Report for Industrial visit at Powerlite Electricals, Naroda, Ahmedabad under IEI students' chapter on 03rd Sept, 2022

In order to provide practical exposure and updates in power transformer manufacturing technology, Electrical Engineering Department, L.D. College of Engineering had organized a one-day academic tour/ industrial visit to Powerlite Electricals Pvt. Ltd for pre-final year students. Almost 180 students had visited this Powerlite Electrical Pvt. Ltd with four faculty members. One of the stake holders of this firm Mr. Milind Shah is alumni of our college.

There are four main sections there. (i) Core Assembly, (ii) Winding assembly, and (iii) outer body and (iv) Testing. And Dispatch

1. **Core Assembly Sections:** Here, the laminations of E-I shaped or C-I shaped core are placed one over other to match the required iron area of the iron. In core assembly in order to minimize the length of winding conductors stepped core are used. Hence, after certain interval the size of laminations are changed. In order to make it accurately, a developed drawing is given to the labours. In which the size and numbers of laminations to be required to placed are mentioned. Sometimes, In order to provide support to the core assembly, it is required to used different shaped of wooden blocks.

2. Winding Assembly: After preparing the core structure, a flange and clamp are used to make it rigidly couple. There after based on winging diagram designed by design engineers, the numbers of turns are wound on core surface. Here, the size of window in the core section plays vital role. election of window size of the core is decided. A Special Machine and skilled labors are required to carry out this winding assembly.

In order to remove the moisture from the winding, it is placed in the furnace for high temperature treatment

3. **Outer body assembly: -** Thereafter, the core and winding assembly along with flange is placed inside the transformer tank. In case of large transformer, bushings for high voltage and low voltage windings, conservator tank, Buchholz's' relay and breather are attached.
4. **Testing and dispatch: -** Here, turns ratio test, open circuit and short circuit tests are carried out to determine the parameters and efficiency of the power transformers.


A special thanks was conveyed to Mr. Milind Shah and his team members for sharing valuable knowledge about the manufacturing of the power transformers.