



ADMISSION TO DOCTORAL STUDIES

Session September 2022

Field of doctoral studies: **Mechanical Engineering**

Doctoral supervisor: **Conf. dr. ing. ITU CĂLIN**

TOPICS FOR THE ADMISSION TO DOCTORAL STUDIES

TOPIC 1: CONTRIBUTIONS TO MULTILAYER MATERIALS FOR THE PROTECTION AT HIGH THERMAL REGIMES OF SOME PREMISES WITH SPECIAL PURPOSES

Content / Main aspects to be considered - *to be adapted/ completed/ deleted*

The research topic is in the field of multilayer materials, especially of composites with applications of resistance to high thermal regimes, as well as those derived from classic materials. Understanding the structural behaviour of these types of materials is important especially for the stages of their design and implementation in operation as it is gradually required to replace traditional materials with new materials, with reduced mass and superior characteristics regarding the behaviour at high thermal regimes regarding the use on the scale wide of them.

Recommended bibliography:

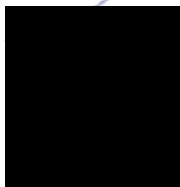
1. Cong ZHANG, Analysis of Fire Safety System for Storage Enterprises of Dangerous chemicals, Procedia Engineering 211 (2018) 986–995
2. Davood Zeinali, Emma Vandemoortele, Steven Verstockt , Tarek Beji , Georgios Maragkos, Bart Mercia, Experimental Study of Corner Wall Fires with One or Two Combustible Walls, Fire Safety Journal Volume 121, May 2021, 103265
3. Matthew Bonner, Wojciech Wegrzynski, Bartłomiej K. Papis, Guillermo Rein, KRESNIK: A topdown, statistical approach to understand the fire performance of building facades using standard testdata, Building and Environment 169 (2020) 106540
4. M. Beshir, Y. Wang, F. Centeno, R. Hadden, S. Welch, D. Rush, Semi-empirical model for estimating the heat release rate required for flashover in compartments with thermally-thin boundaries and ultrafast fires, Fire Safety Journal Volume 120, March 2021, 103124
5. Daniel Paul Thanaraj, Anand N, Prince Arulraj, Khalifa Al-Jabri, Investigation on structural and thermal performance of reinforced concrete beams exposed to standard fire, Journal of Building Engineering 32 (2020) 101764

Prerequisites / Remarks: *to be adapted/ completed/ deleted*

Doctoral supervisor,

Associate Prof. Dr. ITU CĂLIN

Signature



Coordinator of the field of doctoral studies,

Prof. Dr. VLASE SORIN

Signature

