

Activity I

The History and Industrial Evolvement of Welding Technology

1. Explain briefly the time when welding was first introduced in humanity.

Welding has a long history dating back to ancient times. The Bronze Age has the earliest examples of welding. Pressure welding lap joints together resulted in little gold circular boxes. These boxes are thought to have been made about 2,000 years ago. Egyptians and inhabitants in the eastern Mediterranean learnt to weld iron pieces together during the Iron Age. Many implements dating back to around 1000 B.C. were discovered. The art of blacksmithing developed during the Middle Ages, when countless articles of iron were forged and hammered together. Welding as we know it now was not invented until the 19th century.

2. What were the contributions of the following persons in welding technology? Describe each briefly.

A. Edmund Davy

Edmund Davy of England is credited with the discovery of acetylene in 1836. He was the first person to produce an arc between two carbon electrodes using a battery. In the mid-19th century, the electric generator was invented and arc lighting became popular. During the late 1800s, gas welding and cutting was developed. Arc welding with the carbon arc and metal arc was developed and resistance welding became a practical joining process.

B. Auguste De Meritens

In 1881 he was awarded a French patent for the first arc welding process. This used a carbon electrode to generate an arc to the workpiece. The process achieved relatively low temperatures and was not successful with steel. However it was widely used commercially, for welding lead plates to manufacture storage batteries. De Méritens produced this welding equipment with an enclosed hood and fume extraction pipe, to control the hazardous lead oxide fumes from the hot lead.

C. Nikolai N. Benardos

During the 1860s and 1870s he investigated the electric arc. Nikolai Benardos was the first to apply an electric arc to heat the edges of the steel sheets to the plastic state.[1] He demonstrated a new way of metal compounds in Paris in 1881.