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In this issue

Research Article

Open Access Research Article PTZAID:JCEES-9-175

Effect of sodium content on the structure and mechanical properties of silicon bronze (Cu-3wt%Si alloys)

Published On: December 30, 2023 | Pages: 090 - 095

Author(s): Chikezie Walter Onyia*, EE Nnuka, KC Nnakwo and SE Ede

In the present study, the effect of sodium content on the structure and mechanical properties of Cu-3wt%Si alloys were investigated. The experimental alloys were produced with various sodium concentrations of 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1, 1.5, 2 and 3% by weight using permanent mould casting technique. Tensile and hardness tests were carried out on t ...

Abstract View Full Article View DOI: 10.17352/2455-488X.000075

Open Access Research Article PTZAID:JCEES-9-172

Revolutionizing cleaning: The future of broomstick and dustpan design

Published On: November 09, 2023 | Pages: 073 - 078

Author(s): Ricardo P Arciniega-Rocha*, Vanessa C Erazo-Chamorro, Phetsalath Phimmavong and Szabo Gyula

In the context of increasing environmental awareness, the demand for sustainable products is on the rise. This research addresses the growing demand for sustainability by redesigning brooms and dustpans with eco-friendly materials, reducing waste and environmental impact. It emphasizes the goals of enhancing user experience, efficiency, durability, accessibility, and ...

Abstract View Full Article View DOI: 10.17352/2455-488X.000072

Open Access Research Article PTZAID:JCEES-9-171

Taguchi analysis of the tensile behaviour of unaged and hygrothermally aged asymmetric helicoidally stacked CFRP composites

Published On: October 17, 2023 | Pages: 068 - 072

Author(s): Nwambu CN*, Chibueze GI, Nwankwo EN and Ekwedigwe CM

Taguchi method was used to predict and optimize the effects of hygrothermal aging on the tensile behavior of asymmetric helicoidally stacked Carbon Fiber Reinforced Plastic (CFRP) composites. This research is in furtherance to the previous work, which dealt purely with experiments. MR70 12P carbon fiber epoxy prepreg sheets were manufactured into laminated composites ...

Abstract View | Full Article View | DOI: 10.17352/2455-488X.000071

Open Access Research Article PTZAID:JCEES-9-168

Examination of hydrodynamic behavior of wind deflectors in the normal inner temperature with the point of more efficiency *(Case study: Bwhsa Köppen climate classification of Kashan City)*

Published On: September 05, 2023 | Pages: 052 - 062

Author(s): Mohammadali Karbasforoushha*

One of the ways to achieve a building with higher energy efficiency and an efficient system is to use local architectural experiences. In the meantime, a wind deflector is one of the elements used in the past to create comfort. In the Bwhsa Köppen climate classification of Kashan City, they used to move and cool the air in the building. This study investigates the int ...

Abstract View | Full Article View | DOI: 10.17352/2455-488X.000068

Open Access Research Article PTZAID:JCEES-9-167

Structural integrity of reinforced concrete slabs of some selected existing buildings based on field assessment

Published On: August 16, 2023 | Pages: 046 - 051

Author(s): Akingbonmire Samuel Lambe* and Afolayan Joseph Olaseinde

Quality assurance and reinforcement detailing may affect the primary function of a reinforced concrete slab to transfer the load upon it by bending. This paper is focused on a probability-based approach to investigate the structural integrity of the reinforced concrete slabs of two selected buildings at a university campus. The in situ strength of all accessible floor ...

Abstract View | Full Article View | DOI: 10.17352/2455-488X.000067

Open Access Research Article PTZAID:JCEES-9-165

Effective moment of inertia of reinforced concrete slender beams with only tension reinforcement

Published On: July 22, 2023 | Pages: 033 - 041

Author(s): Olanitori LM*, Oniyide MM, Oni ST and Otuaga MP

For a reinforced concrete structure to be deemed satisfactory, it must satisfy both the ultimate and serviceability limits state criteria. Deflection is one of the major criteria to be satisfied under the serviceability limit state. This paper derived a model by modifying Olanitori's model to obtain the effective moment of inertia for slender beams without compression ...

Abstract View Full Article View DOI: 10.17352/2455-488X.000065

Open Access Research Article PTZAID:JCEES-9-164

Study on the mechanical properties of anisotropic red sandstone under point load strength test and uniaxial compression strength

Published On: July 11, 2023 | Pages: 025 - 032

Author(s): Meiqian Wang, Changxing Zhang, Binghui Song, Haiming Liu* and Wei Xu*

The red sandstone of Xiaopu 3# branch Cave in the Yuxi section of the Central Yunnan Water Diversion Project was taken as the research object. The uniaxial compression strength and point load strength test are conducted from the perspectives of vertical and parallel stratifications, respectively, and then the anisotropy of red sandstone was analyzed in detail. The dat ...

Abstract View Full Article View DOI: 10.17352/2455-488X.000064

Open Access Research Article PTZAID:JCEES-9-163

Evaluation of corrosion characteristics of mild steel in the acidic environment using Cocoyam and Almond leaves extracts as inhibitors

Published On: July 07, 2023 | Pages: 020 - 027

Author(s): Christopher N Mbah, Deborah C Onyeabor, Bonaventure C Ugwuanyi, Michael G Anuta, Chukwunonso S Nebechi, Obinna L Iyida and Kingsley C Nnakwo*

The inhibition characteristics of Almond and Cocoyam leaves extracts on mild steel immersed in 1 M H2SO4 at immersion times of 24 h to 144 h have been investigated experimentally. The effects of various concentrations of the

extracts on the corrosion rate and inhibition efficiency were also explored. The average corrosion rates (in mm yr-1) and inhibition efficiencies ...

Abstract View Full Article View DOI: 10.17352/2455-488X.000063

Review Article

Open Access Review Article PTZAID:JCEES-9-173

Cool walkability planning: Providing pedestrian thermal comfort in hot climate cities

Published On: November 16, 2023 | Pages: 079 - 086

Author(s): Todd Litman*

Global warming and urbanization are increasing the number of people living in cities that experience extreme heat. This makes walking uncomfortable, unattractive, and unhealthy and causes travelers to drive for trips that could be made on foot. To address these problems hot-climate cities can create networks of shadeways (shaded sidewalks) and pedways (enclosed, clima ...

Abstract View Full Article View DOI: 10.17352/2455-488X.000073

Short Communication

Open Access Short Communication PTZAID:JCEES-9-174

Road safety inspections: Basic principles

Published On: November 27, 2023 | Pages: 087 - 089

Author(s): Carlo Polidori*

Some European Union Directives which were implemented by the various Member States, have established the fundamental guidelines for safety inspections of road infrastructures, according to the principle of the independence of the inspectors with respect to both the owner of the infrastructure and of its manager. This article addresses the practical implementation of t ...

Abstract View Full Article View DOI: 10.17352/2455-488X.000074

Commentary

Open Access Commentary PTZAID:JCEES-9-169

Regarding the number of blades in the rotor of the wind turbine

Published On: September 07, 2023 | Pages: 063 - 064

Author(s): M Shykhailov* and V Kokhanevich

When developing a wind turbine, sooner or later the designer is faced with the problem of the number of blades. After all, the purpose of the wind turbine and its cost depends on this. The criteria were determined and an analysis was carried out regarding the appropriate number of blades in the rotor of the wind turbine. ...

Abstract View Full Article View DOI: 10.17352/2455-488X.000069

Mini Review

Open Access Mini Review PTZAID:JCEES-9-170

Interstellar Boundary Explorer (IBEX) may have recorded a cross-tail current disruption event of the substorm

Published On: September 21, 2023 | Pages: 065 - 067

Author(s): Lu Li*

The spatial and temporal variations of satellite measurements correspond to different physical connotations. ENA imaging is an effective method to avoid the confusion of spatial and temporal variations of plasma space distribution in remote sensing region. However, for the neutral atom imager with scanning sampling, if the sampling time is too long (such as exceeding ...

Abstract View Full Article View DOI: 10.17352/2455-488X.000070

Open Access Mini Review PTZAID:JCEES-9-166

How to legally use drones for surveys?

Published On: August 08, 2023 | Pages: 042 - 045

Author(s): Filippo Tomasello*

Drones are very useful for civil engineering and environmental surveys because drones may increase productivity, allow more regular and comprehensive monitoring of construction progress, monitor the status of infrastructures (e.g. bridges), and anyway collect a vast amount of digital data, which can be easily stored, manipulated and shared. However, while the

benefit ...

Abstract View | Full Article View | DOI: 10.17352/2455-488X.000066