

ALUMINIUM DIE CASTING

VALUE-ADDED CHAIN

Raw materials: Due to high shrinkage and hot cracking pure aluminium is rarely cast. It is usually alloyed with silicon, copper, magnesium and zinc. By regulating quantity of these additives, aluminium alloy's characteristics can be changed into increasing melt fluidity, hardness or the reduction of machining needs. Raw material makes 50 to 70 per cent of the total value of the component.

Tooling: Aluminium die casting moulds tend to be expensive as they are made from hardened steel. Moreover, the cycle time for moulds production tends to be long. The tooling cost varies between ten and 20 per cent, depending on the used type and size.

Machine park and productivity: Machinery used in the process is huge and expensive. Production rate lies between 20 and 200 units per hour. Pressing machines are hydraulic, available at an extensive range of capacities, sizes and operating speeds.

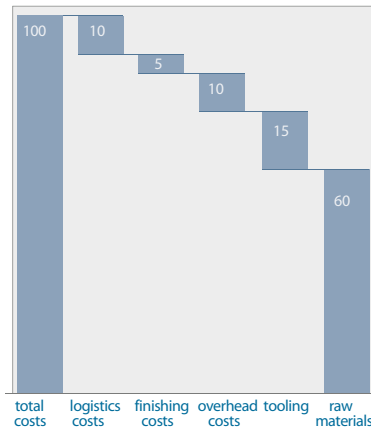
Packaging is mostly uncomplicated and flexible.

Overhead costs: They consist of research and development (R&D) and other administrative costs which are comparatively lower than in Western Europe.

Finishing costs: For many aluminium die casting parts the post-machining process can be eliminated or very light machining might be required to bring dimensions to size. It varies between five and ten per cent of the total product value.

Logistic costs: They vary between five and 15 per cent. Packaging is mostly uncomplicated and flexible. ☉

Average Impact on Prices



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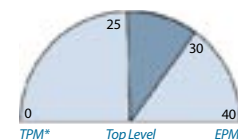
Electric Connectors

Technology: Aluminium die cast alloy reaching high dimension tolerances precision, final machining

Competitive advantage/disadvantage in EPM*:

- + Labour costs, tooling cost, high quality standards, good experience, energy costs
- Highest expected quality level is not available

Relative EPM Savings potential (in %)



* EPM: Emerging Procurement Markets, TPM: Traditional Procurement Markets

SUPPLIER MARKETS IN ASIA

CHINA

PRODUCTION AREAS

- > Most of the suppliers are located on the eastern coast of China, where infrastructure is well developed
- > Main clusters are the areas of the pearl river delta, greater Shanghai area, Beijing and around Dalian

SUPPLIER STRUCTURE

- > Most of the large companies are joint ventures or subsidiary companies of foreign corporations
- > The market is shared by large and middle companies with high potential

CHARACTERISTICS

- > Competitive on raw material costs, labour costs, and energy costs
- > State-of-the-art technologies, imported mainly from Western customers, are available
- > High-standard processes and quality

INDIA

PRODUCTION AREAS

- > Most of the suppliers are located in the big cities of northern India
- > Due to the bad infrastructure a harbour should be reachable within one day drive

SUPPLIER STRUCTURE

- > Most companies are middle-sized without high technologies
- > Big suppliers can be found as a subsidiary of the main national players

CHARACTERISTICS

- > Low labour and energy costs, medium quality level but high future potential

OTHER COUNTRIES

PRODUCTION AREAS

- > Malaysia (Penang, Kuala Lumpur and Johor) and Taiwan

SUPPLIER STRUCTURE

- > High qualified suppliers with the latest technologies have been identified
- > Most of the suppliers are middle-sized with low to mid capacity

CHARACTERISTICS

- > Competitive in quality and energy costs
- > Very good communication level
- > Very good quality level
- > Middle saving potential

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