



# Excel Craft Private Limited

## WELDING DIVISION

### CASE STUDY OF FLYWHEEL

**CUSTOMER** : PHEONIX FORGE PVT LTD  
**COMPONENT** : Flywheel 1.5 Ton Hammer.  
**COMPOSITION** : C 3.523, Si 1.490, Ma 0.724, S 0.0171, P 0.300, Cr 0.024, Ni 0.017, Mo 0.009, Cu 0.016, Mg 0.006.  
**WEIGHT OF FLYWHEEL** : 1.0 Ton  
**PERSON INVOLVED** : Mr. Sameer Rahate & Syed Zabiulla  
**Date** : 26/03/2019 to 28/03/2019



PHOTO- A

**PROBLEM STATEMENT** – The bore of the flywheel got oversized in use and material damaged during taking out the shaft from the flywheel. As shown in Photo B



PHOTO- B



# Excel Craft Private Limited

## WELDING DIVISION

**PROCEDURE FOLLOWED TO CARRY OUT THE JOB BY EXCEL CRAFT TECHNICIANS:**

**PRODUCTS USED:** EXCEL GOUGE, EXCEL BOND 066.

### PROCEDURE:

1. **Gouging:** of the cracked area and open the same by another 4.0 mm in order to remove the fatigue and uneven material.



PHOTO- C (Gouging in progress)

2. **Preheating:** Up to 300°C the component is heated using gas as per the carbon equivalent



PHOTO- D (Preheating in progress)



# Excel Craft Private Limited

## WELDING DIVISION

3. **Welding:** Welding was carried out from both the sides of the bore keeping a machining allowance of 4-5 mm. After completion of the welding reheating of the job was done to reduce the stresses.



PHOTO- E (Job completed)

4. **POST WELD TREATMENT:** Upon completion of welding, job was heated up to 400°C locally for post weld treatment and then slow cooled.
5. **MACHINING:** After the jobs attained room temperature, it was sent for machining as per drawing.