OTTO VON GUERICKE UNIVERSITÄT MAGDEBURG

CHAIR
OF THERMODYNAMICS
AND COMBUSTION

## Combustion Technology

Safety and security

combustion Technology

Students are able to account for incinerators energy and materials for over-stoichiometric conditions. They can calculate the fı requirement and the composition of the exhaust gas for a predetermined heat generation. You can calculate criteria for stal ignition , flashback of the flame , the flame blown off and minimum ignitionv . They know the conditions for explosions a detonations. They can use it to interpret thermal and safety incinerators.

- Characterization of gaseous, liquid and solid fuels , oxygen and air supplies
- Composition of the combustion gas , influence air ratio , amount of exhaust gas , gas equilibria Dissociated components
- Combustion gas temperatures, combustion technology efficiency , energy efficiency , condensing technology
- Premixed flames , ignition , reaction mechanism , flame speed , quenching distance , ignition energy , stability
- Diffusion flames , mixing , flame length , stability
- Explosions and detonations
- Combustion of liquid fuels , mechanism , combustion rate , atomization
- Combustion of solid fuels , pyrolysis
- Examples of burners and furnaces

Lecture with exercises and experiments

thermodynamics , chemistry

- 3 SWS
- Attendance: 42 hours
- Self-study: 78 hours

4 CP, exam 120 min

Prof. Dr.-Ing. E. Specht

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