
From the Editor's Desk



At the outset, our apologies for the delay in publication of the April 2003 issue. Although there was no dearth of interest in your favourite journal and we did receive a number of very good technical papers, the lack of advertisement support and our decision to make the issue self supporting forced us to defer the printing, much as we did not like it. I would take this opportunity to appeal to all corporate and individual members to help us in this respect to ensure that the future issues do come out in time.

Consequent upon the resignation of Dr. P. Majumdar, who had been the editor of IWJ for quite some time, I had taken upon the editorship and I hope with your support I would be able to live up to your expectations.

This year we are completing 100 years of invention of Manual Metal Arc Welding Electrodes by Oscar Kjellberg –an event which is a landmark in the development of metal joining and fabrication. In 1904, Oscar Kjellberg an inventive engineer who sought a practical solution to a common problem, produced a heavily fluxed, or coated, electrode that substantially improved the quality of weld metal. As it melted, the flux coating vaporized and formed a gas that shielded the molten weld metal from air, thus preventing embrittling reactions from occurring as the weld metal cooled. Lightly coated electrodes of various types had been tried before, and some of them permitted faster welding, but none of them improved the weld metal properties. Kjellberg was the first to recognize the possibilities of the heavy flux coating in preventing atmospheric contamination and today is recognized as the inventor of coated electrode.

A number of sophisticated and high productivity welding processes are in use today, nevertheless the MMAW process retains its importance as it can provide an easy on- site solution to the needs of joining, repair and reclamation of a wide variety of base metals and alloys. Particularly in the Indian context, a vast majority of welding is still done by the conventional stick electrode. We also keep on hearing more and more success stories about development of manual electrodes for new materials and alloys almost at regular intervals. We therefore thought of making this issue of the IWJ as one to commemorate the occasion and included a feature on the history of development of the welding for the past 100 years beginning with Oscar Kjellberg's work.

There are three very interesting articles in this issue for our readers. One is an elaborate review of the advances in Joining Processes and materials, while the other two deal with Surface Modification through Plasma enhanced SMAW and Optimisation of DC Reactor used in Welding rectifiers. Space constraint prevented us from accommodating a few more interesting papers but I do hope you will enjoy reading this issue.

We would certainly welcome your valued feed back.

P. K. DAS
– Editor