

A REPORT ON INDUSTRIAL VISIT
TO
VOLTARC ELECTRODES PRIVATE LIMITED
on

24/9/2021

for the

STUDENTS OF (III B.TECH, I SEMESTER,
B SECTION, MECHANICAL ENGINEERING)



DEPARTMENT OF MECHANICAL ENGINEERING

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Following is the report on industrial visit to M/s. Voltarc Electrodes Private Limited on 24/9/2021. There were total of 56 students and 2 Staff members for the Industrial visit. The students started their journey at 1:30 pm from the main gate of college. Before the start of the bus, the students were given clear cut instructions with respect to travel, safety and other issues. The students were made to sit comfortably in the bus. The students reached M/s. Electrodes Private Limited, Gajulamandya, Renigunta by 2.30 pm and after several security checks the students were taken to a central building from where all the administration formalities were finished. The HR department people of Voltarc Electrodes Private Limited gave instructions regarding the safety procedures to be strictly followed in the plant and explained the working and administration of various departments in Voltarc Electrodes Private Limited, Gajulamandyam, Renigunta.

The Voltarc Electrodes Private Limited established in the year 1980, also known for Welding Electrode Dealers, Welding Electrode Exporters, Stainless Steel Welding Electrode Manufacturers, MIG Wire Manufacturers, Welding Electrode Plates and much more.

The students were shown the Electrodes Manufacturing process step by step. Also the functioning and operation of wire straightening machine, wire drawing machine and wire cutting machine were explained to the students. Everything was seen to be automatic inside the factory.

The students were told that the welding electrode is made up of two parts; first is the actual metal which is formed from wires or coils and cut into specified length and second is the flux coating where begins the role of chemistry.

The engineers explained to the students that the metal used in the welding rod may vary from mild steel, cast iron, stainless steel, copper, brass to aluminum. The flux wrapped on these metal rods is cellulose used by plants for flexibility, powered iron, and hydrogen.



Fig.2 Students and Staff of SVEC Inside the plant

The industry people also told us that the Sodium and potassium are also used to make the flux and it works as a binding agent. The flux coating on the metallic rod helps the electric current to flow more uniformly during welding.

They explained to the students that the Weld flux is a welding agent that prevents the weld from interacting with the surrounding medium (like air and moisture). During a welding process, the base metal and the filler undergo significant temperature changes in a very short amount of time.

The heated metal may interact with the surrounding air and cause oxidation, which creates an oxide layer on the weld, reducing the weld strength. For welding, flux is not used as a separate application. They are almost always present with the electrode. Flux is coated on the electrode with a thickness of 1 mm to 3 mm. Some electrodes use flux within them in a hollow cavity.



Fig.3 Manual inspection Of Electrodes After Heating

The industry people explained that in the arc weld landscape, flux-cored electrodes are broadly classified into four different types based on their properties.

They are

1. Rutile electrode
2. Basic flux
3. Cellulose electrode coating
4. Iron oxide coating

The students learned so much of information during this industrial visit and practically they came to know various processes during this industrial visit. The students are looking for similar visits in near future from our department.

Impact of INDUSTRIAL VISIT

- The industry exposure helps a lot in personality development of the students. They are also exposed to industry culture and learnt to communicate with their industry mentors and perform tasks assigned within the given time frame in an industrial setting. The change in their personality is evident when they come back from the industry. They are more confident and more articulate.
- Some students get their final year major project ideas from their training. They continue to be in touch with their industry mentor.

- With the exposure of industry and its practices to the students, the attainment of POs and PSOs becoming more relevant. The PEOs set as Learning outcomes, Employability and Entrepreneurship are achieved better with industry institute interaction.
- Student feedback is collected at the end of academic year and efforts will be made to have sustained industry interaction.