
From the Editor's desk

I take this opportunity to refer again to the inauguration of the Durgapur Extension Centre on 3rd July reported in the last issue of the journal. It was a task well performed by the leaders of IIW Calcutta chapter and the G.P Committee in close association with the present members of the Executive Committee of the Extension Centre. We look forward to similar opportunities to highlight such events in respect of all our branches across the country.

In this issue of the journal, 3 different technical papers, presented at the Annual Seminar ('98-'99) of IIW, Calcutta Chapter, including the keynote paper by Dr. S. L. Mannan, are published. Considerable effort is being put into selection and upgrading of candidate materials for use in the Indian fast breeder reaction programme. Austenitic steels of different varieties which are being considered include DQ (15 Cr - 15Ni - 2Mo, Ti-stabilised) and AISI 316LN. In his keynote paper "Weldability of Austenitic Stainless Steels", Dr. Mannan has candidly discussed sensitive technical issues such as the effect of impurity levels of P, S etc and nitrogen additions on the propensities of hot cracking in the HAZ and weld metal of the two alloys referred above, in particular. Even though stainless steels of LN varieties are not in popular engineering use as yet, so to speak, Dr. Mannan has critically highlighted some of the inherent metallurgical problems associated with welding of these materials which many would find highly informative.

An interesting paper entitled "Backfire and Flashback in Gas Equipment" by B.K.Roy was the joint recipient of the best presented paper at the seminar. (Dr. V.P.Raghupathy is the other recipient and his paper is to be published in the next issue of the journal) The presenter of the paper has straightforwardly dealt with a serious enough issue in Welding practice. To quote him, "backfire is seldom due to incorrect torch design; it is more often due to wrongly handled or faulty equipment. Training of operators and regular maintenance of equipment" - which also brings to the fore once again the importance of HRD. The paper which deals with the related technical matters in depth and in a lucid way, was much appreciated by the delegates during their deliberation at the seminar. In this regard it would be of general interest to hear from our readers the safety regulations adopted at their own work place.

There are over 7000 offshore platforms all over the world and more than 150 of them are in the coastal waters of India alone. Of necessity, considerable amount of repair and upgrading work is carried on regularly on these platforms by the welding technique. T. S. Thandavamoorthy, in his paper "Underwater Weld Repair of Offshore Structures", has dealt with the current underwater welding processes which have been adopted for the repair of damaged offshore jacket platforms. Case histories of Welded repair of existing platforms are reviewed and specific problems associated with the underwater welding processes and difficulties faced in their applications are also discussed.

One droplet in time could yield good quality clad, for instance in Al-Mg alloy-cladding as has been found by Dr. S. Rajasekaran in his work using pulsed current GMAW process which is discussed in his paper entitled "Influence of Process Parameter on the Clad Surface Characteristics in Pulsed Current GMAW Process". Fabricators using Al-Mg alloys for cladding might find useful information in this paper.

Predictive approaches for the characterisation of metals and alloys by their structure-property relationship, both in wrought and cast forms, have been and are being utilised globally with great success. For instance, standard commercial alloys have their structure and mechanical properties closely predicted according to their chemical composition, casting temperatures, cooling rate, hot and cold work-schedule and heat treatment. These systems are being updated concurrently with newer findings. In the paper entitled "Characterisation of Mechanical Properties of Multipass Submerged Arc Weld by Model analysis of its Microstructure Facilitated by Aid of Computer", the authors have proposed an analytical model for the prediction of (qualitative) microstructural characteristics of a multipass weld in C-Mn steel which then could be related to the mechanical properties of the weld, which is a novel approach. A PC based software has been developed to carry out the complex analysis involved, which can also be updated continually. This user friendly predictive approach could be of considerable interest for the fabrication engineers as a save-time analytical method of characterisation of materials.

All efforts have been made to issue the journal in time during this holiday season however, natural calamity has taken its toll - hope it reaches you during November.

P. Majumdar
-- Editor