



# Excel Craft Private Limited

## WELDING DIVISION

### CASE STUDY OF PINION

**CUSTOMER** : BANSAL PRECISION FORGE  
**COMPONENT** : PINION.  
**MATERIAL** : CAST STEEL  
**EQUIPMENT** : 2500 Ton PRESS  
**JOB DONE BY** : Mr. Samir Rahate  
**Date** : 26/09/2019



PHOTO- A (2500 TON PRESS)



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**PROBLEM STATEMENT** – The Tooth of pinion gear was broken which was weighing 8kgs. As shown in Photo B



PHOTO- B

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

**PRODUCTS USED:** EXCEL BOND 066 & EXCEL BOND 0086.

#### **PROCEDURE:**

1. **Job Preparation:** Oil was cleaned up. Grinding was done on the broken area. Drilled 20mm deep hole and studs were inserted into the hole to strengthen the gear teeth welding as shown in photo A.
2. **Preheating:** Up to 250<sup>o</sup> C the component is heated using gas torch as per the carbon equivalent.
3. **Welding:** First two layers was build up with EXCEL BOND 066 and remaining profile was welded with EXCEL BOND 0086. After completion of the welding reheating (Stress reliving) of the job was done to reduce the stresses.



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PHOTO- c (Job completed)

4. **POST WELD TREATMENT:** Upon completion of welding, job was heated up to 400<sup>o</sup>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. The profile of pinion was match by grinding as the job was done at site.

