

Metal Casting Industries Problems & Prospects

- S. P. Oudhia
Foundry Consultant



Founding OR Castings of Metals & Alloys is one of the earliest SKILL & TECHNIQUES, which human race acquired

through their ingenuity & innovation.

This innovation led to up-gradation of civilization from STONE AGE to BRONZE & Then IRON AGE. The metal castings Industry's fortune had been fluctuating, of late, though it's relevance in modern civilization cannot be denied. From Bullock-Cart to Railways, Trucks, Cars, Two-Wheelers, Air Craft, Space Craft, Cement Mills, Mining, Construction Industry, name any, uses castings / Cast Metal Parts.

Despite all important uses, including Defence, farm Equipment, Textile Machineries Etc., this sector of engineering activity never got it's due importance & Priority in our present policies & programmes. There is an urgent need to redesign our approach and strategy for betterment of this vital sector of Industrial activity; which offers gainful employment to over 3 million work force directly & indirectly.

Problems Faced by Foundries

Lack of Demand

The present installed capacity of foundries is only partially utilised. Many units are operating, at present, at 30% to 40% of their capacity; which is well below their break - even point.

Mis-match in Installed Capacity & Capacity Utilisation

Un-regulated growth of installed capacity. Many foundries went for enhanced capacity, assuming growth in demand by end users. End users too encouraged the growth for their benefit viz. promoting keen cut-throat competition.

In-accurate Data of Demand Growth

Most casting presumed steep growth in demand of castings; perhaps due to lack of understanding of market, due to poor Market study & Market research.

Lack of Competitive Spirit in Foundries

With Open Market economy; castings consumers started procuring their requirements from over-seas Foundries are supplying castings, landed at user's end, at price lower than manufacturing cost of Indian Foundries.

Poor Productivity

Most Indian MSME foundries are labour

intensive. The norm of productivity each & every machine and each employee ought to be established by scientific study and attained by meticulous implementation. At present, though Labour cost in India is low, the low productivity makes Labour Cost per unit production, high.

Deployment of Obsolete Technology

Most MSME foundries are using out-dated technology for casting production. This leads to higher rate of casting rejection; in-accurate dimensioned castings and lower yield. For example; most MSME foundries are using either Squeeze moulding or Pneumatic Simultaneous jolt-Squeeze machines for making green sand moulds. This technique, in case of Grey Cast Iron & Ductile Iron Castings leads to over-weight castings by 4% to 8%.

Energy Cost

Foundries use enormous energy for melting of metal. At the same time energy cost is escalating in India due to policy of state. The situation is grim. In order to control energy consumption in melting process; efforts are needed to have bench mark of energy consumption & control to attain bench-mark figure. For example; many grey Iron foundries consume 550 to 580 Kwh/ ton, in Induction Melting, where as some are able to operate with 500 to 525 Kwh/Ton.

Inventory Management

Due to poor supply chain of essential In-puts; foundries are obliged to keep high Inventory of raw materials. All in-puts suppliers must ensure timely supply so that foundries can practice JIT (just in time).

Also, mismatch in capacity of Moulding Shop & Fettleing Shop can result in higher WIP (work-in-process). Higher Inventory results in Higher Working Capital & Higher Interest Payment to banks.

Cost of Quality

Cost of quality is calculated & Monitored by very few MSME foundries. This data MUST Include Cost of Rejection, Re-work, & Salvage.

A good Co-ordinated manufacturing plan /practice can lead to ZERO cost of quality & ZERO defect castings.

Prospects

Foundry is a mother industry & will survive & grow. Many engineering sectors depend on use of castings.

However, in today's market situation; survival of foundries depends upon looking - inwards and improving shortcomings within. Foundries may better resort to:

- Analyse present situation within & identify areas where optimisation is possible. For un-bias assessment, a knowledgeable Consultant may be deployed.
- Improve Productivity of Men & Machines.
- Calculate Cost of Quality; monitor & Control.
- Innovation for Ease of Production & Cost-Cutting.
- Control of Inventory rigidly.
- Work on Energy Conservation Plan.
- Train & Re-Train work force.
- Train workers for Multi-disciplinary activity.
- Inculcate sense of belonging in all deployed personnel.

Apart from Internal Strength Enhancement by Foundries with Fore-said

Approach; Foundries Need Following Policy Support

- Soft Loan for rationalisation & balancing of existing facilities.
- All In-puts at International price (to make them compete internationally)
- A fair Tariff for Energy (Present approach of overcharging Industry to subsidise energy cost to others be looked-in-to.)
- Development of skilled man-power for foundries by organising/promoting Education and Training.
- Rationalise penalty for delayed payment by casting consumers to casting manufacturers.

With the Plan for growth of Infrastructure in India & Up-Swing in Living Standard of Citizens; demand of Castings of all varieties are bound to grow. Those who survive the present On-Slough of down-turn will definitely see sunny bright days of Metal Casting Industry in INDIA.



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