

PROTOTYPE DESIGN COLLECTION

SERIES 1



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EDITORS:

Ahmad Najmie Rusli

Nurul Nadiah Rasdi

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Kampus Pasir Gudang,
Jalan Purnama, Bandar Seri Alam,
81750 Masai,
Johor Darul Ta'zim.
Tel: +60 7-381 8493

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CHAPTER 75

Design, Analysis and Fabrication of An Escalator Model for Educational Purposes

Ahmad Harith Bin Abdullah, Ilya Izyan Binti Shahrul Azhar and Miqdad Bin Khairulmaini

*College of Engineering (Mechanical), Universiti Teknologi MARA Johor Branch,
Pasir Gudang Campus, 81750 Masai, Bandar Seri Alam, Johor Darul Ta'zim.
Email: miqdadkos@uitm.edu.my*

PROJECT DESCRIPTION

To understand subjects that are technical, it is very helpful to have a working model for the intended subject. Having a model will help students to better visualise and understand the operation. Escalators can virtually be found in every shopping complex and tall building. However, understanding how escalators work is very difficult by just simply observing them. The aim of this project is to design and fabricate a working model of an escalator for educational purposes. Designing the escalator involves referring to drawing standards of an actual escalator to ensure that important elements are included. Based on the final design, the model was then fabricated using the appropriate fabrication processes. The result from this project was a working model of an escalator which helps show the actual working operation. The model helped students to better understand its working operation. The model is very user-friendly as it is easy to operate and is suitable for anyone in the educational sector.

Keywords: *Escalator, model, working operation, educational*

PROTOTYPE



DESIGN PARAMETER

BILL OF MATERIALS (BOM)			
Part No.	Part Name	Description	Qty.
1	Body/case	640mm x 370mm x 20mm	1
2	Railing	310mm x 110mm x 120mm	2
3	Upper truss	220mm x 200mm x 110mm	1
4	Lower Truss	220mm x 200mm x 110mm	1
5	Upper sprocket	Diameter : 750 mm	1
6	Lower sprocket	Diameter : 750 mm	1
7	Power window motor	Rated speed : 60 rpm Rated torque : 2.9 N.m	1
8	Steps	40mm x 60 mm x 25 mm	30
9			

**KOLEJ PENGAJIAN KEJURUTERAAN (MEKANIKAL)
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KAMPUS PASIR GUDANG**

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Group J4EM11051

Approved _____ Checked _____ Drawn AHMAD HARITH ABDULLAH
2/2/2022

Drawing Title EXPLODED ASSEMBLY OF ESCALATOR MODEL

Part Name -

Part No. -

Rev. Scale Projection Weight Sheet
0 1:8 1.9 kg 7/7