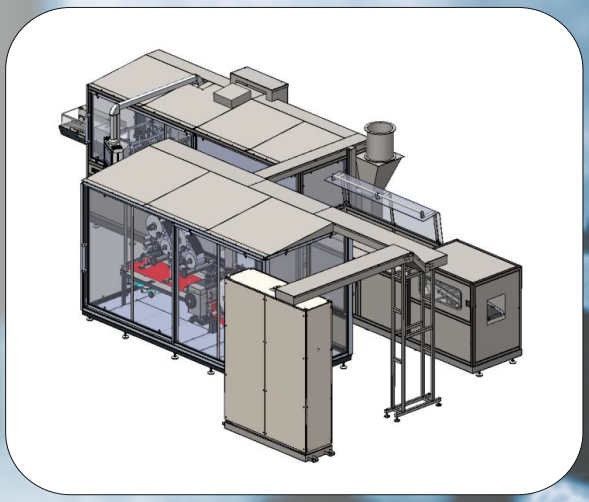
International journal
for science, technics and
innovations for the industry

MACHINES TECHNOLOGIES MATERIALS

YEAR XVI Issue 11 / 2022 ISSN PRINT 1313-0226
ISSN WEB 1314-507X



Published by
Scientific technical
Union of Mechanical Engineering

MACHINES. TECHNOLOGIES. MATERIALS

INTERNATIONAL SCIENTIFIC JOURNAL

ISSN PRINT 1313-0226, ISSN WEB 1314-507X, YEAR XVI, ISSUE 11 / 2022

INTERNATIONAL EDITORAL BORARD

EDITOR IN CHIEF:		
Georgi Popov	Technical University of Sofia	BG
MEMBERS:		
Abdrakhman Naizabekov	Rudny industrial institute	KZ
Ahmet H. Ertas	Bursa Technical University	TR
Albert Albers	Karlsruhe Institut of Technology	DE
Andrzej Golabczak	Lodz University of Technology	PL
Andrzej Huczko	Warsaw University	PL
Dimitar Karaivanov	University of Chemical Technology and Metallurgy, Sofia	BG
Dobre Runchev	Ss. Cyril and Methodius University in Skopje	NM
Emilia Abadjieva	Akita University	JP
Erdem Camurlu	Akdeniz University, Antalya	TR
Eugen Sheregii	University of Rzeszow	PL
Franz Haas	Graz University of Technology	AT
Galina Nicolcheva	Technical University of Sofia	BG
Gennadii Bagliuk	Institute for Problems of Materials Science NAS of Ukraine, Kiev	UA
Georgii Raab	Ufa State Aviation Technical University	RU
Gregory Gurevich	Shamoon College of Engeeniring, Ashdod	IL
Hiroyuki Moriyama	Tokai University, Hiratsuka	JP
Idilia Batchkova	University of Chemical Technology and Metallurgy, Sofia	BG
Ivan Kralov	Technical University of Sofia	BG
Ivan Kuric	University of Zilina	SK
Julieta Kaleicheva	Technical University of Sofia	BG
Katia Vutova	Institute of Electronics, Bulgarian Academy of Sciences	BG
Maria Nikolova	Angel Kanchev University of Ruse	BG
Natasa Naprstkova	Jan Evangelista Purkyne University in Usti nad Labem	CZ
Oana Dodun	Gheorghe Asachi Technical University of Iasi	RO
Ognyan Andreev	Technical University of Sofia	BG
Predrag Dasic	High Technical Mechanical School of Trstenik	RS
Rasa Kandrotaite	Kaunas University of Technology	LT
Raul Turmanidze	Georgian Technical University, Tbilisi	GE
Roumen Petrov	Ghent University	BE
Sergey Dobatkin	National University of Science and Technology "MISIS", Moscow	RU
Souren Mitra	Jadavpur University, Kolkata	IN
Svetlana Gubenko	National Metallurgical Academy of Ukraine, Dnipro	UA
Vedran Mrzljak	University of Rijeka	HR
Wu Kaiming	Wuhan University of Science and Technology	CN

TECHNICAL EDITORS:
M. Sc. Eng. Radoslav Daskalov, M. Sc. Eng. Oleg Mihailov

Scientific and technical union of mechanical engineering
108 R. S. Rakovski str., Sofia, Bulgaria
www.stumejournals.com, office@stumejournals.com

C O N T E N T S

MACHINES

Atex wet wipe production
Çimen Onur, Söğüt Oğulcan Şimşek Yasin Yağız, Saklakoğlu İbrahim Etem 367

Gastronorm Container Production with Automatic Pressure Compensation System Machine Providing Energy Efficiency with Industry 4.0
Zafer Kahraman, Murat Hacı 369

Robotic system for inspection and cleaning of ship's hull
Mihail Danielov Bratanov, Tihomir Milenov Todorov 373

TECHNOLOGIES

Advanced of The Deposition of Thin Films BaTiO3 – BaSnO3 on Monolitic Layered Materials.
Mihaela Aleksandrova, Bojidar Jivov, Lyuben Lakov, Yordan Marinov 376

Fabrication and mechanical testing of compacted and extruded specimens made of aluminium alloys chips
Angel Velikov, Tatiana Simeonova, Rumen Krastev, Tsvetan Tochev, Veselin Petkov 379

Trends of online researches for the state of art related to welding positions
Deyan Gradinarov 383

Systems for inspection and cleaning of ship's hull – a scientific survey
Mihail Danielov Brtanov, Tihomir Milenov Todorov 385

MATERIALS

Influence of the filler material on the mechanical characteristics of structural steel GMAW and MCAW welded joints
Martin Petreski, Dobre Runchev, Gligorche Vrtanoski 387

Phase and Petrographic Analysis of Petrurgical Materials Obtained on the Base of Metamorphic Rocks
Lyuben Lakov, Momchil Dyulgerov, Gergana Mutafchieva, Gabriel Peev1, Dimo Mihaylov 391

Study about dynamic modulus of linear deformations during the hardening of polymer concrete composition
Sabev Sabi, Chukalov Konstantin 394