




**Proceeding of 5th International Conference on Advances in Manufacturing and Materials Engineering** pp 407–413

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## Review on Fused Deposition Modelling Extruder Types with Their Specialities in Filament Extrusion Process

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Conference paper | [First Online: 14 May 2023](#)

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### Abstract

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3D printing is one of the growing technologies in the entry era of the industrial revolution 4.0. Fused Deposition Modelling (FDM), one of the 3D printing methods, has advantages in the manufacturing process where various product shapes can be made. One of the advantages of FDM lies in the extruder used. Various types of extruders can be used and installed on FDM machines. Findings from a review of five types of extruders found that some models

have the ability to extrude specific types of material. Each extruder has advantages and specializations, which can affect the printing result. Therefore, this paper reviews the types of extruders for FDM and their capabilities so that the selection of the type of extruder to be used can be made accurately.

## Keywords

**FDM 3D printer**

**FDM extruder**

**Additive manufacturing**

**Rapid prototyping**

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## Acknowledgements

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The authors express their appreciation for the Tin Grant under the Tin Industry (Research and Development) Board of Malaysia under project number TBRG21-001-0001 and Research Management Centre, International Islamic University Malaysia under project number RMCG20-033-0033.

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Cite this paper

Azhar, M.A.M. *et al.* (2023). Review on Fused Deposition Modelling  
Extruder Types with Their Specialities in Filament Extrusion Process.

In: Maleque, M.A., Ahmad Azhar, A.Z., Sarifuddin, N., Syed  
Shaharuddin, S.I., Mohd Ali, A., Abdul Halim, N.F.H. (eds)

Proceeding of 5th International Conference on Advances in

Manufacturing and Materials Engineering. Lecture Notes in

Mechanical Engineering. Springer, Singapore.

[https://doi.org/10.1007/978-981-19-9509-5\\_54](https://doi.org/10.1007/978-981-19-9509-5_54)

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DOI

[https://doi.org/10.1007/978-981-19-9509-5\\_54](https://doi.org/10.1007/978-981-19-9509-5_54)

Published	Publisher Name	Print ISBN
14 May 2023	Springer, Singapore	978-981-19-9508-8

Online ISBN	eBook Packages
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