

## **REPORT ON INDUSTRIAL VISIT TO SUNDARAM-CLAYTON LIMITED**

DATE : 28.9.2007  
VENUE : Sundaram-Clayton ltd.  
Die-Casting division  
Padi,Chennai-600050

### **INTRODUCTION:**

Some of the S.A.E members from Crescent Engg College and Hindustan College of engineering were fortunate enough to be taken on an I.V to the Sundaram Clayton Ltd.Padi. Mr.M.Shivakumar, Asst. .Manager TQM was kind enough to show us around the facility. He accompanied us to the die-casting and the machining divisions of the company. He gave us an indepth insight into the working of the company.

### **Sundaram-Clayton-An Introduction**

The Sundaram-Clayton ltd is a part of multi crore TVS group. It is a joint partnership between TVS and Clayton Dewandre of Germany. Even though the partnership has been dissolved the group retains the old name. It is located at Padi and hands a Sprawling facility. It is a parts supplier to many prestigious auto companies like (VOLVO,HYUNDAI,FORD,TVS etc)The pressure die casting machine here is the largest in India about 3200tonnes.

The two divisions regarding which Mr.Shivakumar enlightened us were  
DIE CASTING UNIT

- 1.Gravity Die Casting
- 2.Pressure Die Casting

They provided the protective eye glass for all our students. the first we saw is the gravity die casting unit. The raw materials used in the die casting process are aluminium and aluminium alloys. They are fresh aluminium bar which is known as-INGOT and also recyclable aluminium. They melt the aluminium above600 degree Celsius in a RBT furnace. After melting the molten metal is taken by a tilt type ladler which is for transferring the material. It is taken to the holding furnace with pyrometric temperature control and molten metal is poured in the gravity die casting machine and they get the required shape. The melting capacity per year is 32000tonnes.

The pressure die casting unit at the company was very impressive. It injects the molten metal is poured into the provision made and then a hydraulic piston injects the metal at very high pressure into the mould. Pick and place robots then remove the part from the mould and is manually cooled by the operator using a water spray.

In the machining division consists of four CNC machines for ,machining the components (MAKINO,CHIRON,HARDINGE,DECKLEtc) They have the leak testing

machine to check the leak in the components which has been die casted. .And also they have endoscope testing using camera the wire is sent inside the component that may be viewed in the monitor and they check and if any damage it may be rejected.(eg:Around 3 or 4 components are rejected from 5000 components in average)

The components which were moulded here are ladder frame, combi braket,1.4 oil pan assy, rocam oil pan assy, case trans axle assy, rod shift, UH oil pan assy, holder comp lost motion assy, diesel case transmission, clutch housing etc.