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Eğitim Bilgileri

Doktora, Karadeniz Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Türkiye 2017 - 2022

Yüksek Lisans, The University of Manchester, Faculty Of Science And Engineering, School Of Materials, Birleşik Krallık 2015 - 2016

Yabancı Diller

İngilizce, B2 Orta Üstü

Yaptığı Tezler

Doktora, BİNALARDA ISIL ENERJİ DEPOLAMA AMAÇLI KOMPOZİT FAZ DEĞİŞİM MALZEMELERİNİN GELİŞTİRİLMESİ, KARAKTERİZASYONU VE LABORATUVAR ÖLÇEKLİ UYGULAMALARI, Karadeniz Teknik Üniversitesi, Fen Bilimleri Enstitüsü, 2022

Yüksek Lisans, Stable Aqueous Dispersions of Reduced Graphene Oxide with 1-Pyrenesulphonic Acid Sodium Salt, University of Manchester, Faculty Of Science And Engineering, School Of Materials, 2016

Araştırma Alanları

Metalurji ve Malzeme Mühendisliği, Malzeme Bilimi ve Mühendisliği, Nanomalzemeler, Mühendislik ve Teknoloji

Akademik Unvanlar / Görevler

Dr. Öğr. Üyesi, Karadeniz Teknik Üniversitesi, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği, 2023 - Devam Ediyor

Araştırma Görevlisi, Karadeniz Teknik Üniversitesi, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği, 2017 - 2023

SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- I. **Evaluation of phase change material-impregnated waste tire-derived carbon in cement-expanded vermiculite-based composites for solar thermoregulation of buildings**
Ozbakkaloglu T., Danish A., Ustaoglu A., SARI A., Erdoğmuş E., HEKİMOĞLU G., Koçyiğit Ş., Gencil O.
Sustainable Materials and Technologies, cilt.44, 2025 (SCI-Expanded)
- II. **Accelerating weathering and thermal regulation performance of window frame applied with microencapsulated phase change thermochromic pigment coated wood material**
Can A., Gencil O., SARI A., HEKİMOĞLU G., Ustaoglu A.
Journal of Building Engineering, cilt.100, 2025 (SCI-Expanded)
- III. **Development of sustainable composite PCMs using bio-derived activated carbon hybrid matrices for enhanced thermal energy storage efficiency**
HEKİMOĞLU G.
DIAMOND AND RELATED MATERIALS, cilt.154, 2025 (SCI-Expanded)
- IV. **Improved form stability, thermal storage capacity and thermal conductivity of polyurethane based waste sponge carbon/expanded graphite/organic phase change materials coated by Ag nanoparticles**
Wang S., Gu X., KAR T., SARI A., ÇAKIR E., VAROL T., AKÇAY S. B., Gencil O., HEKİMOĞLU G., Tyagi V.
Sustainable Materials and Technologies, cilt.43, 2025 (SCI-Expanded)
- V. **Enhanced thermal properties and dimensional stability of wood treated with phase-change materials for building energy storage applications**
ERDEYER Ö. N., TEMİZ A., HEKİMOĞLU G., ASLAN M., KÖSE DEMİREL G., Ozturk G., SARI A., Gencil O.
WOOD MATERIAL SCIENCE & ENGINEERING, 2025 (SCI-Expanded)
- VI. **Effects of microencapsulated phase change material on physico-mechanical and thermoregulation performance of lightweight geopolymer concrete with zeolite and perlite**
Ören O. H., Mandev E., KAYA M., SARI A., HEKİMOĞLU G., Çıkman İ. Ü., Subaşı S., Maraşlı M., Gencil O.
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- VII. **Wood flour/-poly(methyl methacrylate)/capric acid polymer composites as form-stable phase change materials for thermal energy management**
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- VIII. **Light-transmitting wood-based composite comprising microencapsulated phase-change material for sustainable energy applications in buildings**
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- IX. **Phase change material incorporated paper pulp sludge/gypsum composite reinforced by slag and fly ash for energy efficient buildings: Solar thermal regulation, embody energy, sustainability index and cost analysis**
Kucukdogan N., Sutcu M., Ozturk S., Yaprak H., Memis S., Gencil O., Ustaoglu A., SARI A., HEKİMOĞLU G., Erdogmus E.
Energy and Buildings, cilt.325, 2024 (SCI-Expanded)
- X. **Hazelnut shell-based activated carbon/carbon nanotubes/palmityl alcohol as new form-stable phase change material with enhanced energy storage capacity and thermal conductivity**
Gu X., Huseien G. F., KAR T., SARI A., Karaahmet Z., Gencil O., HEKİMOĞLU G., ÇAKIR E.
Journal of Energy Storage, cilt.103, 2024 (SCI-Expanded)
- XI. **Sustainable polyurethane biocomposite foams by improved microstructure, acoustic characteristics, thermoregulation performance and reduced CO2 emission through phase change material integration**
Gencil O., Aydoğmuş E., GÜLER O., Ustaoglu A., SARI A., HEKİMOĞLU G., Bozkurt A., Ozbakkaloglu T.
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- XII. **Biocomposite foams consisting of microencapsulated phase change materials for enhanced climatic regulation with reduced carbon dioxide emissions in buildings**
Gencil O., Aydoğmuş E., Güler O., Ustaoglu A., SARI A., Hekimoğlu G., Subaşı S., Maraşlı M.
Construction and Building Materials, cilt.448, 2024 (SCI-Expanded)

- XIII. **Properties of foam concrete containing phase change material impregnated pumice**
Kam E., Yaraş A., Ustaoglu A., Hekimoğlu G., Sarı A., Erdoğmuş E., Gencil O.
CONSTRUCTION AND BUILDING MATERIALS, cilt.446, 2024 (SCI-Expanded)
- XIV. **Energy- efficient cementitious mortar containing clay based shape-stable phase change material: Development, characterization and temperature controlling performance**
Bayram M., Gencil O., Sarı A., Ahmed A., Zami M. S., Erdogmus E., Hekimoğlu G., Ustaoglu A., Ozbakkaloglu T.
CONSTRUCTION AND BUILDING MATERIALS, cilt.442, 2024 (SCI-Expanded)
- XV. **Advancing thermal control in buildings with innovative cementitious mortar and recycled expanded glass/n-octadecane phase change material composites**
Yaraş A., Bayram M., Ustaoglu A., Erdoğmuş E., HEKİMOĞLU G., SARI A., Gencil O., Tyagi V., Ozbakkaloglu T.
Renewable and Sustainable Energy Reviews, cilt.202, 2024 (SCI-Expanded)
- XVI. **Production and assessment of UV-cured resin coated stearyl alcohol/expanded graphite as novel shape-stable composite phase change material for thermal energy storage**
Güler O., Er Y., Hekimoğlu G., Ustaoglu A., Sarı A., Subaşı S., Maraşlı M., Gencil O.
Applied Thermal Engineering, cilt.247, 2024 (SCI-Expanded)
- XVII. **Physico-mechanical properties and thermal monitoring performance of thermal enhanced cement slurry-coated LWAs containing microencapsulated phase change material**
Emiroğlu M., ÖZGÜLER A. T., NAS M., Subasi S., SARI A., HEKİMOĞLU G., Ustaoglu A., Gencil O.
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- XVIII. **A novel cement mortar comprising natural zeolite/dodecyl alcohol shape stable composite phase change material for energy effective buildings**
SARI A., NAS M., YEŞİLATA B., Ustaoglu A., Erdoğmuş E., Torlaklı H., HEKİMOĞLU G., Gencil O.
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- XIX. **Innovative cementitious mortar incorporated with sepiolite based shape-stable phase change material for thermal controlling of buildings**
TOPÇU İ. B., Bayram M., Ustaoglu A., HEKİMOĞLU G., Erdoğmuş E., SARI A., Gencil O., Ozbakkaloglu T.
Construction and Building Materials, cilt.426, 2024 (SCI-Expanded)
- XX. **Enhancing sustainability with waste hemp-shive and phase change material: Novel gypsum-based composites with advanced thermal energy storage properties**
Gencil O., GÜLER O., Ustaoglu A., Erdoğmuş E., SARI A., HEKİMOĞLU G., BOZTOPRAK Y., Subaşı S.
Journal of Cleaner Production, cilt.451, 2024 (SCI-Expanded)
- XXI. **Microencapsulated phase change material/wood fiber-starch composite as novel bio-based energy storage material for buildings**
Öztürk G., Temiz A., Hekimoğlu G., Aslan M., Köse Demirel G., Erdeyer Ö. N., Sarı A., Gencil O., Subaşı S.
Journal of Energy Storage, cilt.84, 2024 (SCI-Expanded)
- XXII. **Novel integration of recycled-hemihydrate phosphogypsum and ethyl palmitate in composite phase change material for building thermal regulation**
Kocyiğit Ş., GÜLER O., HEKİMOĞLU G., Ustaoglu A., Erdoğmuş E., SARI A., Gencil O., Ozbakkaloglu T.
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- XXIII. **A Novel Layered Double Hydroxide and Dodecyl Alcohol Assisted PCM Composite with High Latent Heat Storage Capacity and Thermal Conductivity**
Al-Ahmed A., SARI A., Khan F., Al-Rasheidi M., HEKİMOĞLU G., Afzaal M., Alsulami A. A., Dafalla H., Salhi B., Alsulaiman A. F.
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- XXIV. **3D-printed polylactic acid-microencapsulated phase change material composites for building thermal management**
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Renewable and Sustainable Energy Reviews, cilt.191, 2024 (SCI-Expanded)
- XXV. **Characterisation and energy storage performance of 3D printed-photocurable resin/microencapsulated phase change material composite**
Er Y., GÜLER O., Ustaoglu A., HEKİMOĞLU G., SARI A., Subaşı S., Gencil O., Maraşlı M.

- Thermal Science and Engineering Progress, cilt.48, 2024 (SCI-Expanded)
- XXVI. **Effects of graphene doping on shape stabilization, thermal energy storage and thermal conductivity properties of PolyHIPE/PEG composites**
Kahraman Doğuşcu D., SARI A., HEKİMOĞLU G.
Journal of Energy Storage, cilt.76, 2024 (SCI-Expanded)
- XXVII. **Utilizing biomass-derived activated carbon hybrids for enhanced thermal conductivity and latent heat storage in form-stabilized composite PCMs**
HEKİMOĞLU G.
ENERGY SOURCES PART A-RECOVERY UTILIZATION AND ENVIRONMENTAL EFFECTS, cilt.46, sa.1, ss.11395-11412, 2024 (SCI-Expanded)
- XXVIII. **Thermal energy storage performance evaluation of bio-based phase change material/apricot kernel shell derived activated carbon in lightweight mortar**
Hekimoğlu G., Sarı A., Gencil O., Önal Y., Ustaoglu A., Erdogmus E., Harja M., Tyagi V.
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- XXIX. **Thermophysical properties and solar thermal energy storage performance of phase change composites manufactured by vat photopolymerization 3D printing technique**
Er Y., Güler O., Hekimoğlu G., Nodehi M., Ustaoglu A., Sarı A., Gencil O., Ozbakkaloglu T.
JOURNAL OF ENERGY STORAGE, cilt.73, 2023 (SCI-Expanded)
- XXX. **Fuel, cost, energy efficiency and CO₂ emission performance of PCM integrated wood fiber composite phase change material at different climates**
Frahhat N. B., Ustaoglu A., Gencil O., SARI A., HEKİMOĞLU G., Yaras A., Del Coz Díaz J. J.
SCIENTIFIC REPORTS, cilt.13, sa.1, 2023 (SCI-Expanded)
- XXXI. **Developing Wallpaper/Dodecyl alcohol composite phase change materials as new kind of wall covering elements for building interior thermoregulation**
Gencil O., Ustaoglu A., Sarı A., Hekimoğlu G., Sutcu M., Tozluoglu A., Tutus A., Cicekler M., Veer Tyagi V.
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- XXXII. **Shape stabilized microcrystalline cellulose/methyl stearate/graphene nanoplatelet composite with enriched thermal conductivity and thermal energy storage/release performance**
HEKİMOĞLU G., Çakır E., SARI A., Gencil O., Tyagi V., Sharma R.
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- XXXIII. **Thermal performance analysis of novel foam concrete composites with PCM for energy storage and environmental benefits in buildings**
Erdogmus E., Yaras A., Ustaoglu A., HEKİMOĞLU G., SARI A., Gencil O.
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- XXXIV. **Expanded glass sphere/lauryl alcohol composite in gypsum: Physico-mechanical properties, energy storage performance and environmental impact assessment**
Ustaoglu A., Yaras A., HEKİMOĞLU G., Erdogmus E., SARI A., Gencil O.
SOLAR ENERGY, cilt.262, 2023 (SCI-Expanded)
- XXXV. **Microencapsulated phase change material incorporated light transmitting gypsum composite for thermal energy saving in buildings**
Gencil O., Bayram M., Subaşı S., HEKİMOĞLU G., SARI A., Ustaoglu A., Marasli M., Ozbakkaloglu T.
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- XXXVI. **Activated carbon/expanded graphite hybrid structure for development of nonadecane based composite PCM with excellent shape stability, enhanced thermal conductivity and heat charging-discharging performance**
HEKİMOĞLU G., SARI A., Gencil O., Tyagi V., Sharma R.
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- XXXVII. **Thermal energy saving and physico-mechanical properties of foam concrete incorporating form-stabilized basalt powder/capric acid based composite phase change material**
Kocyyigit F., Bayram M., HEKİMOĞLU G., Cay V. V., Gencil O., Ustaoglu A., SARI A., Erdogmus E., Ozbakkaloglu T.
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- XXXVIII. **Expanded waste glass/methyl palmitate/carbon nanofibers as effective shape stabilized and thermal enhanced composite phase change material for thermal energy storage**
Singh P., Sharma R., HEKİMOĞLU G., SARI A., Gencil O., Tyagi V.
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- XXXIX. **Effect of carbon nanotube and microencapsulated phase change material utilization on the thermal energy storage performance in UV cured (photoinitiated) unsaturated polyester composites**
Subasi A., Subasi S., Bayram M., SARI A., HEKİMOĞLU G., Ustaoglu A., Gencil O., Ozbakkaloglu T.
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- XL. **Development, characterization, and performance analysis of shape-stabilized phase change material included-geopolymer for passive thermal management of buildings**
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- XLI. **Light transmitting glass fiber reinforced cementitious composite containing microencapsulated phase change material for thermal energy saving**
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- XLII. **Thermal energy storage characteristics of polyacrylic acid/dodecanol/carbon nanofiber composites as thermal conductive shape-stabilized composite phase change materials**
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- XLIII. **Development and characterization a novel leakage-proof form stable composite of graphitic carbon nitride and fatty alcohol for thermal energy storage**
Singh P., Sharma R. K., Goyal R., HEKİMOĞLU G., SARI A., Rathore P. K. S., Tyagi V. V.
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- XLIV. **Characteristics, energy saving and carbon emission reduction potential of gypsum wallboard containing phase change material**
Yaras A., Ustaoglu A., Gencil O., SARI A., Hekimoglu G., Sutcu M., Erdogmus E., KAPLAN G., Bayraktar O. Y.
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- XLV. **Properties of eco-friendly foam concrete containing PCM impregnated rice husk ash for thermal management of buildings**
Gencil O., SARI A., KAPLAN G., Ustaoglu A., HEKİMOĞLU G., Bayraktar O. Y., Ozbakkaloglu T.
JOURNAL OF BUILDING ENGINEERING, cilt.58, 2022 (SCI-Expanded)
- XLVI. **Development, characterization and thermo-regulative performance of microencapsulated phase change material included-glass fiber reinforced foam concrete as novel thermal energy effective-building material**
Gencil O., Subasi S., Ustaoglu A., SARI A., Marasli M., HEKİMOĞLU G., Kam E.
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- XLVII. **Thermal energy storage properties, thermal conductivity, chemical/and thermal reliability of three different organic phase change materials doped with hexagonal boron nitride**
Ouikhalfan M., SARI A., HEKİMOĞLU G., Gencil O., Tyagi V. V.
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- XLVIII. **The effect of limestone and bottom ash sand with recycled fine aggregate in foam concrete**
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- XLIX. **Properties of Scots pine wood impregnated with capric acid for potential energy saving building material**
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- L. **Glass fiber reinforced gypsum composites with microencapsulated PCM as novel building thermal energy storage material**

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- LI. **Activated carbon nanotube/polyacrylic acid/stearyl alcohol nanocomposites as thermal energy storage effective shape-stabilized phase change materials**
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- LII. **Foam Concrete Produced with Recycled Concrete Powder and Phase Change Materials**
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- LIII. **Capric-stearic acid mixture impregnated carbonized waste sugar beet pulp as leak-resistive composite phase change material with effective thermal conductivity and thermal energy storage performance**
SARI A., HEKİMOĞLU G., Karabayir Y., Sharma R. K., ARSLANOĞLU H., Gencil O., Tyagi V. V.
ENERGY, cilt.247, 2022 (SCI-Expanded)
- LIV. **Investigation of physico-mechanical, thermal properties and solar thermoregulation performance of shape-stable attapulgite based composite phase change material in foam concrete**
Gencil O., Ustaoglu A., Benli A., HEKİMOĞLU G., SARI A., Erdogmus E., Sutcu M., KAPLAN G., Bayraktar O. Y.
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- LV. **Bio-Based Phase Change Materials for Wooden Building Applications**
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- LVI. **Cement based-thermal energy storage mortar including blast furnace slag/capric acid shape-stabilized phase change material: Physical, mechanical, thermal properties and solar thermoregulation performance**
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- LVII. **Metal Oxide Nanoparticle Dispersed-Polyethylene Glycol: Thermal Conductivity and Thermal Energy Storage Properties**
Ouikhalfan M., HEKİMOĞLU G., SARI A., Gencil O., Tyagi V. V.
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- LVIII. **Utilization of waste apricot kernel shell derived-activated carbon as carrier framework for effective shape-stabilization and thermal conductivity enhancement of organic phase change materials used for thermal energy storage**
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- LIX. **CuO Nanoparticle@Polystyrene Hierarchical Porous Foam for the Effective Encapsulation of Octadecanol as a Phase Changing Thermal Energy Storage Material**
Doguscu D. K., HEKİMOĞLU G., Sar A.
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- LX. **Thermal conductivity enhancement of silica fume based composite thermal energy storage material using different carbon nanomaterials**
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- LXI. **Production and characterization of natural clay-free green building brick materials using water treatment sludge and oak wood ash**
Harja M., Gencil O., SARI A., Sutcu M., Erdogmus E., HEKİMOĞLU G.
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- LXII. **Shape stabilized attapulgite/myristic-palmitic acid composite PCM for thermal energy storage implementations in buildings**
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- LXIII. **A review on phase change materials (PCMs) for thermal energy storage implementations**
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- LXIV. **Porous biochar/heptadecane composite phase change material with leak-proof, high thermal energy storage capacity and enhanced thermal**
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- LXV. **A novel energy-effective and carbon-emission reducing mortars with bottom ash and phase change material: Physico-mechanical and thermal energy storage characteristics**
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- LXVI. **Eco-friendly building materials containing micronized expanded vermiculite and phase change material for solar based thermo-regulation applications**
Gencil O., SARI A., Ustaoglu A., HEKİMOĞLU G., Erdogmus E., Yaras A., Sutcu M., Cay V. V.
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- LXVII. **High internal phase emulsion templated-polystyrene/carbon nano fiber/hexadecanol composites phase change materials for thermal management applications**
Doguscu D. K., HEKİMOĞLU G., SARI A.
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- LXVIII. **Carbonized waste hazelnut wood-based shape-stable composite phase change materials for thermal management implementations**
HEKİMOĞLU G., SARI A., Kar T., KELEŞ S., KAYGUSUZ K., YILDIRIM N., Tyagi V. V., Sharma R. K., Saleh T. A.
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- LXIX. **Microencapsulated heptadecane with calcium carbonate as thermal conductivity-enhanced phase change material for thermal energy storage**
SARI A., Saleh T. A., HEKİMOĞLU G., Tyagi V. V., Sharma R. K.
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- LXX. **Walnut shell derived bio-carbon/methyl palmitate as novel composite phase change material with enhanced thermal energy storage properties**
HEKİMOĞLU G., SARI A., Kar T., KELEŞ S., KAYGUSUZ K., Tyagi V., Sharma R., Al-Ahmed A., Al-Sulaiman F. A., Saleh T. A.
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- LXXI. **Silica fume/capric acid-stearic acid PCM included-cementitious composite for thermal controlling of buildings: Thermal energy storage and mechanical properties**
HEKİMOĞLU G., NAS M., Ouikhalfan M., SARI A., Tyagi V., Sharma R., KURBETCİ Ş., Saleh T. A.
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- LXXII. **Thermal management performance and mechanical properties of a novel cementitious composite containing fly ash/lauric acid-myristic acid as form-stable phase change material**
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- LXXIII. **Fly Ash/Octadecane Shape-Stabilized Composite PCMs Doped with Carbon-Based Nanoadditives for Thermal Regulation Applications**
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