

**LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH : PROSIDING**

Judul Jurnal Ilmiah (paper) : Exploring Contractors' Views On Green Construction
 Jumlah Penulis : 3 Orang (Jati Utomo Dwi Hatmoko, Ferry hermawan, tia Putriani Setyaningsih)
 Status Pengusul : penulis pertama/ ~~penulis ke-1~~ / ~~penulis korespondensi~~

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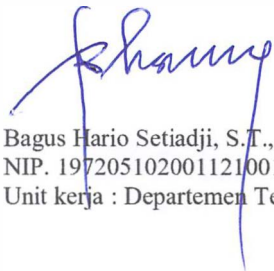
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Bagus Hario Setiadji, S.T., M.T., Ph.D.
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Dr. Ir. Suharyanto, M.S.c
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(30%)	4,5		4,5
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Penulis 1 dari 3 = $0,6 \times 13,5 = 8,1$

Catatan Penilaian paper oleh Reviewer

- ⊙ Prosi ding tidak mencantumkan nama-nama sd.
- ⊙ Similarity index cukup tinggi : 28%, meskipun masih di bawah toleransi 30%.
- ⊙ Pembahasan yang dilakukan cukup baik dengan melibatkan 12 parameter Green Construction dan menggunakan 4 kontraktor sebagai responden.
- ⊙ Metodologi penelitian menekankan pada pengumpulan data berdasarkan teknik in-depth interview, sehingga diharapkan bertambahnya data cukup banyak.

- ⊙ Kualitas gambar 1 & 2 tidak terlalu jelas.

Semarang, 10 - 03 - 2019
 Reviewer

- ⊙ Beberapa referensi out of date

- ⊙ Karya sebagai kontraktor menyatakan aplikasi Green Construction (GC) tergantung pada pemerintah owner, mungkin penulis perlu mengklarifikasi statement ini terhadap pihak owner dan melihat sebagai jauh komitmen owner dalam mengimplementasikan GC.


 Bagus Hario Setiadji, S.T., M.T., Ph.D.
 NIP. 197205102001121001

Unit kerja : Departemen Teknik Sipil FT.UNDIP

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d. Kelengkapan unsur dan kualitas penerbit (30%)	4,5		4,5
Total = (100%)	15		12

Penulis 1 dari 3 = $0,6 \times 12 = 7,2$

Catatan Penilaian paper oleh Reviewer

- Besarnya gambar tidak jelas
 - Besarnya parameter di pembahasan mungkin kurang menggunakan tlg green sebagaimana dalam [8] page 0.93

Semarang,
Reviewer


 Dr. Ir. Suharyanto, M.Sc.
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EXPLORING CONTRACTORS' VIEWS ON GREEN CONSTRUCTION

JUD Hatmoko, F Hermawan, TP Setyaningsih - 2013 - [researchgate.net](https://www.researchgate.net)

Construction is known as one of sectors which contribute a significant amount of carbon dioxide (CO₂) to the environment. Data from World Resources Institute 2010 shows the Indonesian construction/manufacturing industry contributes 18% of national CO₂ production and rank 7th in the world with production of 135, 9 megaton of CO₂e. Contractors, one of main construction stakeholders, play an important role in managing CO₂ production during construction processes. Their knowledge and policies on green construction will determine ...

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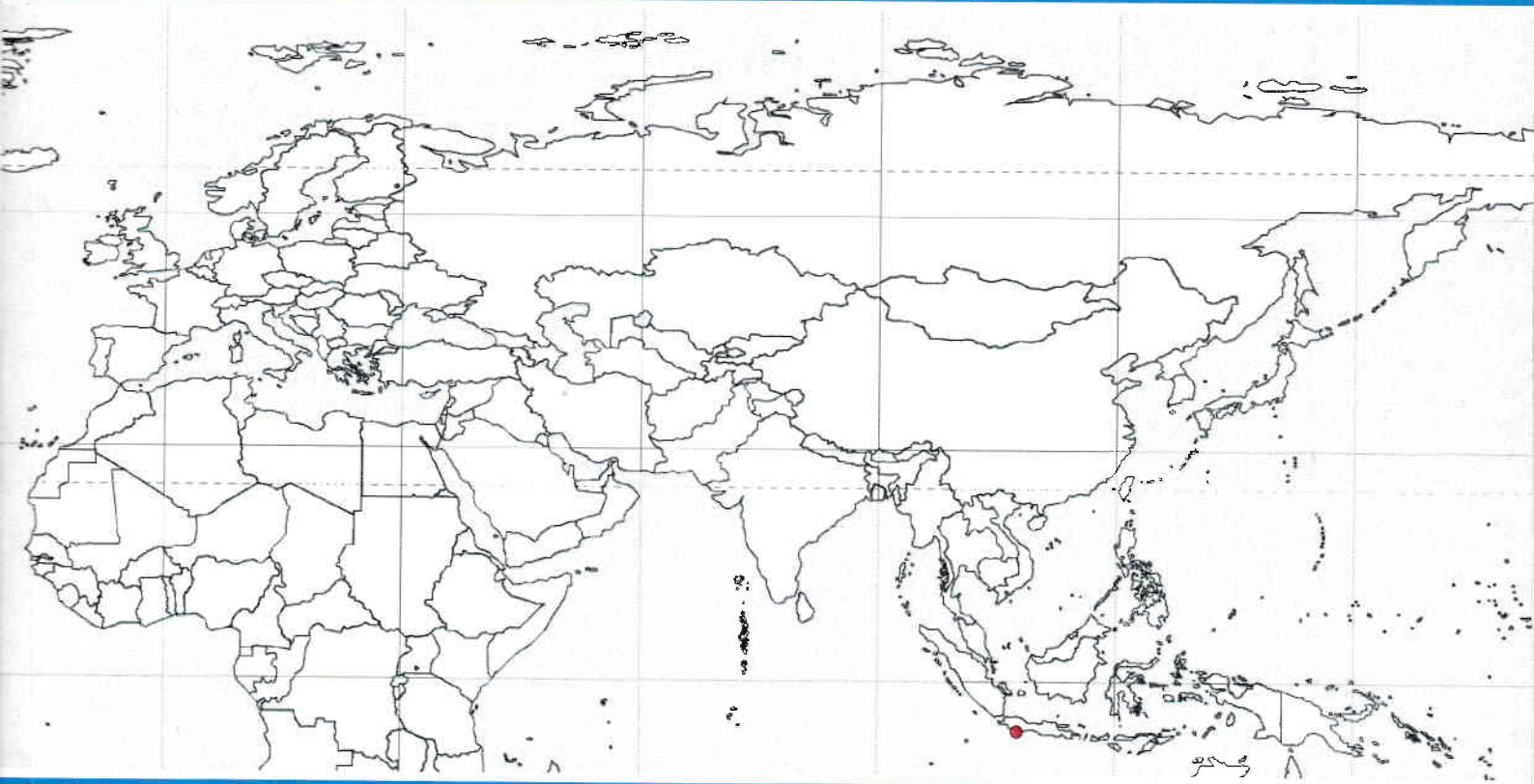
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- [Dr. Norbert Baas, His Excellency, the Ambassador of Republic Federal of Germany](#)

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The Characteristic of Durability in High Performance Concrete (BM016)

Chao-Lung Hwang^{1,a}, Fransiscus Mintar Ferry Sihotang^{2,b}, Chun-Tsun Chen^{1,c},
Bui Le Anh Tuan^{3,d}

¹Department of Construction Engineering, National Taiwan University of Science and Technology, Taipei 10672, Taiwan, ROC. ²Department of Civil Engineering, University of Pelita Harapan, 15811, Indonesia. ³Department of Civil Engineering, Can Tho University, Vietnam.

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ABSTRACT

High Performance Concrete (HPC) prepared on the basic of eugenic considerations (cost-effectiveness and long life) is proposed to resolve real world concrete problems. Eugenic HPC was developed with the goal of preventing possible defects during the design and manufacturing stages using DMDA (Densified Mixture Design Algorithm). Durability is one of 5 parameters in eugenic HPC. Durability is emphasized on the strategy of physical dense and chemical strengthen concept. Concrete durability is so important for designing structural concrete of HPC to reduce the content of water and cement and also permeability. The decreasing of water and cement content will make the compactness of concrete be increased then the durability of HPC is improved. Binder in HPC is made by the combinations of cement and supplementary cementitious materials (SCM), such as blast furnace slag, fly ash, silica fume, and other fillers and the reaction between cement and any supplementary cementitious materials will create the durability characteristic of high performance concrete.

Keywords: high-performance concrete, supplementary cementitious material, durability.

1. Introduction.

High-performance concrete is the concrete that guarantee high performance of structure in the design, in applications on project site and continually along its ages. By having the high performance on concrete, the capacity and long-term durability of concrete will increase along its ages. High physical density of HPC is related to the optimum of material composition of it. By creating the optimum of material composition in HPC, the cost-production could be minimized and friendly to preserve natural resources.

On the basic of eugenic consideration, the present high-performance concrete (HPC) is to resolve actual concrete problems. HPC is safe, durable, workable, and economic and ecologically sound [1] as shown at Figure 1. The development of HPC from ordinary, superplasticized, high-strength, or pozzolanic concrete was breakthrough in traditional concrete practice [2,3]. In 1989, high-flowing, high-performance concrete (HPC) was first used in high-rise building in Taiwan [3]. In 1992, a domestic task force on HPC was organized to help the concrete industry. In 1994, it was planned to promote HPC after successful development of a densified mixture design algorithm (DMDA) [4,5]. This is because DMDA concerns on homogenous and integrity in isotropy of HPC material composition to achieve high physical density of eugenic HPC, high safety, high workability, long-term durability in low cost and friendly to environmental.

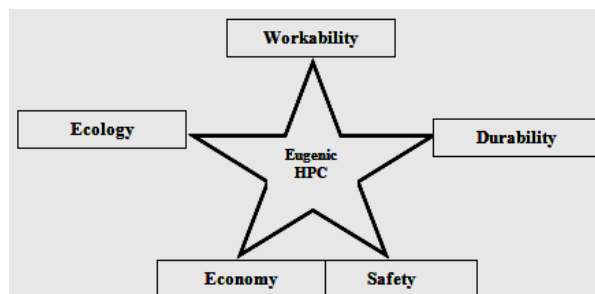



Figure 1.

The Eugenic High Performance Concrete

2. Properties of Eugenic HPC.

The eugenic high performance concrete is a bright idea as shown as a star on figure 1. which has a goal to minimize the possible defects starting from on planning, designing, choosing materials properties, creating mixture proportions until applying step in construction site. All the steps in creating eugenic HPC will pay

Saeed Ghaffarpour Jahromi

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Squeezing Potential Evaluation of Tunnel in Tropical Area

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ABSTRACT

In recent years, there has been an increasing interest in the tunnel construction. This part describes the squeezing behavior of poor rock mass associated with deformability and strength properties. Squeezing phenomena happen in tunnels which are surrounded by weak and moderately strength of rock. Squeezing cause to deformed the tunnels cross section and wastes a lot of human and natural source in all of the word every year. The purpose of current study is to determine methods employed to classifying and quantifying of potential squeezing in tunnel. The results show that some part of case-study tunnel has potential of squeezing. Along with the empirical and semi-empirical approaches is available in order to evaluating of potential of squeezing in tunnel are presented moreover squeezing potential evaluation of Padang Renas tunnel which is located in tropical area (Malaysia) are presented. . The implications of the anticipated ground conditions and squeezing on machine and ground support selection as well as the field observation of the actual conditions are discussed in this paper.

KEYWORDS

Empirical approaches, Semi-empirical approaches, Squeezing, Padang Renas tunnel.

1. INTRODUCTION

The current investigation was limited by empirical and analytical methods for construction tunnel alignments. Because of the chosen research approach, the research results may lack generalisability. Therefore, researchers are encouraged to update the proposed propositions further. The magnitude of tunnel convergence, the rate of deformation and the extent of the yielding zone around the tunnel depend on the geological and

geotechnical conditions, the in-situ state of stress relative to rock mass strength, the ground water flow and pore pressure, and the rock mass properties. According to the results of this research, some part of the longitudinal axis of this tunnel has potential of squeezing. Squeezing is consequently synonymous with yielding and time-dependence squeezing stands for large time-dependent convergence during tunnel excavation.

It takes place when a particular combination of induced stresses and material properties pushes some

PREDICTING EROSION RATE DURING THE HOLE EROSION TEST AS AFFECTED BY CLAY CONCENTRATION AND WALL ROUGHNESS

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ABSTRACT

Internal soil erosion constitutes a major safety problem for dams and levees. This phenomenon yields at its final stage dangerous fluid leakage under the hydraulic infrastructures known as piping which could provoke their rupture. Such catastrophic accidents can generate material losses and result in human casualties with dramatic consequences at the social and economic levels. Many dam ruptures events have occurred throughout the world.

To characterize erodability of foundation soils under hydraulic infrastructures a lot of tests have been introduced. Among them, the hole erosion test was known to be well appropriated to get quantitative information about the erosion phenomenon that could happen. The objective of this work is to model the hole erosion test. For that purpose, we give description of the homogenized biphasic turbulent flow provoking erosion at the hole wall as it could be affected by the applied gradient pressure and the fine particle as well as the actual wall roughness. Fluent software was used to construct a two-dimensional model of the problem.

This had enabled to estimate the wall shear stress which was found to be non uniform along the hole length. Erosion rate was then estimated by using a classical law of erosion. Its variations as affected by the applied gradient pressure, fluid density as well as the actual fluid/soil interface roughness were analyzed. Predicting erosion rate at the start of piping formation can be done by the proposed model. In particular, wall roughness and clay fine particles concentration were found to increase noticeably the erosion rate.

Keywords: Piping, erosion, turbulence, $k - \epsilon$ model, concentration of clay, wall roughness.

1. INTRODUCTION

Soil erosion is a complex phenomenon that yields at its final stage to insidious fluid leakages under hydraulic infrastructures, known as piping, and which can provoke their failure. Many dam ruptures have occurred throughout the world due to piping, some of these events are reported in reference [1]. Such catastrophic accidents can generate human casualties and material losses with dramatic consequences at the social and economic levels.

Internal erosion is a progressive degradation of soils which is induced by the flowing of water through the porous medium. Many research activities related to the experimental and theoretical characterization of this phenomenon are reported in the literature such as [2], [3] and [4].

Several experiments were designed to reproduce this mechanism in laboratory conditions. Recently, the Hole Erosion Test (HET) has been introduced, figure 1. This test has been the subject of multiple investigations both experimentally and theoretically. Many HET experiments were carried out on several kind of soils, [2] and [3]. Modeling of this test has also been presented [4]. In all cases this test proved to be simple, fast, and well adapted to perform surface erosion characterization during piping development.

A simplified one dimension modeling of the HET was introduced in [5]. This modeling proved to be sufficient in explaining the erosion phenomenology related to piping problem. It yields a comprehensive description of the erosion initiation and kinetics for a given soil constitution. This rudimentary model enables also to evaluate the influence of the hydraulic conditions on piping kinetics.

Aspects associated to the two-dimensional nature of the HET are also present in the problem as it could be seen in figure 2. The objective of this research is to use the commercial CFD code Fluent to model the turbulent flow that develops in the tube during the HET by using the RNG $k - \epsilon$ based turbulence model. The aim is to determine the shear stress and erosion rate taking place at the wall interface by considering the effect of clay concentration variations and wall roughness.

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