

THE DURABILITY STUDY OF  
QUARRY DUST AS SAND REPLACEMENT  
IN CONCRETE

TEO LEK KUAN

B. ENG (HONS.) CIVIL ENGINEERING  
UNIVERSITI MALAYSIA PAHANG

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IN CONCRETE

TEO LEK KUAN

Thesis submitted in fulfilment of the requirements  
for the award of the degree of  
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## **SUPERVISOR'S DECLARATION**

I hereby declare that I have checked this thesis and in my opinion, this thesis is adequate in terms of scope and quality for the award of the degree of Bachelor of Engineering (Hons) Civil Engineering

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(Supervisor's Signature)

Name of Supervisor : DR. DOH SHU ING  
Position : SENIOR LECTURER  
Date : 13 JUNE 2017



## **STUDENT'S DECLARATION**

I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged. The thesis has not been accepted for any degree and is not concurrently submitted for award of other degree.

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(Student's Signature)

Name : TEO LEK KUAN  
ID Number : AA13182  
DATE : 13 JUNE 2017

**Dedicated to my parents,  
for their love and devotion  
making me be who I am today**

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## LIST OF SYMBOLS

%	Percentage
mm	Millimeter
N/mm <sup>2</sup>	Newton per millimeter square
kg	Kilogram
N	Newton
°C	Degree Celsius
Σ	Sum
w/c	Water to cement ratio
mm <sup>2</sup>	Millimeter square
min	Minute
μm	Micrometer
MPa	Mega Pascal
±	Plus-Minus

## LIST OF ABBREVIATIONS

ASTM	American Society for Testing and Materials
BS	British Standard
EN	European Standards
OPC	Ordinary Portland Cement
HCl	Hydrochloric Acid
Na <sub>2</sub> SO <sub>4</sub>	Sodium Sulphate
NaCl	Sodium Chloride
CC	Conventional Concrete
QDC	Quarry Dust Concrete
SCC	Self-Compacting Concrete