

Editorial Board

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Recent Publications

Accepted

1. M. S. M. Zain, M. S. Abdullah, A. B. Abdullah and Z. Samad, "Delamination Measurement of a Laminates Composite Panel due to Hole Punching Based on the Focus Variation Technique", AIP Conference Proceedings 1865, 080002 (2017); doi: 10.1063/1.4993396.

Active Grants

Title: Modeling of Twist Springback Pattern of Aluminum Alloy Strip with Non-Uniform Section. FRGS (2014 – 2017)



Research Discussion

On 15th of September 2017, Solid Precision Engineering Sdn Bhd has visited the School of Mechanical Engineering for possible project collaboration on the development of new metal part. The discussion also involves experts from the School of Material and Mineral Resources headed by Prof. Zuhailawati. Hope to have a successful collaboration and both parties will get the benefit in the future.



New Members

Two new members joined the group recently. Mohd Nor Hakim is lecturer from UiTM Pulau Pinang Branch, while Norazlin is lecturer from Pusat Matrikulasi Pulau Pinang. Both obtained scholarship from Ministry of Higher Education (MOHE) and Ministry of Education (MOE) respectively.

Name	Mohd Nor Hakim Bin Hassan
Research Title	Study on the Development of Ceramic Cutting Tool (Zta / Zta-Mgo) and its Machining Performance
Main Supervisor	Associate Professor Dr. Ahmad Baharuddin Bin Abdullah
Co-Supervisor	Professor Hj. Zainal Ariffin Ahmad
Start	September 2017



(PhD)

Name	Norazlin Binti Md Yusop
Research Title	Optimization of Tool Geometries in AA6061 Aluminium Alloy Deep Drawing For Reduced Risk of Thinning and Wrinkling
Main Supervisor	Associate Professor Dr. Ahmad Baharuddin Bin Abdullah
Start	September 2017



(MSc)

Sharing Session

A sharing session was conducted by Mr. Mohd Fadzil Jamaluddin on how to conduct literature review. Literature review is one of the most critical stages in doing research. Without comprehensive literature, research gap cannot be identified lead to unclear statement of the problem. From literature review, recent studies on the interested subject may be discovered. Hoping that in the future, more similar sharing session can be arranged at very minimal cost.

Before you jump into the RESEARCH pool..



Make sure you check for crocodiles!



A FREE knowledge sharing session on literature review and strategy on searching for journal papers online.

Friday, 4th August 2017
9.30 am – 11.30 am
Makmal CAD, School of Mechanical Engineering, USM

Organised by:



Contact Details

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METAL STAMPING INDUSTRY IN MALAYSIA

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Metal stamping is a distinct sub-sector in Malaysia's engineering supporting industry. It is a well-established sector, supplying stamped and pressed parts to a wide range of industries such as for the electrical & electronics, automotive, industrial machinery and equipment, precision measuring and testing device fabrications. The industry has developed rapidly over the last three decades in tandem with the overall growth of the country's manufacturing sector. Significant developments have taken place in the manufacturing of parts for the electrical and electronics, automotive and construction sectors. It has been able to serve the various market needs of multinational corporations such as Panasonic, Sony, Hitachi, Toshiba, Dell, Yamaha, Thomson, Phillips and Hewlett Packard. Now, there is an increased trend towards diversification into the manufacturing of major components and finished equipment for both domestic and export markets.

Companies operating in Malaysia

There are over 300 companies engaged in metal stamping activities. Prominent companies in Malaysia include JP Metal, Kobakin, NJ Manufacturing, Cybron TL, Wong Engineering, Kein Hing, KM Precision, DZ Capital, VSP Technology, Tohoku-Wada and Seksun Precision. As most of these companies are producing semi-finished or finished products, they are also equipped with in-house facilities such as CAD systems, CNC machines, punching and shearing, bending and tapping, welding, painting and quality control. Some of the processes can also be outsourced within their network for specialised operations such as for surface and heat treatments. Many companies are positioning themselves to become 'One Stop Centres' that can provide integrated services from product conception, serial production, packaging, testing and certification.

Flow of production of stamped parts and components

Generally, the flow of production would consist of the following steps:

Drawing Study	1	The initial design stage will involve the discussion on the product specification and needs with the client.
Technical Study	2	The layout of production flow will be proposed based on the order quantity. A prototype sample may be produced at minimum cost.
Tooling Design/ Fabrication	3	The most effective tooling design and fabrication will be proposed based on the layout of production flow.
Material	4	The raw material is proposed to meet the requirements of the client.
Stamping	5	Stamping can be done either by progressive or single action stamping in accordance to the required quantity.
Secondary Treatment	6	Post process treatment includes polishing, lathing, degreasing, annealing, and heat treatment.
Inspection/ Packing	7	Quality control can involve various types of equipment ranging from gauges, optical microscopy and mechanical tests. A final inspection is usually conducted before shipping.

Opportunities for the Metal Stamping Industry

Development in the industry includes high speed stamping, fine blanking and the manufacture of high precision and miniaturized parts. New projects are being encouraged by the government for the Eastern Corridor of Peninsular Malaysia, Sabah and Sarawak. Opportunities to the industry are also in the High Mix Low Volume (HMLV) productions. However, such productions require significant investments into new technologies such as high powered laser machines and CNC bending facilities.

References

1. Malaysian Industrial Development Authority (MIDA), Malaysia's Engineering Supporting Industry, 2009.
2. Malaysian Industrial Development Authority (MIDA), Malaysia's Machinery & equipment and Engineering Supporting Industries, 2014
3. www.kobakin.co.jp

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