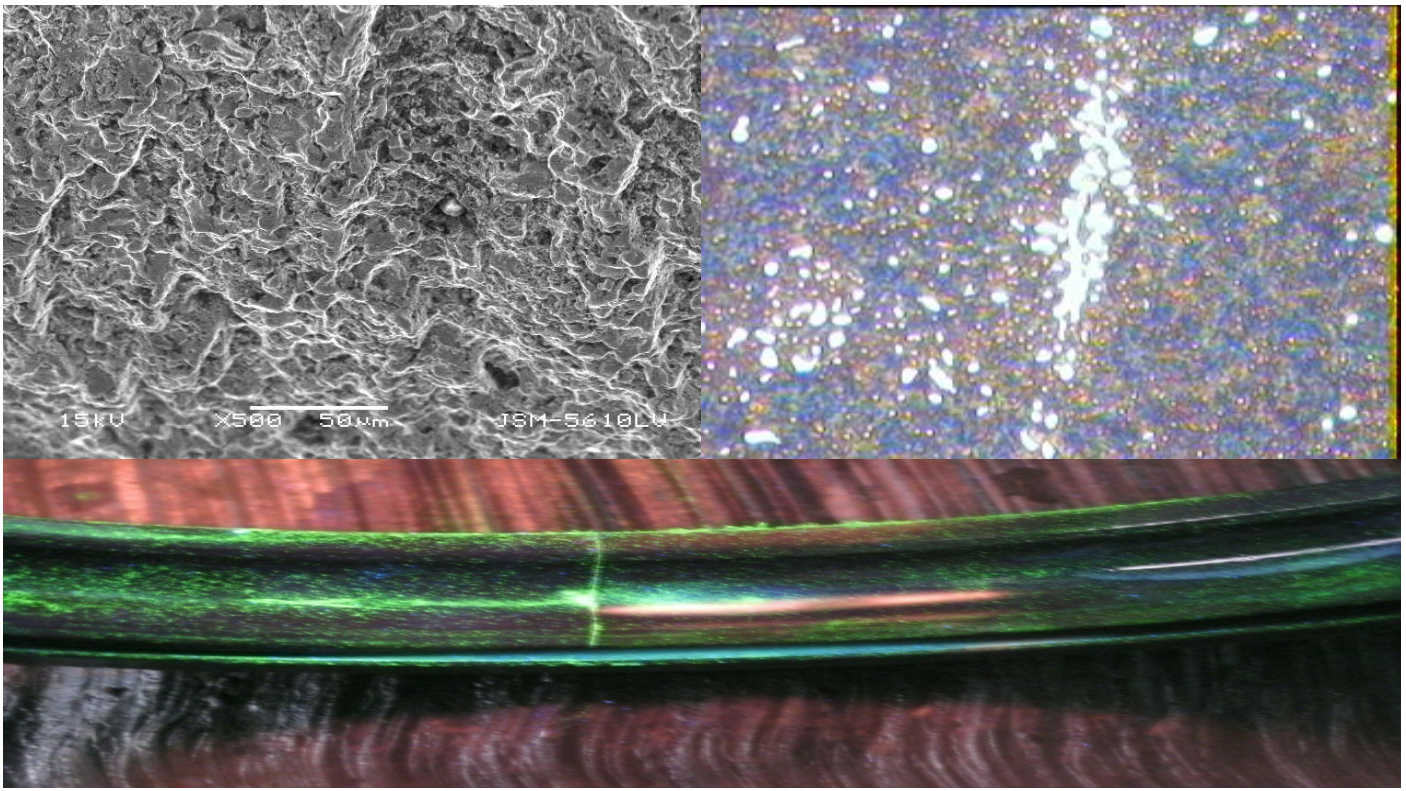
### Problem

- A few pieces of bearing rings having identification no. AR 6212 was reported failing after final heat treatment of hardening and tempering. Four numbers cracked in one particular batch and this problem was faced for the first time.



### Diagnosis

- Stray case of cracking of bearing rings during final heat treatment is on account of inadvertent presence of unforeseen micro level centre looseness in con-cast billet which had the concomitant segregation of carbides and other deoxidizing elements. Resultant carbides streaks and micro shrinkage acted as stress concentration sites during final heat treatment which promoted cracking.



## Solution/Recommendations

- Since this is only a stray case, a little more precaution is required to be taken during NDT of the material stock, prior to forging.
- Since it is high carbon steel a little more discard has to be initiated from initial and end portion of the billets in con-cast sequence.
- The investigation points towards a little more precaution to be exercised in deoxidation, teeming and pit-side practices.

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## Contact Us

If you are interested to learn more about TCR Advanced, please send an email to: [sohel@tcradvanced.com](mailto:sohel@tcradvanced.com)

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