

Welding Abstracts

(IWJ will henceforth publish regularly abstracts of articles appearing in technical and other publications received by the Institute. The publications themselves will be available at the Institute for reference—Editor).

1. Choice and Operation of Automatic Welding Equipment.

By J R MACNEIL.

Major processes for automatic and semi-automatic welding are reviewed, from the point of view of the equipment used and the demands made on it by each process. The way in which the various types of power source, wire drive and sequential control system operate in combination is described with explanations of how they can be selected and controlled to produce the desired results.

(The Australian Welding Journal May 1969)

2. Economics of Welding Procedure.

By D J MAGNUSSON.

This article suggests how it is possible to effect significant economies in welding costs by greater attention to aspects such as material selection, product design aimed at conservation of material and weld metal, knowledgeable specification writing, fabrication practices, employment of the latest techniques and procedures etc.

(The Australian Welding Journal May 1969).

3. Qualification of Welders in Various Countries.

This is a summary of I I W Documents XIV-221-65 and XIV-244-67. The purpose, scope and main aspects of qualification required for welders in 15 countries including Australia and India are discussed.

(The Australian Welding Journal May 1969)

4. Site Welding and Erection of Large Pressure Vessels and Storage Tanks.

By A E SUFFY.

Polish and West German acceptance standards for pressure vessels and storage tanks are compared. Some examples are given of constructions in Poland with particular reference to site welding and erection.

(Metal Construction and British Welding Journal April 1969).

5. Welding Applied to Stainless Steel Domestic Equipment.

By J A McWILLIAM.

Application of various types of welding and brazing techniques in manufacture of cooking utensils such as sauce pans, frying pans, graters, strainers etc. is described.

(Metal Construction and British Welding Journal April 1969).

6. Welding Problems in Aluminium Cryogenic Vessels.

By K R SPILLER.

The welding of aluminium non-heat-treatable alloys used for the fabrication of cryogenic vessels such as those used for storing and transporting of liquid oxygen, nitrogen and methane at ultra low temperatures is discussed. Advantages of TIG, pulsed arc and MIG processes are compared in relation to plate thickness, type of joint and accessibility ; welding techniques and procedures are described.

(Metal Construction and British Welding Journal April 1969).

7. **Welding Brings Natural Gas to Melbourne.**

A brief description of the welding activities connected with the laying of a 110 mile NG pipeline in Australia.

(Welding Engineer April 1969)

8. **Aluminium Welding ; New Techniques Promise Savings in Smelter Construction.**

A report on the development by the Welding Institute in England of a new process for joining aluminium bus bars in rectangular sections of 40 to 180 sq. in. and a technique of friction welding between aluminium and steel. The latter could be useful in the production of transition joints between the aluminium bus bars and the steel cathodes and anode electrode holders.

(Welding Engineer April 1969).

9. **Welding Standardization in India—Twenty Years of Progress.**

The article reviews the activities of the Indian Standards Institution since its creation in 1947, with particular reference to those relating to welding standards.

(Welding Engineer April 1969).

10. **American Shipbuilders Turn to Automated Welding to Compete.**

Modern practices used in a number of shipyards in the USA are described. Greater use is made of processes such as electroslag and electrogas welding, specially designed automatic equipment for panel fabrication and many other innovations.

(Welding Engineer April 1969).

11. **Designation System and Selection of Aluminium Welding Alloys and Fillers.**

By HOWARD E. ADKINS AND ROBERT A RIDOUT

Aluminium alloy designation system is introduced. Main factors governing selection of material are discussed. Recommendations on design and choice of alloy for welding are made. Useful tables on chemical composition and mechanical properties of alloys and the composition of filler material are provided.

(Welding Engineer April 1969)

12. **An Industry in Retrospect—50 Years of Progress.**

A historical review of the growth of welding in the last five decades.

(Welding Journal April 1969).

13. **The World's Highest-Pressure Vessel in Ten Foot Diameter.**

By LARRY MEGOW.

The paper discusses welding processes, selection of electrodes, preheat and interpass temperatures, heat input, positioning for efficiency in welding as well as quality assurance techniques employed in the construction of a spherical deep ocean simulator required for research by the U S Navy. Material used was HY-100 and the sphere was subjected to several hydrostatic tests at 15000 psi i.e. 11 times the working pressure.

(Welding Journal April 1969).

14. **Influence of Rare Earths in Stainless Steel Bare Wire Electrodes.**

By C E CASSEL.

The possibility of intentional rare earth additions such as cerium during steel making, influencing the performance of stainless steel MIG wires is discussed in detail. It is concluded that the presence of rare earths in filler wire affects arc stability and weld bead profile adversely.

(Welding Journal April 1969).

15. **Know Your Electrode.**

The article discusses the variety of materials used in the flux coating of manual metal arc welding electrodes and their functions. Useful information is provided on proper storage of electrodes under ambient conditions of high humidity.

(IOL Welding Digest, July 1969)

16. **Brazing of Metals.**

By H S MATHURE.

A review article on the theory and practice of brazing. A table is provided indicating the type of brazing material recommended for assemblies of various types of parent metals.

(Machine Building Industry, January/February 1969).

17. **Thermit Welding for Changeover to Copper.**

The article describes an application, the first in Australia, involving the use of thermit welding for copper bus bar jointing at site.

(Copper March 1969)

Publications Received

The Institute acknowledges receipt of the following publications :—

<i>Publication</i>	<i>Issue</i>
1) 'Copper' Issued by The Indian Copper Information Centre, Calcutta.	November 1968 January 1969 March 1969
2) The Bulletin of the Institute of Engineers (India)	Dec. 1968-Jany. 1969.
3) Machine Building Industry	Jany.—Feby. 1969
4) The Standards Engineer (Institute of Standards Engineers, New Delhi)	April—June 1969
5) Welding Digest (Issued by Indian Oxygen Ltd., Calcutta)	July 1969
6) Welding Engineer (International Edition) (USA)	April 1969
7) Welding Journal (The American Welding Society)	April 1969
8) Metal Construction & British Welding Journal (The Welding Institute, UK)	April 1969
9) The Australian Welding Journal (The Australian Welding Institute)	May 1969
10) Set of catalogues on Thermatool high-frequency resistance welding systems and reprints of articles on high frequency welding. (AMF Thermatool, Inc. New York)	—