

General Impression On Indian Welding Industry

Mr. Bertil Pekkari



Mr. Bertil Pekkari - Group Vice President and Technical Director of Esab AB, Sweden was in India for a week in the month of February 1990 at the invitation of their Associates - Esab India Limited. The objective of visit was to gain an insight into the welding market of India and meet various personnel engaged in research in different academic and research institutions. At our request he has given an impression of Indian Welding Industry after he completed his trip and was back in Sweden. The excerpts are as follows

Editor

About Mr. Bertil Pekkari

Mr. B. Pekkari as Vice President & Technical Director of Esab AB SWEDEN, is responsible in his organisation for taking decisions on the Company's strategies for R & D, commercialisation of processes and acquisitions. He is a Council Member of The Welding Institute, Cambridge, U.K. and also the Chairman of one of the Commissions of International Institute of Welding.

General Impression

Looking at the investment in the industry specially fertilizer, energy generation, petro-chemical complexes, modernisation of railways and impressive increases in the quantity of steel, (production as well as consumption), I am of the opinion that there is a growing market for welding consumables as well as welding and cutting equipments. I visited Bharat Heavy Electricals Ltd. and Kaveri Engineering Industries - Trichy, Wheels India-Madras, Godrej & Boyce Mfg. Co. - Bombay and Bhabha Atomic Research Centre at Bombay during my one week trip to India. I can say without any chance of being contradicted that their technology level is almost equal to similar industries in Europe and U.S.A.

Consumables

I learn that only 15 to 18% of all deposited weld metal is made with automation process viz. MIG and SAW. Whereas the percentage is much higher (50 to 60%) in Europe, Japan and USA. To increase the productivity,

the Indian Industry must and will switch from stick electrodes to solid or cold wires at a much faster than it is being done now. The submerged arc welding process with addition of iron powder (MPSAW) which offers a productivity increase of the order of 50% on material thickness above 25 mm seems to be totally absent in the Indian industry. Cored wires and especially metal cored wires which are seen have made explosive growth in consumption in developed countries specially in Japan, is another product little used in India.

Obstacles To Growth

I find that not many advanced processes are being used in the Indian welding industry. One of the reasons appears to be high customs duty of the order of 80% to 145% on imported welding equipments. I do understand that the lower labour cost is the prime reason for not going for mechanisation of processes, but I must emphasize that if the Indian industry wants to achieve higher quality, flexibility and improved working environment for welders the only way is investment in advanced welding processes.

Status Of Cutting

When it comes to thermal cutting the technology level and skill is definitely not on par with what is available in Europe and USA. The productivity as well as quality of cutting is extremely poor and I recommend that situation can be improved by installing mechanised gas or plasma cutting machines in large numbers.

Emerging Technologies

During my discussions I found that the applications of industrial laser and water jet cutting are almost nonexistent in India. As these processes can become viable tools in future, knowledge in these technologies ought to be built up by having few installations. I would like to add here that although theoretical knowledge regarding laser and other advanced processes which is existing in some pockets, it is the practical applications which will spread the commercialisation of these processes.

Education And Research

I visited two Institutes which are engaging in providing post graduation education in welding technology viz. The Indian Institute of Technology-Madras and Regional Engineering College-Trichy, and also the National Centre for Welding Research i.e. Welding Research Institute, Trichy. The educational level and

level of research carried out in welding with its related techniques are impressive indeed. The good education imparted in welding has had noticeable effect on the welding products and applications which are visible in the industry in India. However, the equipments being used for training of the students are in some cases out-dated. By investing in modern research equipment the Institutes can come closer to the level of International Institutes engaged in Welding Research.

Summary And Conclusions

Briefly said, the Indian Research Institutes, Academic Institutions and welding industry have the knowledge and skill of a high level, a pre-requisite for the fast development of Indian engineering industry. In order to achieve this goal it is necessary to make use of new processes and products namely lasers, friction welding, water jet cutting, electron beam welding, MPSAW and metal cored wires amongst others.

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